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Welcome to the inaugural edition of the Journal of Online Doctoral Education. We believe that this journal fills a unique gap because it represents a contemporary expression of academic and practitioner discourse in this burgeoning modality. Online doctoral education is a reflection of evolving contemporary paradigms in the workplace, in education, and in the global marketplace as rapid and continuous advancement in communications technology has modified the way we work, learn, and transact. In that regard, it is our intent to provide a comprehensive forum for the best research in the rapidly changing and ever-growing discipline of online doctoral education.

We are very excited to bring you this first edition, as this journal has been in the planning stage for over a year, and represents a tremendous amount of hard work by several individuals. Please know that we always invite your feedback on content, structure, and topical issues that could advance the journal and the field of online graduate doctoral education. Please send all questions, comments, and inquiries to jode@ncu.edu. In these notes, I would like to familiarize you with our plans for the journal and highlight this edition's authors.

Journal of Online Doctoral Education, to be published semiannually, is a double-blind peer-reviewed journal with a wide-ranging focus on online doctoral education. Our double-blind peer review process makes certain that the selection process is independent and solely merit-based, with the objective of identifying the best research in the field. Our focus is to feature outstanding scholarly contributions in online doctoral education from researchers around the world. The journal is to be a forum for scholarly dialogue regarding the most important emerging issues in the field. Our mission is to advance knowledge on issues and best practices related to online doctoral education, specifically, and online graduate education, generally. Hence, while our primary objective is to promote scholarship in online doctoral education, we will also consider more holistic articles pertinent to online graduate education in general.

To achieve this mission, much of the journal will be devoted to the publication of original empirical articles including theoretical and applied research investigations. Integrative reviews of the evidence regarding online doctoral education will also be considered for publication. These reviews should help bridge the gap between basic science and best practices. We are committed to keeping the journal relevant and useful to academicians, practitioners, researchers, and policy makers. Our aim is to continually increase the journal's profile and impact factor, with a focus on significantly advancing scholarship in the field.

Our first issue consists of manuscripts by some of the leading scholars in the field who were specifically invited for inclusion in our inaugural edition. Each of the articles was written specifically for this journal, and I would like to thank our invited authors for sharing their research and deciding to publish with us. Needless to say, we are delighted with the outcome of our first edition, and are very appreciative of the faith our invited authors placed in us. On that note, I would like to share with you the brief biographies of each of the authors/co-authors in this edition (listed in alphabetical order).
• **Dr. Stephen L. Benton** is Senior Research Officer at IDEA Education, where he designs and conducts reliability and validity studies on student ratings of instruction and administrator feedback systems. He is a Fellow in the American Psychological Association (Educational Psychology) and the American Educational Research Association, as well as an Emeritus Professor of Special Education, Counseling, and Student Affairs at Kansas State University, where he taught educational psychology for 25 years and served as department chair for 10 years. He currently serves on the editorial board of *Contemporary Educational Psychology* and *Educational Psychology Review*, a journal he edited from 1991-2000. He earned his Ph.D. in Educational Psychology from the University of Nebraska-Lincoln in 1983.

• **Ron Brown** is Research Assistant at IDEA Education, where he provides computing solutions for research questions and studies. He has 25 years of experience in higher education computing. He earned his M.A. in Geography from Kansas State University in 1992.

• **Dr. Kerry J. Burner** serves as instructional development faculty at the Office of Distance Learning at Florida State University (FSU), where she also teaches in the Instructional Systems program. Prior to joining Florida State, she spent five years as a freelance academic and consultant working for online M.A., Ed.D., and Ph.D. programs at both brick-and-mortar and fully online universities. She has taught at the undergraduate and graduate levels for over 15 years, designing and delivering courses ranging from Theories of Learning and Cognition in Instruction to Advanced Instructional Design and Applied Research Methods. She continues to chair Ed.D. and Ph.D. committees at both private and public institutions outside of her duties at FSU. Her research interests include online and computer mediated learning, social learning, communities of practice, cognitive apprenticeship, the relationship between writing and assessment in online learning, and the role reflection and reflexivity play in learning and instruction. Her current research focus is the role social networking technologies play in higher education environments.

• **Dr. Bethany Fleck** is an Assistant Professor at Metropolitan State University of Denver, teaching courses in the human development and psychology majors. Her teaching experience includes Introduction to Psychology, Developmental Educational Psychology, Statistics, Research Methods, Child Development, Developmental Research Methods, and Cognitive Growth and Development. In her courses, Dr. Fleck is committed to an active, learner-centered approach to teaching. Dr. Fleck’s research centers on cognitive and social development in classroom contexts. Two distinct areas of work focus on issues in early childhood education and university classrooms. Both lines of research draw on developmental theory, with the overall goal of enhancing the learning environment for students of all levels. Recently she has been working on bridging "documentation" (an early childhood education teaching methodology) with maternal reminiscing style. In addition, she has published work this past year in *Scholarship of Teaching and Learning* (SoTL), including book chapters on the integration of social media into higher education and creating a flipped classroom.
• **Dr. Swapna Kumar** is a Clinical Assistant Professor of Educational Technology at the School of Teaching and Learning at the University of Florida. She coordinates the online doctoral program in Educational Technology at the College of Education and teaches courses on distance learning, blended learning, the design and development of online environments, technology integration, and educational technology research. Her research interests include online education (design, development, facilitation, and assessment), blended learning, online communities, and the integration of new technologies in higher education. Her research has been published in several venues, including *Internet and Higher Education*, *Journal of Distance Education*, *International Review of Research in Open and Distance Learning*, and *Journal of Digital Learning in Teacher Education*.

• **Dan Li** is a Research Associate at IDEA Education. She has a B.A. in Journalism from Huazhong University of Science and Technology in China, and an M.A. in Mass Communication from Marquette University. She is currently a Ph.D. candidate in Media, Technology, and Society at Northwestern University. Prior to joining IDEA, her research interests included social effects of communication technologies, and parental mediation of children’s media use. Her current work is focused on student ratings in higher education.

• **Alexandros Maragakis** is a doctoral candidate at the University of Nevada, Reno. His empirical work emphasizes using quality improvement methods to assess clinical outcomes, cost, and satisfaction in integrated primary care clinics. He is also interested in applying quality improvement to assess the delivery and outcomes of graduate and undergraduate training in psychology.

• **Dr. William O’Donohue** is a Professor of Psychology at the University of Nevada, Reno. He received a doctorate in Psychology from The State University of New York (SUNY) at Stony Brook. For the past 19 years he has directed a clinic supported by the Victims of Crime Act that provides free therapy to child sexual abuse victims and adult sexual abuse victims. He has published over 75 books and 300 journal articles and book chapters.

• **Kathleen Poll** served as the Director of Administration for The Pennsylvania State University in the World Campus (online) and Continuing Education (blended and face-to-face) units during a time of rampant growth. During her tenure, enrollment increased over 20% year-over-year for five years. She is a knowledgeable higher education professional with many years of teaching and administrative experience in both traditional and nationwide, online higher education. Kathleen is passionate about online and blended learning, and embraces a learner-centric approach to improve higher education access and student success. She is committed to using technology as a tool to address pressing higher education challenges such as learner retention/engagement, effective student support, and improved enrollment/revenue.
• **Dr. Rachel Rogers** is an Assistant Professor of Psychology at the Community College of Rhode Island (CCRI), teaching general psychology and lifespan development. She is passionate about high-quality teaching and being an effective ally to all kinds of learners. She strives to share the principles and findings of psychological science both in and out of the classroom, so that everyone can benefit from research in the field. Her professional activities include being an active member of CCRI’s Center for Innovative Teaching, Learning, and Assessment, advising students on honors projects in psychology, membership in the Psychology Club, and membership in the local chapter of Psi Beta, the National Honor Society for Psychology in Community and Junior Colleges.

• **Dr. Rick Trinkner** is a postdoctoral associate in law at Yale Law School. He earned a Ph.D. in Psychology from the University of New Hampshire in 2012 with an emphasis in social and developmental psychology. His research explores the dynamics of authority in groups and its influence on the way people are socialized into rule-based social institutions (e.g., the legal system, the classroom/school, etc.). In particular, this work examines the effect of just and unjust authority behavior on a variety of outcomes, including compliance/rule-violating behavior, internalization of social norms, and attitude development. His work has been published in journals such as *Journal of Adolescence, Victims and Offenders*, and *Law and Human Behavior*. Currently, he is studying the process of legal socialization, whereby people develop their understanding of the law and their relationship with the legal system.

• **Sherrie Weller** is a Writing and Core Literature Faculty member in the English Department at Loyola University Chicago, where she teaches first-year writing and literature courses. Literature courses she teaches include Introduction to Poetry, Human Values in Literature, Society and Literature, and Women in Literature: Contemporary Memoir. She has also taught creative writing courses in poetry and non-fiction. She earned her M.F.A. in Creative Writing, with a focus on poetry and non-fiction, at the University of Minnesota in 2003. She has been teaching online literature courses for the last four years and has taught online in a variety of formats, including both synchronous and asynchronous courses in a 16-week semester schedule, six-week summer sessions, as well as an intensive two-week J-term. Besides teaching for the College of Arts and Sciences, she also teaches core literature courses for Loyola’s School of Continuing and Professions Studies, working specifically with the Marcella Niehoff School of Nursing Online R.N. to B.S.N. program. Her initial hesitancy about effective student engagement in online courses has evaporated as she has seen students’ engagement, participation, critical thinking and writing, as well as conversation, academic discourse, and strong class community flourish in her online education experience.

• **Dr. Jeanne Widen** is the Associate Dean and prior Faculty Director of Online Education at the School of Continuing and Professional Studies at Loyola University Chicago. She has many years of teaching and administrative experience in higher education, in both the United States and abroad, and in traditional and online programs. She earned her Ph.D. and M.A. in English Language and Literature from
the University of Chicago and started teaching literature and writing courses on-ground in 1987 and online in 2004. Before coming to Loyola, she served as Faculty Coach, English Department Chair, and Faculty Senate President at a fully online university for working adults. Jeanne has supervised and mentored numerous faculty teaching online in both synchronous and asynchronous formats.

As evidenced by the brief biographies, it is apparent that our invited authors have a broad range of research interests, a wide array of discipline relevance, and significant professional and academic experience. In this edition of the journal, we're most excited about the range of topics covered and how they advance the field. Upon reading, we look forward to receiving your feedback and hope that you'll submit your work for consideration in future issues.

Coinciding with the distribution of the first issue of the journal, we are also announcing a Call for Papers for the Winter 2014 edition. Manuscripts will be reviewed on any topic related to online doctoral education. As noted, manuscripts will also be considered in the more general area of online graduate education. These topics could include, but are not limited to, the following areas/approaches:

- Research and theory as they concern the interests of those in online doctoral education
- State-of-the-art literature reviews of research on topics related to online doctoral education specifically written so as to draw out the implications for best practices
- Academic integrity issues in online doctoral education
- Best practices in online graduate education
- Curriculum development and innovation in the online modality
- Quality issues in online doctoral education
- Faculty/student experiences in synchronous and asynchronous online doctoral education environments
- Motivation and engagement of doctoral students in online doctoral programs
- Retention and timely completion in online graduate education
- Mentoring relationships in online education
- Doctoral student socialization in online programs
- Developing a sense of community in the online environment
- Technology and delivery as related to online education

If you are interested in publishing with us, we ask that you visit our website at http://jode.ncu.edu for information on how to submit your manuscript for review. The submission deadline for our current Call for Papers is October 15, 2014.

And, finally, I'd like to recognize and thank our two Associate Editors, Dr. Eva Mika and Dr. Heather Rasmussen, and our Project Manager, Molly Migliaccio, each of whose tireless work on this project helped make this publication possible.

Gregory T. Bradley, Ph.D.
Editor
Quality Considerations in the Design and Implementation of an Online Doctoral Program

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Abstract

This article presents one approach to the design and implementation of a quality online doctoral program in which students engage in a community of inquiry to connect theory, research, and practice. Based on research in an online professional doctorate in education, faculty presence, social presence, cognitive presence, and learning presence (Garrison, Anderson, & Archer, 2001), online doctoral environments are discussed along with other considerations such as the provision of support for information literacy support, research preparation, and faculty mentoring. The discussion of online doctoral program quality and design is applicable to online doctoral programs and professional doctorates in all disciplines.

Keywords: online doctoral program, online program quality, quality online education, community of inquiry, online program design

Introduction

The growth of online education in the US has been accompanied by the emergence of online programs in various disciplines as universities attempt to meet the needs of millions of students looking for opportunities to learn online. Doctoral programs that traditionally used an apprenticeship model are also being offered in hybrid or online formats. Since 2008 in educational technology and related fields, for instance, six new doctoral programs have emerged in the US that are offered in hybrid or online format by not-for-profit, brick-and-mortar universities. Despite online program offerings and the number of students taking online courses (Allen & Seaman, 2013), the rigor and quality of online programs remain a concern as online degrees—whether bachelor’s, master’s, or doctorate—continue to be viewed skeptically by academics and employers. Some of these concerns are justified due to the relative newness of online doctoral programs and the scarcity of data about them. Online doctoral programs encompass varying degrees of quality, similar to traditional doctoral programs that provide a wide range of learning experiences for students and succeed to
different extents at preparing students for the academe or professional leadership. The main difference, however, is traditional doctoral programs that have been in existence for many years might not be able to innovate or change in a short period of time due to institutional culture or administrative processes. A department or college creating a new online doctoral program has the opportunity to use lessons learned from successful on-campus doctorates, existing online doctorates, and prior research in distance education to conceptualize an innovative online offering that provides excellent learning experiences for students.

This article presents one approach to designing a quality online doctoral program based on the Community of Inquiry (COI) (Garrison, Anderson & Archer, 2001), a leading framework used to conceptualize online teaching and learning. It integrates prior research in distance education, which is not a new phenomenon, and lessons learned from the design, implementation, and evaluation of an online doctoral program in education with a specialization in educational technology at the University of Florida (University of Florida EdD EdTech) (Kumar, 2014). The University of Florida EdD EdTech is a professional doctorate offered since 2008 that is based on Carnegie Project on the Education Doctorate (CPED, 2010) guidelines and has graduated 23 students at the time of writing this article. Faculty who led a successful PhD program and were experts in online teaching and learning designed an innovative and rigorous online degree for professionals aiming to be educational technology leaders (Dawson, Cavanaugh, Sessums, Black & Kumar, 2011). The degree is designed as two years of online coursework culminating in qualifying exams and followed by the dissertation. Asynchronous and synchronous online interactions, yearly on-campus meetings, and a strong focus on community-building and the connections between theory, research, and practice characterize the program.

Although this article focuses on the professional doctorate in education and the doctoral model common in the United States—coursework followed by the dissertation—the design proposed and discussed is relevant to all online doctoral programs in education, whether PhD or EdD, and to professional doctorates in other disciplines. The following sections detail the theoretical foundations of program design, the design of online teaching and learning in doctoral programs, and additional design considerations in online doctoral programs.

Theoretical Foundations of Program Design

Learning within each discipline is defined and bounded by its language, epistemology and context (Bransford, Brown & Cocking, 1999). Regardless of discipline, online programs make it possible for students to remain in their work or family contexts and pursue higher studies. In the case of a professional doctorate such as the University of Florida EdD EdTech, online students are able to continue working in their professional contexts in the discipline, pursue areas of specialization in their discipline under the guidance of a faculty advisor or mentor, and interact anytime with faculty or peers using Internet and communication technologies. Their embeddedness in professional contexts presents students with opportunities to connect theories and prior research in their discipline or research...
area to their professional context, apply what they learn in academic programs to practice, and engage in dialog with others in similar contexts around the world.

Different programs in education, whether the traditional PhD or the professional doctorate, have distinct goals and underlying theoretical foundations that inform their design. Given the adult professionals who engage in professional doctoral endeavors, doctoral curriculum and activities in the University of Florida EdD EdTech program aim to be transformational (Mezirow, 2000), situated (Lave & Wenger, 1991), and relevant (Knowles, 1984). Working professionals enter professional doctorates with significant work experience and attitudes about their fields that have been formed by prior learning and work experiences. Their meaning perspectives, or the “structure of cultural and psychological assumptions within which our past experience assimilates and transforms new experience” (Mezirow, 1985, p. 21), can be transformed through critical reflection on content, process, premises, and assumptions. Doctoral program curriculum and activities that are learner-centered can facilitate reflection on new content and perspectives to which students are exposed in the context of their existing assumptions and professional experiences. A community-centered approach (Bransford, Brown, & Cocking, 1999) that exposes students to different perspectives, consistent communication with others, the discussion of opposing points of view, and attainment of common understanding can lead to transformations in frames of reference, habits of mind, and points of view (Mezirow, 2000). The design of the University of Florida EdD EdTech program is grounded in the above principles and operationalized using the Community of Inquiry framework for online teaching and learning (Garrison, Anderson, & Archer, 2001).

**Designing Online Teaching and Learning in Doctoral Programs**

The Community of Inquiry framework is a leading model used to guide research and practice in online learning. Despite discussions of its conceptual foundations and the inadequacy of existing research on the relationships between its components (Jézégou, 2010; Garrison & Arbaugh, 2007), it provides a useful structure for conceptualizing online teaching and learning. Teaching presence, social presence, and cognitive presence in the COI framework informed online teaching and learning in the University of Florida EdD EdTech program. Research with the first cohort revealed that in an online doctoral program, faculty presence, social presence, and cognitive presence play a substantial role (Kumar & Ritzhaupt, 2014). Further, the fourth dimension of learner presence proposed by Shea and Bidjerano (2010) was also found to influence student success and completion of dissertations. The following sections detail the ways in which these four dimensions of the framework can inform the design of an online doctoral program that aims to facilitate transformational learning. Examples from the design of the University of Florida EdD EdTech and research conducted in the program are provided for each dimension to illustrate how these areas can be operationalized in an online doctoral program during both stages: online coursework and the dissertation process.
Faculty Presence

Anderson, Rourke, Garrison, and Archer (2001) defined teaching presence as “the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes” (p. 5). Instructional design and organization, facilitation of student interactions and discourse, direct instruction, and the provision of effective and immediate feedback (Anderson et al., 2001) can influence student learning and satisfaction in online courses where students do not see the instructor in a classroom. Research with the first cohort of students in the University of Florida EdD EdTech program led us to propose that teaching presence in an online doctoral program is more representative of faculty presence, where multiple faculty members teach, support, mentor, and advise online doctoral students in multiple virtual environments about research and professional goals (Kumar et al., 2011). Faculty presence in an online doctoral program also encompasses consistent communication about program requirements, research, composite mentoring of students, and the management of the online environment, support structures for online students, and administrative procedures at the institution (Kumar et al., 2011). Doctoral students require research and writing support as well as program planning and mentoring to leverage the opportunities presented by professional organizations, conferences, grant projects, and networking in their chosen field. In an online doctoral program, faculty presence includes not only instructional design, direct instruction, and facilitation of program coursework, but also direct instruction and the facilitation of program interactions about topics that develop habits of mind in that profession or discipline.

In doctoral programs, students’ relationships with faculty mentors or supervisors are an important factor in their completion of dissertations. Academic mentors shape students’ research skills, professional identity, and career. Models of mentoring in higher education coalesce around educational development, professional development, and psychosocial development to develop students academically, professionally, and personally (Hayes & Koro-Ljungberg, 2011; Lechuga, 2011). In the online environment, mentoring includes all the above but faculty also have to advise, encourage, and model disciplinary thinking and develop mutual trust in the absence of face-to-face communication (Bierema & Merriam, 2002). A learner-centered approach that uses multiple formats of communication, including activities that foster learner progress, and provides clear, consistent, and constructive feedback is advocated in the literature on online mentoring (Schichtel, 2010).

In the University of Florida EdD EdTech program, online doctoral students first complete two years of structured coursework before they work one-on-one with faculty members to conduct research and write their dissertation. Students submit written work to faculty via e-mail during the dissertation process and receive feedback in documents, e-mails, and phone and Skype conversations. Students reported that synchronous conversations were particularly helpful when they struggled to understand what a mentor or committee member suggested in terms of changes or revisions. Timelines and
expectations for submission and feedback, adherence to deadlines, faculty availability and flexibility, and candid and timely feedback from faculty were appreciated by students in the program (Kumar, Johnson, & Hardemon, 2013).

Social Presence

The ubiquity of social media and communication technologies today make it possible for students in online courses or programs to interact regularly with each other and their professors. Social presence or the way in which online learners portray themselves as “real people” in their online interactions (Garrison et al., 2000, p. 89) can influence learning outcomes, students’ cognitive presence, purposeful communication, and group cohesion in online courses (Hughes, Ventura & Dando, 2007; Shea et al., 2010). Multiple communication media (asynchronous and synchronous) are used in online programs to help students stay connected with peers and faculty. In addition to discussion forums and virtual classroom sessions within courses and group projects, several asynchronous and synchronous interactions extraneous to coursework are integrated into the University of Florida EdD EdTech program where cohorts share and discuss resources, academic and professional events, their professional growth, and problems of practice. Monthly real-time synchronous sessions with faculty provide additional opportunities for connecting theory, research, and practice (Dawson et al., 2011).

Notwithstanding the value of different types of online interactions, the importance of face-to-face meetings for social presence and the building of community have been consistently reflected in research conducted in the University of Florida EdD EdTech program. Students in the first two cohorts rated on-campus meetings higher than online asynchronous or synchronous meetings for social presence (Kumar et al., 2011; Kumar & Ritzhaupt, 2014). To this effect, an on-campus orientation was added to the program design based on feedback from the first cohort. This orientation has been cited by the third cohort as most important for getting to know each other and faculty members, and for “bonding.” If an on-campus orientation is not possible due to travel constraints, an online synchronous orientation could be considered by program designers. While faculty can purposefully build these asynchronous and synchronous interactions inside and outside of courses to ensure social presence and productive scholarly dialogue, social presence in an online program where students have common goals and research interests can also be strengthened in informal and formal spaces where students socialize (Kenney, Kumar, & Hart, 2013). In the University of Florida EdD EdTech program, these include a Facebook group, Twitter, Google Hangouts, professional activities (e.g. conferences, webinars), and professional organizations in the field. Additionally, program participants often interact with external experts suggested by faculty members as well as those they seek out in their disciplines. These interactions about academic content, research, and professional application of their learning take place on social media and in students’ professional contexts. These experiences are consequently shared with peers in the doctoral program. In the second cohort, the Facebook group ($M=4.5, SD=0.96$) was rated a close second to the face-to-face session ($M=4.88, SD=0.34$) on a Likert scale of 1 to 5 in terms of
value for building community (Kumar & Ritzhaupt, 2014). Student ratings for learning from the Facebook group ($M=4.37, SD=1.025$) were also rated only second to the face-to-face session ($M=4.94, SD=0.25$). Students use of a platform or technology that is already a part of their lives, such as Facebook, and a bottom-up approach that addresses individual as well as group needs has been most successful for building community in the University of Florida EdD EdTech program (Kenney, Kumar, & Hart, 2013).

Doctoral students who succeed in completing their programs undergo three stages: transition and adjustment, candidacy, and the dissertation (Tinto, 1993). While students might successfully complete online courses due to their familiarity with the format used when pursuing their master’s degrees, the dissertation process is especially difficult in the online environment due to the newness of the structure and a sense of isolation (Burnett, 1999; Kluever, 1997). The use of a cohort model and the building of social presence in the first stage of the program can help students get through the second and third stages, thus improving student retention. Research in the University of Florida EdD EdTech program revealed interactions and course activities in all modalities during the first two years of the program significantly contributed to students’ persistence at the dissertation stage. Students asked peers for advice, met online regularly, read drafts for each other, provided feedback, and motivated each other in their Facebook group (Kumar, Johnson, & Hardemon, 2013). Students’ acknowledgements in their dissertations often referred to the support of their cohort as instrumental in helping them graduate.

**Cognitive Presence**

The extent to which students construct and apply meaning using sustained reflection and discourse in an online environment is termed cognitive presence (Garrison, Anderson, & Archer, 2001). Cognitive presence is developed in four stages: the identification of a problem, the exploration of the problem individually and collectively through discourse, the integration or construction of meaning through exploration, and the resolution or application of meaning to new contexts (Garrison, 2003). In a professional doctorate, especially one that encourages students to connect theory and research to their practice, cognitive presence transcends online course discussions and is also developed during interactions with other professors, peers, colleagues, and experts in students’ professional contexts or discipline. These might occur online via e-mail, webinars, and social media, or face-to-face during conferences, professional activities and on-campus sessions (Kumar et al., 2011). The development of cognitive presence thus takes place in multiple modalities and environments in online programs compared to online courses, and students’ interactions in formal and informal environments blur as they begin to interact in non-university-specific learning spaces (Kumar et al., 2011; Kumar & Ritzhaupt, 2014).

In the design of the University of Florida EdD EdTech program, problem definition, exploration, and reflection were facilitated using asynchronous and synchronous interactions, and all program activities provided students with opportunities to apply knowledge and skills from the program in their practices. For example, students identify problems in their practices, explore literature
related to the problems, and synthesize it to inform interventions and proposed research (Kumar & Antonenko, In Press). This process is scaffolded and completed in various courses in the program, with students sharing their progress with peers and faculty at every stage through collaborative documents, shared bibliographic tools, discussion forums, and a Facebook group. They also worked in small groups of students with similar interests that researched specific topics or areas in depth. Research using an adapted COI survey (Arbaugh et al., 2008) at the end of the first year revealed high cognitive presence in the first and second cohorts. On a Likert scale of strongly disagree to strongly agree (1 to 5), the item “Courses and program activities in Year 1 have improved my understanding of research” had a mean and standard deviation of \( M=4.69 \) and \( SD=0.60 \) for the second cohort. Likewise, the item “Year 1 of the EdD program has contributed to my professional growth” was rated positively by the first \( M=4.31, SD=1.07 \) and second \( M=4.62, SD=0.62 \) cohorts (Kumar et al., 2011; Kumar & Ritzhaupt, 2014). At the doctoral level, students’ self-direction, reflection, and effort contribute to cognitive presence almost as much as the design of program activities and scaffolds. Furthermore, the dissertation is a culmination of the process and a product of students’ professional and scholarly growth.

The specific goals of an online program that correspond to cognitive presence should be considered in the instructional design, which in the University of Florida EdD EdTech program was students’ professional growth and the adoption of a research-based approach as scholars in professional practice. Students were expected to acquire foundational knowledge in educational technology, specialized knowledge in areas relevant to their professional contexts, and the ability to conduct research to address problems of practice (Dawson et al, 2011). They completed dissertations that used research methods appropriate to their research problems and were informed by both graduate school guidelines and the guiding principles formulated by program faculty (Dawson & Kumar, In Press).

**Learning presence**

Despite strong faculty presence, social presence and cognitive presence can only develop if learners in an online COI have a capacity for self-direction (Garrison, 2003; Jézégou, 2010). Jézégou (2010) argues each learner in the group has to be sufficiently motivated and should be capable of regulating the socio-effective, emotional, and cognitive aspects of interactions in order for a COI to be successful. More recently, Shea and Bidjerano (2010) proposed the extension of the initial three constructs comprising the COI to a fourth construct, “learning presence,” which they defined as representing online learner self-regulation, self-efficacy, and attendant effort. They found a positive correlation between learning and cognitive presence (Shea & Bidjerano, 2012), reiterating the importance of learners’ self-regulation or planning, acting, monitoring, self-reflecting, and self-assessing (Zimmerman, 2001) in the online environment. In the case of online doctoral students in a professional doctorate that presumes reflection and metacognition for transformational learning, learning presence is essential to students’ progress and completion of the doctorate.

As discussed earlier, activities in an online
A doctoral program can be purposefully designed to facilitate student reflection on existing assumptions, prior experiences, and professional goals. In the University of Florida EdD EdTech program, students plan their professional trajectory and in-program and out-of-program experiences, and explore the types of research that would supplement their professional goals. Given the interdisciplinary nature of educational technology and the diverse disciplines in which they work, students are expected to take charge of their professional growth and the opportunities provided by the program. This is largely true of all doctoral endeavors, but in the online environment, scaffolds for reflection and metacognition have to be built into both coursework and dissertation mentoring. Furthermore, the importance of self-direction and self-regulation has to be emphasized to online doctoral students. Data collected in the University of Florida EdD EdTech program revealed that strong faculty presence accompanied by opportunities for the development of social presence is insufficient if students are not willing to engage in dialogue and do not realize the importance of learning presence (Kumar & Dawson, 2012a). Bachelor’s and master’s programs with mandatory course requirements do not prepare students for doctoral programs where their success depends largely on setting their own goals and deadlines, writing to improve instead of achieve a grade, monitoring their own progress, and reflecting on the research process.

In the University of Florida EdD EdTech program, data collected from earlier cohorts as well as interactions with graduates who recommend strategies for “getting done” help greatly in highlighting the importance of learning presence in the first year of the program. Additionally, the value of building social presence early in the program and the professional community is emphasized. Initial graduates of the program indicated their strategies for self-direction and self-regulation were instrumental in their finishing earlier than others while later graduates praised the program components that guided them to be self-directed and self-regulated as significantly contributing to their completion of the program (Kumar, Johnson, & Hardemon, 2013). Adult professionals enter professional doctorates with prior experiences and preconceptions of online learning from their academic and professional experiences, both formal and informal. In the event they do not know how to be successful online learners, existing literature and advice from previous cohorts can help them adopt strategies for success.

**Additional Design Considerations in Online Doctoral programs**

Online students’ perception of connectedness to the institution in which they are enrolled contributes to their completion of courses and satisfaction with an online program (Cain & Lockee, 2002; Tait & Mills, 2003). Therefore, various forms of support at the institutional, program, and course level are helpful in retaining students and providing a quality experience. Institutions of higher education often offer excellent on-campus student services, but unfortunately seldom create online student services of the same quality except technical support and student orientations for learning management systems. At the doctoral level, students need intensive advising on program...
planning, opportunities similar to those for on-campus doctoral students (e.g., graduate student association activities, awareness of scholarships, and conference travel funds), and access to research resources and ethics processes. While this applies to all online graduate programs, these are crucial at the doctoral level to provide an experience that inculcates scholarly habits of mind, provides exposure to university scholars and critical thinking, and widens students’ horizons beyond their immediate context to scholarship in the discipline. Support of this nature can be supplied at the program level to a limited extent but should be part of the overall online learning strategy of an institution for the provision of such services to be sustainable and cost-effective.

The following sections highlight four additional areas that contribute to quality online doctoral program design: information literacy support, preparation and support for the research process, faculty online mentoring competence and responsibilities, and the evaluation and maintenance of program quality.

**Information Literacy Support**

An important area for online doctoral student support is information literacy, or “the ability to locate, evaluate, and use effectively the needed information” (ALA, 1989, para. 3). Doctoral students’ information literacy skills, whether online or face-to-face, are largely overestimated by students as well as their faculty (Green, 2010). Despite being professionals in other fields, doctoral students returning to school after many years might be unfamiliar with library databases and processes for finding scholarly information. In the University of Florida EdD EdTech program, a pre-program survey revealed that entering online doctoral students had high technical and searching abilities but were unfamiliar with the databases in the field, the concept of peer-reviewed literature, citation styles, and bibliographic software (Kumar, Ochoa & Edwards, 2012). Given the importance of finding prior research in their areas of interest, connecting those to practice, and becoming familiar with conversations in the field before framing their own research questions, information literacy instruction for online doctoral students is essential to their success. Low self-efficacy and “library anxiety” (Collins & Veal, 2004, p. 12) can prevent them from finding, evaluating, and using appropriate resources in literature reviews and their dissertations (Onwuegbuzie, 1997).

Higher education librarians use synchronous and asynchronous communication (e.g., chat, email, virtual classroom meetings) and various forms of media such as videos, pathfinders, and written documentation to deliver online information literacy instruction. Notwithstanding the value of all types of library instruction (e.g., a standalone session on a specific topic), program-integrated and course-integrated information literacy instruction has been found to be most successful in the University of Florida EdD EdTech program (Kumar & Ochoa, 2012). The integration of information literacy instruction into required coursework in a program following systematic instructional design principles ensures such instruction is not additional but integral to program curriculum. Furthermore, online students have immediate opportunities to apply the content of library instruction to imminent assignments (Bordonaro & Richardson, 2004). A
needs assessment of online students’ information literacy skills when entering a doctoral program helps to plan the content and format of information literacy instruction that is topically relevant, discipline-specific, and skill-appropriate for that specific group of learners (Kumar, Ochoa, & Edwards, 2012). Notwithstanding the generic research skills needed by all students at the doctoral level, discipline-specific information literacy instruction contributes greatly to their progress and familiarity with accepted scholarship in their field. An instructional design process that designs curriculum based on the gap between students’ existing information literacy and target information literacy in the online program can be successful (Higgins, 2010). In this context, collaborations between program faculty and librarians in which librarians assume faculty and social presence in the online program can contribute to student acquisition of information literacy skills and increase self-efficacy (Kumar & Edwards, 2013). A liaison librarian or embedded librarian who specializes in information literacy for a certain discipline can help online doctoral students advance toward degree completion (Macauley & Cavanagh, 2001).

**Preparation and Support for the Research Process**

All doctoral students struggle to conceptualize research for their dissertation, analyze data, handle criticism of their writing, and stay motivated during the dissertation process. For students who are working professionals, finding time to write and managing work-life balance in the midst of family and work commitments are additional challenges (Burnett, 1999; Kluever, 1997; Kumar, Johnson, & Hardemon, 2013). In the online environment, these challenges are compounded because students have to be familiar with the process, communicate regularly with their mentors online in the absence of course structure, and make progress on their own in the absence of faculty and peers. Research conducted in the University of Florida EdD EdTech program about challenges faced by students revealed research courses that include small projects or the application of methods to problems in students’ practice were useful to professional students aiming to conduct research in their practice. Abstract problems in research method courses that did not include active application and the use of current software for analysis led to students in the first cohort perceiving greater difficulties during the dissertation (Kumar & Johnson, 2014). The inclusion of small research projects and online access to SPSS in subsequent cohorts greatly alleviated these problems. On-campus students have access to computers with research software, research faculty, campus writing resources, and campus workshops that, if made available to online doctoral students, can greatly reduce students’ frustrations. Knowledge of on-campus resources and processes (e.g., Institutional Review Board, dissertation formatting guidelines) are extremely important to students conducting research and completing dissertations at a distance (Kumar & Johnson, 2014).

Before online doctoral students begin their dissertations, the provision of support in the areas mentioned above helps them build relationships with key campus personnel, processes, and faculty that they can call upon during the dissertation process. Several of these challenges can be overcome if online doctoral students reach out
and consistently communicate with their faculty mentors, peers, and on-campus personnel when they encounter questions or problems. Online mentoring by faculty mentors and their advice for overcoming process-related challenges played important roles in students’ completion of their dissertations in the University of Florida EdD EdTech program. Additionally, students perceived peer support as key to solving many problems faced during the dissertation process (Kumar, Johnson, & Hardemon, 2013).

Faculty Online Mentoring Competence and Responsibilities

In the University of Florida EdD EdTech program, all the faculty members have prior experience in online course design, facilitation, and assessment. Furthermore, they teach and research topics related to multimedia use, technology-enhanced learning environments, and distance education. In other disciplines or in programs where faculty have not taught online before or do not have such expertise, support and professional development in these areas needs to be provided. This is a pressing issue in all online programs in institutions of higher education. However, in an online doctoral program, faculty preparedness for online teaching and mentoring can be crucial to student completion of dissertations and retention in a program. The importance of faculty presence and supervisor-student relationships in the online environment was discussed earlier in this paper. In addition to expertise in the discipline and in research, Schichtel (2010) identified seven competencies that faculty members need to successfully mentor students in the online environment:

1. Online developmental competence to facilitate educational development, professional development, and psychosocial development
2. Social competence to facilitate social presence and overcome online challenges related to distance, time, and lack of social signals
3. Cognitive competence to foster critical analysis and reflective practice
4. Teaching competence
5. Communication competence in various formats and media
6. Managerial competence for the administration and organization of online activities
7. Online technical competence to mentor using relevant virtual environments

The importance of these competencies was reiterated by graduates during research on doctoral mentoring in the University of Florida EdTech EdD program (Kumar, Johnson, & Hardemon, 2013). Online doctoral programs should ensure faculty members possess the above competencies and are supported in their doctoral teaching or advising endeavors. Transitioning to the online environment and working with professional students might be challenging for faculty who are used to working within an apprenticeship model.

Additionally, the time and effort involved in online program development and implementation is challenging for faculty members who have to fulfill their traditional responsibilities of research, teaching, and service plus mentor on-campus doctoral students. In an online doctoral program, all faculty members have to fulfill their teaching responsibilities, but also have to be familiar with existing support structures for online students.
(e.g., information literacy instruction, research support) and be capable of mentoring dissertations at the institution. Our experiences in the University of Florida EdD EdTech program indicated that program leadership by a faculty member who has institutional knowledge, collaborates with administrators, and manages the different types of support ensures consistency and quality in the online program (Kumar, 2014). Nevertheless, regular communication with other faculty, sharing of program procedures and updates at weekly meetings, and agreement on the common goals and standards in a program among all faculty also play a significant role in maintaining program quality and equity in the student experience (Dawson et al., 2011).

**Evaluating and Maintaining program quality**

Online program quality assurance and maintenance is essential to ensure student satisfaction and the rigor of online learning experiences that might otherwise be questioned. The Sloan Consortium provides institutions with the Quality Matters™ rubric that includes 40 elements synthesized from research on online learning to assess online course quality. Peer reviewers can assess online courses in eight areas: course overview, learning objectives, assessment, learning resources, learner interaction, technology, learner support, and ADA compliance (Moore, 2010). At a program level, the Sloan-C quality framework includes five pillars—learning effectiveness, scale, access, student satisfaction, and faculty satisfaction—along with sample metrics and the Sloan-C quality scorecard that can be used for 360-degree evaluations of online programs (Moore, 2010). In addition to leveraging these excellent resources, an online doctoral program has to define quality based on the theoretical framework and goals that inform its design and collect data from different sources to assure that quality. In the University of Florida EdD EdTech program, systematic research conducted to collect data from each cohort has contributed to changes in program design and the improvement of the program for subsequent cohorts (Kumar, 2014).

Teaching presence, social presence, and cognitive presence have previously been measured using surveys and content analysis of online interactions (Garrison & Arbaugh, 2007). Additionally in the University of Florida EdD EdTech program, the COI survey for online courses (Arbaugh et al., 2008) was adapted to reflect the goals of the online doctoral program and to measure student satisfaction and learning (Kumar & Ritzhaupt, 2014). The collection of qualitative data from doctoral students and analyses of their writing or dissertations are also valuable sources of data in doctoral programs where transformation cannot always be measured using quantitative methods. The impact of professional doctorates where students continue to be embedded in their professional contexts includes increased expertise, skills, reflection, recognition, responsibility, and stature in the workplace (Costley & Stephenson, 2008; Lester & Costley, 2010). Qualitative data collected in the University of Florida EdD Ed Tech program revealed both personal and professional growth for students during their doctoral studies and after they graduated (Kumar & Dawson, 2012b, Kumar & Dawson, In Press). Students applied program content to their professional practice, adopted a more research-based approach,
participated and embraced leadership roles in the educational technology community, and experienced significant professional advancement (Kumar & Dawson, In Press). Due to the qualitative nature of the data, students were also able to attribute specific impact to courses, activities, and interactions in the doctoral program, making it possible to connect program design to the outcomes. Additionally, an analysis of completed dissertations has provided insight into areas where students need more mentoring or scaffolding during the online doctoral program (Dawson & Kumar, In Press).

Discussion

This article described one approach to designing a quality online doctoral program based on adult learning theory and a leading model of online teaching and learning. The review did not include other models or approaches currently in use in successful online doctoral programs at for-profit and not-for-profit institutions of higher education that can also provide valuable direction. This article is based on the design, implementation, and evaluation of the University of Florida EdD EdTech that is a professional doctorate requiring online coursework and a dissertation. Educational technology is an interdisciplinary field with a demand for educational technology leaders in various educational environments. Therefore, the online doctorate was conceptualized to encompass theory, research, and practice to achieve transformational learning. Other disciplines that aim for outcomes not practice-oriented will need to adapt this design and consider other factors that could make their online doctoral programs successful. Furthermore, doctoral students choosing an online degree in educational technology might be more technology-friendly and familiar with virtual interactions than students in other disciplines, making it imperative that those designing online doctoral programs in other disciplines include technical support and orientations to online learning for both students and faculty.

Despite the above limitations, the description and discussion of faculty presence, social presence, cognitive presence, and learning presence in online doctoral environments in this article can serve as a starting point for online doctoral program design in all disciplines. Likewise, the provision of information literacy support, preparation for the research process, faculty competence and responsibilities, and the evaluation and maintenance of program quality are design considerations that apply to all online doctoral programs in some measure or the other. Figure 1 summarizes the different aspects of online doctoral program design described in this article. Students engage in a community of inquiry facilitated by faculty presence, social presence, cognitive presence, and learning presence to connect theory, research, and practice with implications for their personal growth, professional contexts, and discipline.
Institutional history and culture, the epistemology and signature pedagogy of the discipline, existing faculty expertise, and the availability of infrastructure and support structures will also play a role in the conceptualization of other online doctoral programs. Regardless of the goals of an online doctoral program, articulation and communication of those goals can be instrumental in recruiting adults whose professional goals mirror those of the program. For example, University of Florida EdTech EdD articles written about the program are provided to prospective students so they might understand program expectations and intended outcomes, and make informed decisions about how their doctoral aims align with program goals. In this regard, documenting program outcomes, the impact of a doctoral program on graduates’ practice, and graduates’ achievements that can be attributed to the program (Kumar & Dawson, In Press) can also help to document program quality and to recruit prospective students. The impact of the University of Florida EdD EdTech was substantial for the personal and professional growth of students within one year of their beginning the program, and their dissertations led to personal transformation as well as new initiatives in their professional contexts (Kumar & Dawson, 2012b; Kumar & Dawson, In Press). The documentation of such impact as well as the systematic collection of data during an online program is invaluable to
maintain program quality and to communicate the rigor and quality of a program to administrators and prospective students.

**Conclusion**

Faculty, administrators, and departments in several institutions of higher education are currently grappling with the design, development, implementation, and assessment of online doctoral programs. The opportunities presented by communication technologies, social media, and mobile devices can be combined with existing research in doctoral education, online teaching and learning, and adult learning to design rigorous online doctoral experiences for the large number of working professionals interested in doctoral studies. Scholarship that reports and discusses design and implementation experiences in online doctoral programs, new doctoral models in response to trends in specific disciplines, and assessments of program quality can build a knowledge base that will be useful to those engaged in the development of new online doctoral programs or the quality assessment of existing online doctoral programs.


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Procedural Justice and the Advisor-Advisee Relationship in Graduate Education

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Abstract
The advisor-advisee relationship is a critical part of traditional and online doctoral education. This paper describes two types of justice—distributive and procedural—and their importance to the advisor-advisee relationship. Distributive justice refers to the fairness of the outcomes that result from interacting with one’s advisor while procedural justice refers to the fairness of how the person was treated during that interaction. Both distributive justice and procedural justice have been linked to a number of student outcomes (e.g., increased persistence, increased learning, decreased hostility). In addition, this paper argues procedural justice is the more important factor to consider when examining advisors’ interactions with their advisees. It identifies and describes four principles—voice, neutrality, respect, and benevolence—people use when judging whether they have been treated in a procedurally just manner. Finally, it concludes that procedural justice represents an important way for advisors to socialize their graduate students into the university and discipline.

Keywords: advisor-advisee relationship, distributive justice, procedural justice, graduate student socialization

Introduction
Student-teacher relationships have long been known to be a critical factor in a successful educational career (Chickering & Gamson, 1987; Pontius & Harper, 2006; Powers & Rossman, 1985). However, with the emergence of online education, these interactions are changing (Cragg, Dunning, & Ellis, 2008; Teclehaimanot & Hickman, 2011). For example, the increase in computer-mediated interaction decreases or removes many of the nonverbal behavior—facial expressions, eye contact, voice qualities, and body movement—used to express and interpret emotional responses. Although online, these interactions continue to be vital to students because the factors that influence the learning process (e.g., knowledge, communication, course design) remain largely the same despite the changing nature of the learning environment (Brocato, Bonanno, & Ulbig, 2013; Coppola, Hiltz, & Rotter, 2002). Moreover, these interactions have been linked to the same outcomes (e.g., student learning and satisfaction) in both online and conventional formats (Means, Toyama, Murphy, & Baki, 2013; Mortera-Gutièrrez, 2006; Swan, 2003). Student-teacher relationships matter, regardless of whether they occur in an online or face-to-face
context (Lammers & Gillaspy, 2013; Thurmond & Wambach, 2004).

The student-teacher relationship is even more important in graduate education, although it differs in nature. Instead of being primarily contained within the classroom, it comes in the form of an advisor-advisee relationship (Phillips, 1979; Schlosser et al., 2011). Here the teacher is expected to mold the student not only in terms of knowledge of a particular subject, but also to initiate the student into the norms, rules, and values of the department, university, and discipline. This is almost always done within the context of intense, individual, one-on-one advising/mentoring. Given the centrality of the advisor-advisee relationship in graduate education, it comes as little surprise that much of a graduate student’s success often hinges on this relationship (Schlosser & Gelso, 2001; Schlosser et al., 2011). In fact, graduate student attrition has been linked to the quality of relationships advisees have with their advisors.

The last decade has seen a surge in online doctoral education programs (Allen & Seaman, 2007; 2014). With more students receiving their doctorates online, there has also been increasing awareness that the advisor-advisee relationship is evolving as well (Bennett & Lockyer, 2004; Erichsen, Bolliger, & Halupa, 2012). This has put a premium on identifying ways to establish, maintain, and enhance advisor-advisee interactions in an online world. Recently, scholars have highlighted the role of justice in shaping student-teacher interactions within the classroom (Chory, 2007; Chory-Assad, 2002, Lenzi et al., in press). This work builds on decades of research showing the importance of justice in improving social relationships in a variety of contexts (Greenberg & Colquitt, 2005; Jackson & Fondacaro, 1999; Tyler, 2006a), especially those involving a power differential between a superordinate and a subordinate as is the case in the advisor-advisee relationship. Taken together, this indicates that justice concerns are also pivotal to the relationship between an advisor and advisee in doctoral education.

In this paper, I will expand the scope of the classroom justice research by investigating the role of justice issues in shaping the relationship between the advisor and advisee. In particular, I will identify and compare two distinct types of justice inherent to that relationship: distributive justice and procedural justice. In addition, I will argue that the latter is more important than the former in assessing the quality of the way advisors interact with advisees. I will also outline different criteria people use in making procedural justice judgments. These criteria are meant to guide advisors in making any changes to enhance their own specific advising style. Finally, I will conclude by describing the importance of and need for research examining the role of justice in the advisor-advisee relationship in online graduate education.

**Justice in the Advisor-Advisee Relationship**

Justice helps facilitate our social interactions. As Tyler (2000) noted, it is like the oil in an engine reducing friction and allowing the different mechanical parts to work harmoniously with each other. In much the same way, justice is a socially created construct that allows us to coordinate our social world at both an individual/dyadic level and a group/societal level (Lerner, 1975). Just as the oil in an engine can break down and impair the
normal functioning of the engine, a perceived imbalance of justice can cause strain and hostility leading to a breakdown of social relationships. Indeed as noted above, justice has been shown to be an important contributor to positive social interactions across a wide number of contexts (e.g., organizational, familial, legal). Thus, it stands that issues of justice are critical to the advisor-advisee relationship as well. In discussing the potential to improve the relationships between advisors and advisees via justice concerns, it is important to distinguish between two types that may be of potential value: distributive justice and procedural justice.

**Distributive Justice**

Distributive justice refers to people’s perception of fairness concerning the outcome of an interaction or decision. For example, when people judge whether there was a fair allocation of resources among a group of individuals, they are focusing on concerns of distributive justice. People use a number of different principles in shaping their perceptions of distributive fairness (Deutsch, 1975). For instance, they may base their judgments on the degree of equality that exists between themselves and another, or they may consider their needs in regards to the outcome. Much of the work on distributive justice has focused on the principle of equity that is especially important in economically driven relationships, as is the case with the student-teacher relationship (Adams, 1965; Deutsch, 1975). From this perspective, people judge the fairness of an outcome based on a ratio of what they received (their outputs) to what they contributed (their inputs). If they believe their inputs match their outputs, they would judge the outcome to be fair.

However, if they perceived inequity, the outcome would be deemed unfair. For example, if a graduate student was working on a paper with an advisor, she may judge that her position in the listing of authors (output) does not match the amount of work she put into the final publication (input). Hence, she may conclude that the advisor is unfair.

It is important to note that distributive justice judgments are rarely based on a single objective comparison of one’s inputs to outputs. Instead, people usually compare their ratio to some kind of a standard or norm (Adams, 1965). For instance, people may compare their actual input-to-output ratio with what they expected to receive. Many times the fairness of outcomes is socially defined, whereby individuals compare their ratio of inputs and outputs to someone else’s ratio of inputs and outputs (Walster, Berscheid, & Walster, 1973). For example, the student in the scenario above may assess another graduate student’s work on the paper in comparison to where that individual was put in the author list. If she determines the other student’s ratio (i.e., position in the author list to the amount of work done) is more equitable than her own, she may conclude that the advisor is unfair. From a distributive justice perspective, our perceptions of social interactions and, more importantly, our responses to them are largely influenced by our judgments of fair outcomes (Deutsch, 1975; Walster, Berscheid, & Walster, 1973). In other words, we judge our social relationships based on the benefits/outputs we receive in comparison to our contribution/inputs. When these are deemed to be equitable, we are more satisfied with our social interactions. In the case of the advisor-advisee relationship, such
satisfaction would lead to higher group functioning in the form of more social cooperation and less social conflict (Tyler, 2013).

Research has shown distributive justice concerns shape a variety of factors that influence the way individuals interact with other people. When social interactions produce fair outcomes, people are happier and have more self-pride (Weiss, Suckow, & Cropanzo, 1999). When such interactions are inequitable, people experience more emotional distress and are less satisfied (Cook & Hegsted, 1983; Lambert et al., 2010). The importance of distributive justice has been well documented within organizational settings in terms of supervisor-worker interactions. For example, Tyler (1994) interviewed workers about their interactions with their supervisors. He found that when individuals believed those interactions produced fair outcomes, they were less angry and frustrated, and more willing to accept their supervisors’ decisions. Distributive justice has also been linked to increased supervisor trust and more commitment to an organization (Folger & Konovsky, 1989; Tremblay, Vandenbergh, & Doucet, 2013). In their meta-analysis of organizational justice research, Cohen-Charash & Spector (2001) found distributive justice was related to a host of beneficial outcomes. For example, when workers believed their outcomes were fairly distributed, they were less likely to be in conflict with and more likely to be altruistic to co-workers. They were also more satisfied with their supervisors, unions, and management as a whole. Perhaps most importantly, distributive justice has been linked to lower job burnout and intentions to quit one’s job (Lambert et al., 2010). Similar findings have also been shown in terms of people’s interactions with legal authorities. When individuals believe the legal system produces just outcomes, they are more satisfied with it (Tyler, 1988; 2006a), more willing to accept its decisions (Tyler, 1994; Sunshine & Tyler, 2003), and more likely to support it (van der Toorn, Tyler, & Jost, 2011).

Concerns over just outcomes in educational settings have a long history in distributive justice research as well (Deutsch, 1975; 1979). Recently, there has been a surge in work examining distributive justice within the classroom in terms of teacher-student interactions. Both teachers and students are aware and sensitive to distributive justice concerns like equality, equity, and need (Berti, Molinari, & Speltini, 2010). Moreover, when students believe that a teacher is more distributively fair, they are more motivated to learn and have more positive attitudes towards the course (Chory-Assad, 2002). They are less likely to engage in indirect verbal aggression against the teacher and be less hostile (Chory-Assad & Paulsel, 2004a). Students also give better final evaluations to professors when they believe grades were distributed fairly (Tata, 1999). Finally, and perhaps most importantly, student perceptions of distributive justice have been linked to higher academic achievement (Molinari, Speltini, & Passini, 2013).

Despite the results described above, distributive justice-based strategies to improve relations among individuals, especially when there is a power differential, have largely failed to produce long-lasting changes (Tyler, 2000). There are a number of reasons for this. For example, it has long been known that people distort their perceptions of their inputs and outputs on a given
task (Festinger & Carlsmith, 1959). In particular, people tend to overvalue their inputs when making justice judgments (Thompson & Loewenstein, 1992). In addition, in some situations it can be difficult, if not impossible, to compare one’s outcomes to another person’s (Mashaw, 1983). This has the potential to be especially problematic in online graduate education where students may have fewer interactions with other students or faculty outside of their relationships with their advisors. Also, most people understand that it is usually impossible for complete equity in the distribution of outcomes (Tyler, 2013). For instance, students have different attributes and backgrounds, which will naturally lead to unequal distributions of outcomes. Perhaps the biggest reason is that people tend to be more focused on how they are treated when interacting with a superordinate rather than the outcome of that treatment (Mikula, Petri, & Tanzer, 1990). For example, Messick and colleagues (1985) asked people to list instances when they had experienced unfairness. Rarely did participants report instances of unfair outcomes. Rather, the majority of them discussed being treated unfairly. This sensitivity to treatment concerns has led to the identification of a second type of justice that is also important in interactions between individuals (Tyler, Boeckmann, Smith, & Huo, 1997).

Procedural Justice

Procedural justice focuses upon a different aspect of the relationship between an advisor and advisee. While distributive justice emphasizes the fairness of the outcomes that come from that relationship, procedural justice concentrates on the process or procedures used to reach those outcomes (Lind & Tyler, 1988). In other words, distributive justice focuses on perceptions of fairness concerning the “ends,” whereas procedural justice focuses on the fairness of the “means.” The fairness of how outcomes are distributed is important because they will dictate the fairness of the actual outcome. Indeed, if those procedures are unfair, the fairness of the outcome by its very nature is in question (Deutsch, 1975). The concept of procedural justice began with Thibaut and Walker’s (1975) landmark research examining individuals’ experiences within the legal system. Their research highlighted that individuals were highly cognizant of the procedures used during court proceedings. In most cases, people’s acceptance and satisfaction with the court’s decision was heavily based on how the court treated them during the decision-making process. This led Thibaut and Walker to conclude that the way decisions are made is just as, if not more, important in influencing individuals’ acceptance of those decisions as the actual decision itself.

Subsequent work has shown procedural justice is important on an interpersonal level as well as a decision-making level (e.g., Tyler & Blader, 2003). This work highlights two major aspects of procedural justice: the quality of decision-making procedures and the quality of interpersonal treatment. The former refers to the rules or guidelines set forth to guide decision making. For example, in the scenario used previously, this aspect of procedural justice would focus on the procedures the advisor has in place to determine the order of authors on the final manuscript and whether the graduate student believes those guidelines are fair. The second
component regards the way a person is actually treated by the advisor. For instance, did the advisor treat the graduate student honestly and with dignity? Was the student given a chance to participate in the decision-making process? Perceptions of fairness here are shaped by the quality of interpersonal treatment. Such treatment communicates respect to the advisee and indicates the advisor cares about the process being fair and beneficial to both parties (Lind & Tyler, 1988; Platow et al., 2013).

Why is procedural justice important?
People care about how they are treated by others because it has important ramifications on how they view themselves in regards to their social world. Given that human beings are inherently social creatures, they are particularly attuned to the people in their social environment and are motivated to establish interpersonal bonds with them (Baumeister & Leary, 1995). These bonds are not solely restricted to those with which we want to be friends or have a romantic relationship, but apply to anyone who is a member of a social group in which we want to be included. Thus, a worker is motivated to establish an interpersonal relationship with a supervisor as a way to identify with an organization (Tyler & Blader, 2003). A citizen cares about the relationship between himself and the police because officers are symbols of the legal system that represents the values of the society of which the citizen is a part (Justice & Meares, 2014). Students are motivated to form interpersonal bonds with teachers as a means to establish themselves as members of the educational institution (Frymier & Houser, 2000). This is especially true in the advisor-advisee relationship, as the advisor is a symbol of the university and the career field that the advisee is working to join.

The inherent need to belong is what makes issues of procedural justice so vital to our social interactions. Fair treatment is a marker of sorts that signals to an individual that they are part of a group (Lind & Tyler, 1988; Tyler, 1988, 1989; 1994). People want to know they are part of a group because it is psychologically rewarding. It gives people a sense of pride and self-validation, and serves to provide a sense of identity (Tyler, 2013). People are motivated to establish bonds with authorities because the quality of those bonds is a sign of group membership. It reflects the degree to which they are considered a part of that group. Procedural justice facilitates the formation of these social bonds (Lind & Tyler, 1988). When people are treated fairly, they are in essence being told that they are part of the group and their status as a group member is valued. Put simply, people care about whether they are being treated fairly because it provides them with important information about where they stand. In terms of the advisor-advisee relationship, graduate students care about the way their advisors treat them because it signifies the advisors care about their relationships and that the students are valued group members. In essence, fair treatment is both a way for advisors to usher students into a new social group and for students to assess the advisors’ intentions in this regard.

What are the effects of procedural justice?
Procedural justice has received much attention from a variety of fields because of its influence on social interactions (Lind & Tyler, 1988). Certainly, one reason it has gained such traction is because
the majority of research shows it has a number of positive influences. Within the business world, procedural justice has been linked to increased pay satisfaction (Folger & Konovsky, 1989) and trust in both the organization and supervisors (Tremblay, Vandenberghhe, & Doucet, 2013). The latter finding is especially important as it helps to explain the finding that people are more likely to endorse leaders who are procedurally just (Folger & Martin, 1986; van Dijke & De Cremer, 2010). Fair treatment and decision making also lead to increases in internal motivation to persist on a task and to perform at a higher level (Zapata-Phelan, Colquitt, Scott, & Livingston, 2009), two attributes vital to any successful graduate student. In addition, legal scholars have shown that judgments of procedural fairness lead to increased shame and less acceptance of rule-violating behavior (Scheuerman & Keith, in press; Sherman, 1993); increased satisfaction with and more support for police officers (Tyler, 1988; 2006a); more positive evaluations of judges, courts, and city councils (Hollander-Blumoff & Tyler, 2011; Tyler, Rasinski, & Spodick, 1985); and increased satisfaction with court decisions (Casper, Tyler, & Fisher, 1988; Hollander-Blumoff, 2011).

Based on these findings, in the last decade there has been a concerted attempt to bring procedural justice research into the classroom in terms of student-teacher interactions. This effort was spurred by prior work showing the importance of fair grading procedures in influencing student evaluations of teachers (Tata, 1999; Tyler & Caine, 1981). This work has largely come to the same conclusions as organizational and legal research. For example, fair treatment and decision making has been associated with students being more enthused and interested in course material, more participatory with their teachers, and more motivated to learn (Berti, Molinari, & Speltini, 2010; Chory-Assad, 2002). Students also report getting higher grades in classes where they believed teachers treated them fairly (Molinari, Speltini, & Passini, 2013). Fair treatment and decision making has important benefits for the teacher as well. When students believe their teachers are procedurally fair, they are less hostile toward them and less resistant to their attempts at control (Chory-Assad & Paulsel, 2004a). Moreover, students are less likely to be indirectly aggressive (e.g., spreading rumors, complaining outside of class) towards teachers when they believe they are being treated fairly (Chory-Assad, 2002; Chory-Assad & Paulsel, 2004b).

In addition to the beneficial effects above, procedural justice has also been shown to be more indicative of people’s reactions to superordinate authorities than distributive justice. As discussed previously, people are more likely to recollect instances of unfair treatment than unfair outcomes when asked to talk about their experiences of injustice (Messick et al., 1985; Mikula et al., 1990), a finding replicated within the educational domain as well (Horan, Chory, & Goodboy, 2010). More importantly, when procedural and distributive justices are put in the same statistical models, the former is usually a stronger predictor than the latter (Cohen-Charash & Spector, 2001; Tremblay et al., 2013; Tyler, 2006a, 2006b; Tyler et al., 1997). For example, Lambert and colleagues (2010) found that procedural justice was a better predictor of burnout and turnover intention than distributive
justice. Similarly, legal scholars have shown that citizens’ trust and satisfaction with the legal system and their engagement in criminal behavior is driven more by procedural than distributive concerns (Tyler, 1988; Tyler, 2006a). Again, this work has been replicated in educational contexts as well. Teachers’ use of fair decision making and interpersonal treatment is a better predictor of student motivation to learn, indirect aggression toward the teacher, hostility toward the class, and affective learning than fair outcomes (Chory-Assad, 2002; Chory-Assad & Paulsel, 2004a).

Taken together, these findings show the importance of procedural justice in shaping the relationship between a superordinate and subordinate. Given that such a relationship is a hallmark that distinguishes graduate school from other types of education (Phillips, 1979; Schlosser et al., 2011), it is likely issues of procedural justice play an important role in influencing the nature of the relationship as well. Thus, procedural justice stands as a means to understand and enhance the relationship between graduate advisors and their advisees.

Making Judgments of Fair Treatment

Due to the potential importance of procedural justice in shaping advisor-advisee relationships, it is natural to ask how people go about making such judgments. Understanding this process will provide guidelines for professors and graduate students alike to assess their particular relationships. Moreover, it will provide a blueprint to help stimulate ways to enhance advisor-advisee relationships. What follows is a discussion of the factors people contemplate when assessing procedural justice. This discussion is intended to identify and describe the criteria used to judge fair treatment and decision making, rather than to provide a list of specific behaviors that professors can use to improve their relationships. This is done intentionally as there are an enormous amount of specific practices and behaviors that produce just interactions. Not all advisor-advisee relationships are the same so there is not a one size fits all approach (De Welde & Laursen, 2008). Behaviors considered fair treatment by one student may not be perceived the same way by another. Indeed, part of learning the craft of advising is learning to identify what specific people want/need and what they do not. As such, the criteria below are meant to be viewed as principles that can be used in examining one’s own specific advising style and as a compass to help guide any changes one may want to make.

Judgments of procedural justice are not based on a single unifying principle. Instead, there are a number of criteria people can potentially use when making such judgments (Leventhal, 1980). However, despite this complexity, four primary factors consistently emerge across a variety of contexts (Lind & Tyler, 1988; Tyler, 1994; 2000; Tyler & Huo, 2002): the degree to which individuals feel they are part of the decision making process (participation), the degree to which decisions are made in an unbiased manner (neutrality), the respectfulness of interpersonal treatment (respect), and the extent that a superordinate is believed to be acting with caring motives (benevolence).

Participation

In their original work on procedural justice, Thibaut and Walker (1975) emphasized individuals were more likely to believe they were treated fairly when they were given an
opportunity to participate in the decision-making process. People want their “day in court.” They want a voice to express their opinions and concerns. When they get that opportunity, they are more likely to believe they are treated fairly (Fondacaro et al., 2006; Platow et al., 2013; Tyler et al., 1985). When superordinates are receptive to this need, they are signaling that they consider the person an in-group member because they value their input in terms of the decision being made (Lind & Tyler, 1988). In many cases, fairness judgments do not seem dependent on whether the chance to be heard will actually affect the outcome (Lind, Kanfer, & Earley, 1990). People strongly value an opportunity to be heard, even if they know it might do little good in terms of the final decision made. Participation has been found to be an important factor influencing people’s perceptions of procedural justice in a variety of contexts (Folger & Greenberg, 1985; Fondacaro et al., 2006; Goodman-Delahunty, 2010).

Students are also sensitive to whether they are given an opportunity to express their needs and concerns. Just as workers and citizens want to take part in decisions that will have direct consequences on them, students also want to participate. Moreover, they remember situations where they were denied this opportunity. For example, Horan, Chory, & Goodboy (2010) asked a group of college students to discuss instances in which they believed they were treated unjustly by a teacher. Many students identified instances where they were denied a voice, such as the professor not allowing discussions about scheduling issues or questions of how grades were assigned. Participation is important in graduate education as well. In their examination of the characteristics of an “ideal type” advisor, De Welde and Laursen (2008) noted successful advisors listened to their students in terms of ongoing research projects and the trajectories of their careers. The students in turn reported this made them feel like they were contributing members of the research community. Schniederjans (2007) has argued that graduate students should have a right to participate in determining who should be on their dissertation committee. Another place where voice is especially important in graduate school is in the selection of an advisor. Golde (2005) reported students were more likely to persist in graduate education when they had a say over who would be their advisors.

Neutrality

Expanding Thibaut and Walker’s (1975) earlier work on procedural justice, Lind & Tyler (1988) argued individuals do not base their procedural justice judgments solely on whether they have control over the decision-making process. In particular, they emphasized that individuals also focus on the neutrality of the decision-making procedures when they are interested in establishing or maintaining long-term bonds with the decision-maker (Tyler, 1988; 1989; 1994). People want to feel that a decision is made in an impartial manner. They do not want a superordinate to be influenced by any potential stereotypes or prejudices. Basically, people want an authority to make objective, factual decisions instead of relying on their own personal interests and biases. Although they understand that those decisions may result in unequal outcomes in many—perhaps most—cases, they at least want everyone to be on a “level playing field” while the
decisions are being made (Tyler, 2000). Such impartial behavior conveys the message that certain group members are not being placed above others at the leisure of the authority, ultimately leading to greater harmony (Lind & Tyler, 1988). A plethora of research from legal and organizational scholars has shown impartiality is a major precursor to judgments of procedural fairness (Goodman-Delahunty, 2010; Lind et al., 1990; Mazerolle et al., 2013; Tyler, 1989, 1994).

Not surprisingly, neutral decision making is incredibly important in education as well. Impartial decision making, especially in terms of grading and evaluation, is a major factor that students use when judging whether a teacher is treating them fairly (Chory, 2007). Students want to be treated impartially. They do not want to feel teachers are favoring one individual over another. When they believe they have not been treated impartially, they react with hostility and aggression (Chory-Assad, 2002). Horan et al. (2010) identified a number of different ways students have experienced bias in the classroom. For example, some students reported teachers failed to use the same grading procedures or enforce policy the same way for all students (e.g., athletes). Others discussed instances where professors singled out some students for praise or criticism, but ignored others. Neutral treatment is important in terms of the advisor-advisee relationship as well. In their interviews with doctoral students, De Welde and Laursen (2008) found some students complained about advisors who had alienated them through impartial treatment. For example, one student complained her advisor tried to develop a more personal, not professional, relationship with her because she was a woman. Indeed, gender stereotypes have long been identified as a potential source of biased treatment that can place strain on the advisor-advisee relationship (Alleman, Cochran, Doverspike, & Newman, 1984). Such concerns led De Welde and Laursen (2008) to suggest that an ideal advisor is one who does not make assumptions about student needs based on gender or other stereotypes. In other words, an ideal advisor is one who behaves in an impartial manner when interacting with an advisee.

**Respect**

Another essential factor in making judgments about procedural fairness is the interpersonal treatment by the superordinate (Lind & Tyler, 1988). In particular, people value when their rights and status within a group are recognized by an authority. Being polite and treating people ethically is an important means to acknowledge those needs (Tyler, Degoey, & Smith, 1996). Regardless of whether people receive a favorable outcome, they at least expect to be treated with dignity and respect during the process of arriving at that outcome (Tyler & Huo, 2002). When superordinates or decision-makers treat individuals with respect, they are in essence telling the individuals that they are important as group members and their membership in the group is valued. As such, the individual is more likely to perceive procedural fairness (Lind & Tyler, 1988; Tyler, 1989, 1994). This relation between respect and procedural justice is well established in legal and organizational research (Colquitt et al., 2001; Goodman-Delahunty, 2010; Mazerolle et al., 2012; Tyler, 1994, 2006a; Tyler, Degoey, & Smith, 1996).
Treating people with dignity and respect is every bit as important in education as it is in business organizations and legal systems. In her examination of classroom justice, Chory (2007) highlighted that respectful behavior by teachers was associated with greater perceptions of fair treatment and decision making. Later work has shown that students focus on issues of respect when assessing fair treatment (Horan et al., 2010). For instance, students report their teachers are unjust when they are not sensitive to students’ needs (e.g., sickness), fail to respond to students in an appropriate amount of time, do not follow through on established policies, and are rude and impolite to students (e.g., insulting or making them feel stupid). Respectful treatment is a hallmark of effective advising in graduate school, too (Schniederjans, Schniederjans, & Levy, 2012). It is essential in developing a positive working relationship between the advisor and advisee (Schlosser & Gelso, 2001). If an advisor is disrespectful, it will be difficult, if not impossible, to establish rapport with advisees and create a productive work environment. Graduate student attrition has also been linked to improper and disrespectful advisors (De Welde & Laurenson, 2008). When advisors fail to give their students clear expectations, show disrespect, and otherwise treat them unprofessionally, students feel abandoned and undervalued. Many times students respond to such treatment by leaving the program or field altogether. As Schniederjans (2007) noted, graduate students have a right to an advisor who is a role model of ethical conduct.

**Benevolence**

The final important factor in making judgments about procedural justice concerns the motivation of the superordinate authority (Lind & Tyler, 1988). People understand that in most cases a superordinate has considerable discretion when interacting with subordinates (Tyler, 2000). As such, they are acutely aware of whether the authority is behaving with benevolent intentions. People want superordinates to be aware of their needs as individuals, show concern for their well-being, and try to do what is right for them. In short, they want to trust that person and feel the decisions being made are done with their best interests in mind (Tyler & Huo, 2002). Benevolent and caring motives on the part of the superordinate impart the feeling that people are important to the group (Lind & Tyler, 1988). When individuals believe an authority is behaving with benevolent motives, they are more likely to believe they are being treated fairly. The relation between benevolence and perceptions of procedural fairness is also well established in both legal and organizational research (Cohen-Charash & Spector, 2001; Colquitt et al. 2001; Goodman-Delahunt, 2010; Tyler, 1989; 1994; Tyler, 2006a).

Showing care for students’ well-being is arguably one of the most important attributes for an educational authority to exhibit. Among undergraduates, the extent to which teachers express concern about student welfare is a major factor shaping perceptions of fair treatment and decision making (Chory, 2007). By recognizing and meeting students’ needs, teachers are empowering and motivating them to succeed (Frymier & Houser, 2000). A benevolent advisor is vital to a successful graduate student career as well. For most students, advisors will be most influential in guiding them through graduate
school and facilitating their emergence as members of their academic fields (Schlosser & Gelso, 2001; Schlosser et al., 2011). In many ways, the advisor will act as an “academic mother or father figure” giving birth to a future scholar (Schniederjans et al., 2012, p. 230). Given this long-term influence, graduate students want to feel that their advisors are looking out for their best interests and directing them accordingly. It is no surprise that when graduate students feel their advisors are not concerned about and are ignoring them, they are more likely to leave their program or fields (De Welde & Laursen, 2008). De Welde and Laursen identified a number of different ways ideal advisors show they care about their graduate students and want them to succeed. Offering support, not letting students flounder, and having regular contact were all ways in which advisors showed their concern for graduate students. This may be especially important in online education, which has been criticized for isolating students (Adams & DeFleur, 2005; Motteram & Forrester, 2005; Shieh, Gummer, & Niess, 2008). Moreover, advisors who are emotionally supportive and responsive to their students produce students who are more likely to learn and more satisfied with and likely to finish their graduate education (Cockrell & Schelley, 2010; Wrench & Punyanunt, 2004)

**Conclusions**

Issues of justice have a powerful influence on the way we think, feel, and behave, especially in regards to our interactions with other people. In many ways, it is the lens by which we make judgments about our social world. As Tyler and Blader (2003) concluded: Justice has an impact; it is substantial in magnitude; it is consistently found across a wide variety of group and organizational contexts; it is distinct from judgments of self-interest or personal/group gain ... information about justice is central to people’s evaluations of social situations. (p. 349).

Throughout this paper, I have made the argument that issues of justice are also a central factor in shaping the way in which an advisor and advisee interact throughout the latter’s graduate education and career. I have highlighted the role of two different types of justice: distributive and procedural. Although both are undeniably important in shaping the advisor-advisee relationship, I have placed considerable importance on elucidating the need for an advisor to make fair decisions and behave in a fair manner (i.e., behave in a procedurally just way). Being treated fairly provides people with information about whether another individual values them and considers them a group member (Lind & Tyler, 1988). In much the same way, fair treatment at the hands of an advisor assures advisees that their advisor values them as a future scholar and wants to bring them into this world we call academia.

I have highlighted different principles that advisors can use to assess whether they are communicating this ever important message to their graduate students. Advisors should strive to ensure
that they are providing their charges with opportunities to express themselves and participate in their education, research, and careers. They should make every effort to ensure they are treating their graduate students in an impartial and unbiased manner. They also need to be ethical in always treating their students with dignity, respect, and honesty. Finally, and probably most importantly, advisors need to show their students that they care about them and truly want them to succeed in their academic and scholarly careers. De Welde and Laursen’s (2008) interviews suggested these principles are important regardless of the distance between advisor and advisee.

Given the ever increasing use of online and distance education (Allen & Seaman, 2007; 2014), it will be interesting to examine how justice issues manifest themselves in alternative educational formats moving forward. To date there has been little if any empirical research specifically examining procedural justice within the advisor-advisee relationship in either traditional or online education. Most of the work reviewed here comes from organizational and legal psychology. Although this review has highlighted the potential utility of applying this work to graduate education, more research needs to be conducted to examine the degree to which procedural justice research can be generalized to the advisor-advisee relationship.

Of particular interest will be examining how students are socialized within online graduate education. Such education has been criticized for not providing enough opportunities to socialize students into a discipline (Karl & Peluchette, 2013). The argument is that because of the decrease in face-to-face interactions, a student will not internalize the values and norms that provide the foundation for the rules, practices, and traditions that help coordinate scholarly activity among members of a discipline. Recently, scholars have highlighted that procedural justice serves a critical socializing function, especially in domains featuring power differentials between a superordinate and subordinate (Fagan & Tyler, 2005; Trinkner & Cohn, 2014; Tyler & Blader, 2003). Procedurally just treatment on the part of the superordinate is a means to socialize individuals by communicating to them that they are important members of the group. Rather than driving them away or alienating them, fair treatment and decision making shows people they are valued, that they have worth. As a result, people identify with that group, and develop pride and admiration at their status of being a member. They become motivated to internalize the values/norms of that group and behave in ways that are sanctioned by it. To do anything else would be to go against the person’s self-identity. Because of the centrality of the advisor in facilitating the socialization process (Schlosser et al., 2011), procedural justice seems especially pertinent in potentially addressing critics’ concerns about this vital function in online graduate school.

Online doctoral education has also been criticized because it requires advisors to
relinquish control over their students to some extent (Adams & DeFleur, 2005). For example, graduate students have greater opportunity to cheat and advisors have less opportunity to physically check their progress or monitor them by forcing them to maintain a presence in a physical laboratory. Many of these complaints are based on the assumption that advisors can only influence students’ progress via instrumental control of outcomes. In other words, the advisor has to punish negative behavior and reward positive behavior in order to develop the student into a competent scholar. The idea is that online education will inhibit this process. However, it has become increasingly recognized that instrumental control of behavior is limited in its effectiveness and expensive in its implementation (Tyler, 2009). In large part this is because it relies on the advisor to continually monitor a graduate student’s behavior so the person can be rewarded or punished appropriately. Although it is true that such means of social control are difficult if not impossible in online education, this does not mean online education cannot be effective.

Procedural justice represents an alternative way for an advisor to exert control on a graduate student without using instrumental means. When people are treated fairly they come to internalize the values and norms that dictate appropriate behavior. As internalization progresses, people naturally feel a duty or obligation to engage in behavior that is consistent with those values or norms (Tyler, 2006b). When this occurs, control by others is displaced by self-control as the ability to self-regulate develops (Tyler, 2009). Thus, people engage in appropriate behavior because it is normative to do so rather than someone has control over the consequences of their behavior. In terms of the advisor-advisee relationship in online education, this means advisors stand a better chance of developing competent future scholars via fair treatment and decision making than instrumental control of rewards and punishments. Using this approach will ultimately lead to students who do what is needed to succeed because that is what they want, not because they are being forced. Ultimately, this will allow advisors to shift their precious resources away from ensuring students are engaging in appropriate behavior and instead focus those resources on more important matters, like publishing papers, providing service to the university, and having a fulfilling personal life.


Transactional Distance in Online Graduate Courses at Doctoral Institutions

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Abstract
IDEA Student Ratings of Instruction (SRI) were compared in graduate/professional online (n = 1,210) and face-to-face (n = 432) classes offered at 22 doctorate-granting institutions. Grouped by Biglan’s classification of disciplines, instructors in soft fields were over five times more likely to employ active learning approaches if the course was taught online than face-to-face. In contract, about 7 out of 10 instructors in hard disciplines relied upon lecture regardless of course format. Online courses were offered less frequently in hard and pure disciplines. A course was more likely to have been taught online if the instructor believed physical facilities and equipment had a negative impact on learning. In addition, students in online classes perceived their instructor expected them to take a greater share of responsibility for learning than did those in face-to-face classes. Taken together, these findings suggest that several dimensions of transactional distance affect the odds of a course being offered online in graduate courses at doctorate-granting institutions.

Keywords: online doctoral education, active learning, transactional distance

Approximately one-third of college students are currently taking at least one online course (defined as at least 80% of the course content being Web-based). The demand for online courses continues to grow as close to 70% of institutions believe online education is "critical to their long-term strategy" (Allen & Seaman, 2013, p. 4). Nonetheless, skepticism about e-learning remains as more than two-thirds of faculty believe students learn less online than in the traditional classroom (Allen, Seaman, Lederman, & Jaschik, 2012). In contrast, three-fourths of higher-education leaders view online courses comparable or superior to those offered face-to-face (Allen & Seaman, 2014). However, most chief academic officers acknowledge faculty do not accept the value and legitimacy of online education (Allen & Seaman, 2013, p. 6), and more than two-thirds believe there will continue to be concerns about quality (Allen & Seaman, 2013).

With this growing trend in online courses accompanied by persistent widespread doubts, we believe it worthwhile to compare student ratings of instruction in online and face-to-face graduate courses at doctorate-granting institutions where the primary course delivery format remains face-to-face accompanied by supplemental online components (Oh & Park, 2009). Specifically, we investigated whether under different course formats students perceive their learning experiences similarly and instructors employ the same approaches to instruction.

Student Ratings in Online and Face-to-Face Courses

Studies of student ratings collected in online and face-to-face classes point toward more similarities than differences (Beattie, Spooner,
Approaches to Instruction

Several factors influence the decision about which instructional approach to employ in a given course: goals and objectives, the teacher’s personality and philosophy of teaching, and the instructor’s abilities (e.g., as a speaker, facilitator) (Svinicki & McKeachie, 2011). Another consideration may be whether the course is taught primarily online or face-to-face. At the doctoral level, for example, are instructors more or less inclined to apply student-centered, active learning approaches in either course format? Do they tend to rely to a greater or lesser extent on lecture if the course is offered face-to-face? We examined these kinds of questions by testing whether the frequency of lecture and active learning approaches differed in online and face-to-face courses.

Lecture, the oldest form of teaching, is still most widely used by college instructors (Neumann, 2001; Svinicki & McKeachie, 2011). Lecture was initially developed as a means for instructors to deliver content prior to the time many textbooks were available (I. M. Jones, 2011). It continues to provide several advantages: to present up-to-date information, to synthesize material from multiple resources, to adapt material to student background knowledge and interests, to elaborate on readings, and to direct student attention to key concepts (Svinicki & McKeachie, 2011).

With the wide availability of printed material easily accessible on the Internet, the need to lecture has been reduced (Jones, 2011). Effective instructors can now employ student-centered, active learning approaches such as discussion, putting aside the more teacher-centered lecture method. They can require students to do, write, think critically, read, and speak (Berge, 2002).
Active learning approaches (e.g., discussion, skill/activity, lab) can enhance students’ learning, motivation (Svinicki & McKeachie, 2011), and engagement (Umbach & Wawrzynski, 2005). When students discuss rather than simply listen, they retain more information, transfer knowledge more effectively, perform better at problem solving, and improve their attitudes and motivation for future learning (Svinicki & McKeachie, 2011). Discussion requires deep thinking on the part of students. They ask and respond to questions, elaborate on key concepts, summarize, and explain. In active learning, students “do” rather than listen. They apply what they have learned, thereby increasing understanding. Examples include writing, computing, conducting experiments, and participating in simulations.

Using a sample that included both undergraduate and graduate students, Benton and colleagues (Benton, Li, Gross, Pallett, & Webster, 2013) found that instructors were less likely to lecture and more likely to facilitate discussion if the course was offered online. Given Benton et al.’s (2013) previous findings, we predicted instructors teaching online graduate/professional courses would be more likely to employ active learning than those teaching face-to-face. They should be more likely to take advantage of interactive technology offered in the online environment and to benefit from andragogy, or student-led discussions, common among adult learners (Knowles, Holton, & Swanson, 2005). We also examined whether active learning would be more common online among certain disciplines, given the varied nature of academic content.

Theory of Transactional Distance

Transaction distance (TD) is the "psychological and communication space to be crossed, a space for potential misunderstanding between the inputs of instructor and those of the learner” (Moore, 1993, p. 22). Since TD can impede learner understanding and outcomes, effective instructors must try to minimize it. Misunderstanding in communication can exist in any instructional context, even in face-to-face settings (Rumble, 1986), but may be more likely in online courses because the instructor and students rarely physically meet one another. Given the inherent separation of space and time, we expect TD to be more prevalent in online courses if teachers and students fail to apply more student-centered teaching and learning strategies.

Moore (1993) identified three clusters of variables that theoretically influence TD: dialogue, structure, and learner autonomy. The first two concern pedagogy and course circumstances, and the third describes behaviors the learner can practice to minimize misunderstanding. The following paragraphs explain factors that influence each element of TD. Although we did not measure TD directly in this study, we examined some of the determining factors so we could understand whether online instructors make extra efforts to reduce TD.

Dialogue. Moore (1993) defined dialogue as positive interactions among instructors and learners that improve students’ understanding. Such interactions can reduce TD and lead to students’ greater achievement and satisfaction (Marks, Sibley, & Arbaugh, 2005). But interpersonal exchanges are not limited to communications with the instructor; interactions with peer learners are just as critical for reducing TD.

Teaching online requires computer-mediated dialogue in which the lack of contextual cues can generate notable TD unless special measures are
taken to build relationships with and between students (Dennen, Aubteen Darabi, & Smith, 2007; Dykman & Davis, 2008). Depending on the structure of the course and the extent to which the instructor and students participate in online communication, the online classroom environment could either enhance or reduce course dialogue (S. B. Smith, Smith, & Boone, 2000), which will consequently influence TD experienced by the instructor and learners.

Establishing rapport, one of the teaching style scales in the IDEA Student Ratings of Instruction system (see Table 1), describes student perceptions of interaction, or dialogue, between the instructor and students. Encouraging student-faculty interaction beyond the class (e.g., e-mails, office visits), explaining the reasons for criticisms of students’ work, and displaying personal interest in students are behaviors directed toward building rapport. Another IDEA teaching style called fostering student collaboration measures the extent to which instructors encourage dialogue among students. It includes asking students to share ideas and experiences with peers and to help each other, and forming teams or discussion groups (see Table 1). These two active and collaborative teaching styles are intended to enhance student engagement (Umbach & Wawrzynski, 2005), which should theoretically decrease TD.

Other determinants of dialogue measured in the IDEA instrument include class size (i.e., course enrollment), the physical teaching environment (i.e., instructors’ perceived influence of physical facilities and equipment on student learning), the teacher’s motivation level (i.e., desire to teach the course), and the learner’s motivation level (i.e., desire to take the course). When the instructor is enthusiastic about teaching an online course, for example, students tend to be more motivated and engaged (Concannon, Flynn, & Campbell, 2005). Theoretically, TD should diminish when classes are smaller, teaching environments have sufficient facilities, and the instructor’s desire to teach and the students’ desire to take the course are high (Moore, 1993).

Type of subject-matter discipline (Moore, 1993) can also affect dialogue by influencing the approach an instructor takes to teaching (Braxton, Olsen, & Simmons, 1998; Cashin & Downey, 1995; Hoyt & Lee, 2002; Umbach, 2007). Biglan (1973) proposed a means of distinguishing among academic fields by categorizing them along three dimensions: structure, application, and life orientation. The first two are especially relevant to the current study. Based on discriminant analysis, structure is the most prominent because it distinguishes between “hard” (e.g., engineering, chemistry) and “soft” (e.g., political science, education) disciplines. Hard disciplines typically have better organized and more established theories within their fields. Content tends to be hierarchical and highly structured. Therefore, instruction is typically teacher-centered (Lueddeke, 2003), involving substantial lecture and limited dialogue that lead to greater TD (Benton et al., 2013).

In contrast, instructors in soft fields tend to put more emphasis on active learning strategies (Braxton et al., 1998; Lattuca & Stark, 1995). They are more likely to interact with students, communicate high expectations, and ask questions (Braxton et al., 1998; Umbach, 2007). They take a student-centered approach (Lueddeke, 2003), which should theoretically increase dialogue and reduce TD.

Biglan (1973) labeled the second dimension as application, which distinguishes “pure” (e.g.,
chemistry, political science) from “applied” (e.g., education, engineering) fields. Applied subject matter deals with practical problems, whereas pure domains are more concerned with accumulating basic knowledge. As with hard disciplines, content in pure fields tends to be highly structured and made up of closely related concepts and principles. In contrast, applied fields’ subject matter is typically more loosely organized (Donald, 1983; Neumann, 2001). The more structured content of pure disciplines may incline instructors to more frequently choose lecture than active learning, which should increase TD.

**Structure.** Moore’s (1993) second element of TD, structure, addresses how a course is designed and how well it meets individual learner needs. Structure refers to the flexibility or rigidity of instruction. Highly structured courses with little dialogue theoretically lead to greater TD. Moore (1993) described many structural processes inherent in distance learning programs: presentation, motivation, analytic and critical development, application and evaluation, and learner support. Two IDEA teaching style scales measure how frequently the instructor applies methods that influence some of these processes. Stimulating student interest assesses how frequently the instructor applies teaching methods that influence student motivation, and structuring classroom experience considers aspects of presentation, application, and evaluation (see Table 1). In addition, on the IDEA Faculty Information Form (FIF) instructors report any impact technical/instructional support had on learning, which speaks to learner support. High student ratings on stimulating student interest (i.e., motivation) and structuring the classroom experience along with positive technical/instructional support learner support should be associated with less TD (Benton et al., 2013).

**Learner autonomy.** Learner autonomy concerns how well the learner operates independently of the instructor (Moore, 1993). Greater transactional distance requires more learner autonomy to bridge gaps in communication. Three items in the IDEA instrument relate to learner autonomy: student perceptions of their typical work habits, perceived effort in the course, and how much the instructor expects students to share in responsibility for learning. To reduce TD, we expected learner autonomy to be greater in online classes.

**Purpose and Predictions**

The purpose of the current study was to investigate whether elements of transactional distance reflected in student and faculty perceptions distinguish online from face-to-face graduate/professional courses. Drawing upon the TD constructs of dialogue and structure, we examined whether discipline classification (hard, soft; pure, applied) interacted with course format (online, face-to-face) and the instructor’s primary approach to teaching (lecture, active learning). We hypothesized that for the purpose of reducing TD, instructors teaching online courses would be less likely to lecture, especially in soft and applied disciplines, and more likely to apply active learning approaches than those teaching face-to-face. Our rationale for these predictions was that instructors teaching less structured content might be more likely to take advantage of the interactive benefits of technology and adult learners’ tendencies toward andragogy.

We next investigated whether determinants of TD are related to whether a course is taught online. First, within the dialogue cluster of TD variables, we investigated whether the odds of a
course being taught online is a function of class size, physical teaching environment, the teacher’s motivational level, the learner’s motivational level, the subject matter of the course, and student ratings of how well the instructor fostered student collaboration and established rapport. Second, with respect to the TD construct of structure, we tested whether the odds of a course being taught online would change depending on student perceptions of how well the instructor stimulated student interest and structured the classroom experience, and how the instructor rated the effect of technical/instructional support on learning. Finally, with respect to learner autonomy, we examined whether the odds of a course being taught online would vary in response to the amount of student effort in the course, students’ typical work habits, and instructor expectations that students share in responsibility for learning.

Method

Data Source

Data came from a subset of IDEA Student Ratings of Instruction (SRI) collected online from 105 institutions during the years 2002 to 2008. A technical report (Benton, Webster, Gross, & Pallett, 2010a) and article (Benton, Li, Gross, Pallett, & Webster, 2013) have been published previously based on analyses of this longitudinal database. The current study addresses new questions and follows guidelines pertaining to reanalysis of published data (American Psychological Association, 2010). For this study, our analyses focused on graduate/professional classes offered online (n = 1,210) and face-to-face (n = 432) in 22 doctorate-granting institutions.

To select courses, IDEA staff asked its users of IDEA Online (the system that powers ratings administered over the Web) to identify which courses were taught on campus (face-to-face), via the Internet (online), or in some combination. Only classes taught exclusively face-to-face or online (i.e., no blended learning) were included in this study. In the current dataset, face-to-face courses had a higher mean response rate (80%) than online courses (63%), although the latter is slightly higher than those reported in other studies (Johnson, 2002; Layne, DeCristoforo, & McGinty, 1999). Average class size was higher for classes taught face-to-face (M = 38.94, SD = 28.07) than online (M = 15.28, SD = 9.79).

Instrumentation

Faculty Information Form. The development of IDEA SRI, one of the oldest and most widely researched student ratings instrument, was in part funded by a grant from the Kellogg Foundation in 1975. IDEA Education is a nonprofit organization that supports the improvement of learning in higher education. In the IDEA system, instructors complete a Faculty Information Form (FIF) for each section taught. They rate each of 12 learning objectives as 3 (essential), 2 (important), or 1 (of minor or no importance). At least one objective must be rated as essential or important. They also indicate which one of eight instructional methods (e.g., lecture, discussion) represents the primary approach taken in the course and whether extraneous course circumstances (e.g., physical facilities, desire to teach the course) had a positive impact (coded as 1), neither a positive nor negative impact (coded as 2), or a negative impact (coded as 3) on learning. Finally, they identify the principal type of student (i.e., lower-level undergraduate, upper-level undergraduate, graduate/professional) enrolled in the course.

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1 A sample questionnaire can be found at http://www.theideacenter.org/sites/default/files/Student-Ratings_Faculty_Information_Form.pdf.
Student Rating Form. The IDEA Student Ratings of Instruction Diagnostic Form is a 47-item instrument. Students indicate how frequently their instructor used each of 20 teaching methods by responding 1 (hardly ever), 2 (occasionally), 3 (sometimes), 4 (frequently), or 5 (almost always). The 20 teaching methods are conceptually tied to Chickering’s and Gamson’s (1987) principles of good practice and are comprised of five underlying teaching styles based on factor analysis (Hoyt & Lee, 2002). Students also rate their progress on the same 12 learning objectives the instructor rated for importance. Students respond with 1 (no apparent progress), 2 (slight progress), 3 (moderate progress), 4 (substantial progress), or 5 (exceptional progress). Additional questions concern course characteristics (e.g., amount of reading, amount of non-reading assignments, difficulty of subject matter), student characteristics (e.g., work habits, motivation, effort), overall excellence of the course and instructor, and other teaching methods and instructor standards. The scale for these items ranges from 1 (definitely false) to 5 (definitely true). For information on validity and reliability research conducted on the instrument, see Hoyt and Lee (2002).

Statistical Analyses

We employed log-linear analysis to test possible relationships between types of academic disciplines (i.e., Biglan categorization), course formats (online, face-to-face) and the instructor’s primary approach to teaching (lecture, active learning). We performed separate analyses for Biglan structure (hard, soft) and application (pure, applied). We followed up any significant effects by computing 2 × 2 contingency tables, chi-square statistics, Phi coefficients, and odds ratios. We next employed three logistic regression models to examine whether predictors of each element of TD were related to whether a course was taught online. Given the large sample sizes, Type I error rate was set at α = .01 in order to not call attention to trivial effects.

Results

Biglan Categorization by Course Format and Primary Approach to Instruction

Two primary approaches to instruction—lecture and active learning—were analyzed to examine whether their use varied first by discipline structure (hard = 0, soft = 1) and course format (face-to-face = 0, online = 1). The approach to instruction was considered active learning if the instructor primarily employed discussion, seminar, skill/activity, laboratory, field experience, studio, or practicum/clinic. A total of 318 classes were excluded from this analysis because 27% of faculty either chose not to indicate their primary approach or selected the response “other.” The three-way log-linear analysis produced a model that retained all effects, likelihood ratio $\chi^2(0) = 0, p = 1$. The three-way interaction was significant, $\chi^2(1) = 13.70, p < .001$. (See Tables 2 and 3 for frequencies of classes within each categorical level.) As a follow-up, we separately computed chi-square tests and odds ratios on frequencies of course format by instructional approach for hard and soft disciplines.

Within soft disciplines there was a significant relationship between course format and instructional approach, $\chi^2(1) = 46.27, p < .001$. If a course was offered online, the instructor was five times (odds ratio = 5.08) more likely to use active learning approaches. In contrast, no association
was found between course format and instructional approach within hard disciplines. About 7 out of 10 of instructors in hard disciplines relied upon lecture regardless of whether the course was taught online or face-to-face.

Next, we examined whether the primary approach to instruction varied by discipline application (pure =0, applied =1) and course format. The three-way log-linear analysis produced a model that retained all effects, likelihood ratio $X^2(0) = 0, p = 1$, but the three-way interaction was not significant, $X^2(1) = 3.59, p > .05$. Therefore, instructor decisions about whether to employ lecture versus active learning in online and face-to-face classes did not depend on whether the content was pure or applied. However, the Instructional Approach by Course Format interaction was significant, $X^2(1) = 136.85, p < .001$. Instructors were more likely to lecture in face-to-face classes regardless of whether the discipline was pure or applied.

**Results of Logistic Regressions**

We tested three logistic regression models to detect explanatory variables that either decreased or increased the likelihood of a course being taught online. The explanatory variables were the previously described TD determinants of dialogue, structure, and learner autonomy. (Table 4 presents means and standard deviations for all continuous variables in the models.)

**Model 1 (Dialogue).** The fit statistics indicated the model with predictors was a better fit than the intercept-only model, Likelihood ratio $= X^2(8) = 767.27, p < .0001$. (Table 5 presents Wald chi-square statistics and regression coefficients for all variables entered into the model.) Several explanatory variables were significant ($p < .01$): class size ($b = -.06$), hard-soft distinction ($b = -2.75$), pure-applied distinction ($b = -.75$), and physical facilities and equipment ($b = .23$). As class size increased, the course was somewhat less likely to have been taught online (odds ratio = .94). In hard disciplines, classes were over 15 times less likely to have been taught online (odds ratio = .064). In pure disciplines, they were over two times less likely to be taught that way (odds ratio = .47). A course was 1.26 times more likely to have been taught online if the instructor believed physical facilities and equipment had a negative impact on learning. Wald statistics were not significant for fostering collaboration, establishing rapport, the instructor’s desire to teach the course, and the students’ desire to take the course.

**Model 2 (Structure).** The model was a good fit, Likelihood ratio $= X^2(3) = 13.24, p < .005$. However, Wald chi-square statistics did not reach the $\alpha = .01$ level of significance for any of the explanatory variables (see Table 5).

**Model 3 (Learner Autonomy).** The model was statistically significant, Likelihood ratio $= X^2(3) = 191.96, p < .0001$. The class was over 10 times more likely (odds ratio = 10.54) to have been taught online if the instructor expected students to take their share of responsibility for learning ($b = 2.36$). Students in online classes ($M = 4.63, SD = .31$) rated their instructor higher on this expectation than did students taking the class face to face ($M = 4.37, SD = .33$). Students’ typical work habits and effort did not affect the odds of a course being taught online (see Table 5). Although online instructors expected students to share more in the responsibility for learning, their students did not report more effort than did students in face-to-face classes.

**Discussion**

The results of the current study suggest several dimensions of transactional distance affect the odds of a course being offered online in
graduate courses at doctorate-granting institutions. The log-linear analysis revealed a three-way interaction of discipline structure, course format, and primary teaching approach. If a course falls within soft discipline and is taught online, instructors are more likely to employ active learning than if taught face-to-face. This finding replicates what Benton et al. (2013) found in a larger sample of online classes that included all student levels and diverse types of institutions. When teaching a course online, instructors in soft disciplines are less likely to rely on a teacher-centered approach (i.e., lecture) and more likely to adopt student-centered methods that involve active learning (e.g., discussion and skill/activity). TD should be lower in such situations because teaching approaches encouraging active learning are theoretically more likely to enhance dialogue over that achieved by lecturing.

Dialogue and learner autonomy, two of the three clusters of TD variables entered into logistic regression modeling, contributed to understanding the difference between online and face-to-face courses. The most important indicator of dialogue was disciplinary distinction. Courses offered in hard and pure disciplines, which share in common highly organized content, were less likely to have been offered online, which confirms what was found previously (Benton et al., 2013). We suspect a greater percentage of instructors in those disciplines find the online environment less suitable for highly structured subject matter. In addition, instructors who believed physical facilities/equipment had a negative impact on student learning were more likely to have taught an online course, confirming previous findings (Benton et al., 2013). Because online courses require substantial technological support, online instructors might be more likely to be affected by poor facilities and equipment. Future research should investigate which aspects of facilities and equipment online instructors perceive as insufficient.

Some aspects of dialogue did not affect the odds of a course being taught online. Student ratings of how frequently the instructor fostered student collaboration and established rapport did not differ between online and face-to-face courses. In addition, class size had only a small impact. Moreover, neither the instructor’s desire to teach the course nor the students’ desire to take the course distinguished online courses.

With respect to the TD concept of learner autonomy, students in online courses were much more likely to say the instructor expected them to take their share of responsibility for learning, confirming what Benton et al. (2013) found. We consider it to be evidence of the instructor’s awareness of the greater needs for students’ autonomy in online courses. The self-directed, autonomous nature of the online learning environment (LeNoue, Hall, & Eighmy, 2011) means students were held more accountable for their portion of the learning process. However, student self-perceptions of how hard they typically work and their effort in the current course were unrelated to whether or not they were enrolled in an online course.

Structure, the third element of TD, did not increase the odds of a course being offered online. Student perceptions of how well the instructor stimulated student interest and structured the classroom experience had no meaningful effect. Similarly, the instructor’s perception of how technical/instructional support affected learning did not distinguish course formats.

The current findings differ in some ways from previous research (Benton et al., 2013), which
may speak to the unique nature of online graduate education. First, Benton et al. (2013) found students in a larger sample, which included all student levels and diverse types of institutions, perceived online instructors somewhat less successful in establishing rapport. IDEA teaching methods associated with rapport include encouraging student-faculty interaction outside of class, finding ways to help students answer their own questions, explaining reasons for criticisms of students' academic performance, and displaying personal interest in students. In doctorate-granting institutions, however, graduate students observed the same amount of rapport building across course formats. Notably, the average class size was only somewhat less in the online classes in the current study (15 students) compared to Benton et al. (20 students). Therefore, it is unlikely differences in class size contributed greatly to the differences in outcomes. Apparently, graduate-level instructors exhibit comparable rapport-building techniques regardless of whether they teach online or face-to-face.

Another finding different from previous research is that students in the current study believed instructors in online and face-to-face courses did not differ in how frequently they tried to stimulate interest. In contrast, Benton et al. (2013) found students perceived online instructors did relatively less to inspire them and stimulate them to intellectual effort, and they less frequently introduced stimulating ideas and demonstrated the importance of the subject matter. No such differences were observed between course formats in graduate/professional courses.

The current findings differed in a third way. In the Benton et al. (2013) study, students perceived that online instructors did a better job of structuring the classroom experience by clarifying how each topic fit into the course and explaining course materials clearly and concisely, which influence clarity of presentation. They also perceived greater instructor attention to keeping students up-to-date in their work and to providing more frequent and timely feedback, which relate to evaluation. We found no differences in these teaching styles in the current study.

In summary, findings from this study suggest active learning in online graduate classes offered at doctorate-granting institutions is more likely to be found in soft and applied disciplines than in hard and pure fields. More to the point, online classes in this study were less likely to be found at all in hard and pure disciplines. Unfortunately—and what deserves further study—is that faulty physical facilities and equipment are more likely to negatively affect learning in online than face-to-face classes. Finally, students in online courses are more likely to say the instructor expected them to take their share of responsibility for learning, although they report making no more effort in the course.

On the one hand, we found it encouraging that instructors teaching online exhibited awareness of the limitations and opportunities offered by web-based learning. They tended to adopt active-learning strategies to maximize the interactive characteristics of online technology, acknowledge the limitations of inadequate physical facilities and equipment on student learning, and expect students to be autonomous learners in online courses. According to the theory of transactional distance, all these can contribute to the reduction of TD. On the other hand, instructors in online graduate courses were no more likely than those in traditional classes to behave in ways that might reduce TD, such as stimulating student interest,
establishing rapport, fostering student collaboration, and structuring the classroom experience.

We must acknowledge several limitations of the current study. First, our data were restricted to classes that used the IDEA SRI. We did not include other indicators of teaching effectiveness (e.g., instructor self-ratings, ratings by peers, alumni) or other measures of TD clusters. Our investigation of teaching approaches was also limited to those found in the IDEA Faculty Information Form. Researchers should investigate other teaching methods not included in the IDEA instrument. Second, many of the classes in the IDEA database were excluded because we could not categorize them as exclusively online or face-to-face. Third, we compared different classes and instructors across course formats. We did not pair classes taught by the same instructor, which would have reduced within-subject variance and increased statistical power. Finally, future researchers may want to undertake qualitative approaches to uncover the unique approaches instructors take when applying teaching styles online.

The current findings indicate several dimensions of transactional distance are related to whether or not a graduate course is taught online at doctorate-granting institutions. Online instructors are adapting to the many challenges they face in trying to reduce transactional distance by fostering active learning and greater learner autonomy. Might they do even more by practicing some of the teaching methods theoretically connected with reduced TD, such as stimulating student interest, providing greater course structure, and fostering collaboration? Perhaps it’s worth a try.
References


Table 1

*Teaching Method Subscales on the IDEA Student Ratings Diagnostic Form*

| I. Stimulating Student Interest |  
|--------------------------------|---|
| 4. Demonstrated the importance and significance of the subject matter |  
| 8. Stimulated students to intellectual effort beyond that required by most courses |  
| 13. Introduced stimulating ideas about the subject |  
| 15. Inspired students to set and achieve goals which really challenged them |  

| II. Fostering Student Collaboration |  
|-----------------------------------|---|
| 5. Formed “teams” or “discussion groups” to facilitate learning |  
| 16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own |  
| 18. Asked students to help each other understand ideas or concepts |  

| III. Establishing Rapport |  
|----------------------------|---|
| 1. Displayed a personal interest in students and their learning |  
| 2. Found ways to help students answer their own questions |  
| 7. Explained the reasons for criticisms of students’ academic performance |  
| 20. Encourage student-faculty interactions outside of class (office visits, phone calls, e-mail, etc.) |  

| IV. Encouraging Student Involvement |  
|-------------------------------------|---|
| 9. Encouraged students to use multiple resources (e.g., data banks, library holdings, outside experts) to improve understanding |  
| 11. Related course material to real life situations |  
| 14. Involved students in “hands-on” projects such as research, case studies, or “real-life” activities |  
| 19. Gave projects, tests, or assignments that required original or creative thinking |  

| V. Structuring Classroom Experience |  
|-------------------------------------|---|
| 3. Scheduled course work (class activities, test, and projects) in ways which encouraged students’ to stay up-to-date in their work |  
| 6. Made it clear how each topic fit into the course |  
| 10. Explained course material clearly and concisely |  
| 12. Gave tests, projects, etc. that covered the most important points of the course |  
| 17. Provided timely and frequent feedback on tests, reports, projects, etc. to help students improve |  

Table 2

*Frequency of Instructional Approach by Biglan Structure and Course Format*

<table>
<thead>
<tr>
<th>Biglan Structure</th>
<th>Lecture</th>
<th>Active</th>
<th>Lecture</th>
<th>Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft discipline</td>
<td>36</td>
<td>36</td>
<td>110</td>
<td>559</td>
</tr>
<tr>
<td>Hard discipline</td>
<td>153</td>
<td>46</td>
<td>159</td>
<td>70</td>
</tr>
</tbody>
</table>

Table 3

*Frequency of Instructional Approach by Biglan Application and Course Format*

<table>
<thead>
<tr>
<th>Biglan Structure</th>
<th>Lecture</th>
<th>Active</th>
<th>Lecture</th>
<th>Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied discipline</td>
<td>168</td>
<td>66</td>
<td>240</td>
<td>570</td>
</tr>
<tr>
<td>Pure discipline</td>
<td>21</td>
<td>16</td>
<td>29</td>
<td>59</td>
</tr>
</tbody>
</table>
Table 4

**Means and Standard Deviations for Continuous Variables in the Logistic Regression Models**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Face to Face</th>
<th>Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foster collaboration</td>
<td>3.97 .64</td>
<td>4.13 .74</td>
</tr>
<tr>
<td>Establish rapport</td>
<td>4.17 .51</td>
<td>4.19 .60</td>
</tr>
<tr>
<td>Student motivation</td>
<td>3.71 .55</td>
<td>3.69 .57</td>
</tr>
<tr>
<td>Stimulate interest</td>
<td>4.17 .49</td>
<td>4.25 .55</td>
</tr>
<tr>
<td>Structure classroom experience</td>
<td>4.17 .51</td>
<td>4.27 .56</td>
</tr>
<tr>
<td>Student effort</td>
<td>3.70 .58</td>
<td>3.84 .54</td>
</tr>
<tr>
<td>Student work habits</td>
<td>3.85 .30</td>
<td>3.95 .38</td>
</tr>
<tr>
<td>Student responsibility for learning</td>
<td>4.37 .33</td>
<td>4.63 .32</td>
</tr>
</tbody>
</table>

---

Table 5

**Results of Logistic Regression Models**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foster collaboration</td>
<td>0.14</td>
<td>-0.16</td>
<td>-0.11</td>
</tr>
<tr>
<td>Establishing rapport</td>
<td>-0.08</td>
<td>0.48</td>
<td>0.23</td>
</tr>
<tr>
<td>Course enrollment</td>
<td>-0.06</td>
<td>0.02</td>
<td>2.36</td>
</tr>
<tr>
<td>Biglan structure</td>
<td>-2.75</td>
<td>-0.75</td>
<td></td>
</tr>
<tr>
<td>Biglan application</td>
<td>-0.75</td>
<td>0.23</td>
<td></td>
</tr>
<tr>
<td>Physical facilities</td>
<td>0.23</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Desire to teach course</td>
<td>0.02</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Student motivation</td>
<td>0.03</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Technical support</td>
<td>0.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student effort</td>
<td>0.48</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>Student work habits</td>
<td>0.23</td>
<td>0.11</td>
<td></td>
</tr>
<tr>
<td>Instructor expectations</td>
<td>2.36</td>
<td>1.50</td>
<td></td>
</tr>
</tbody>
</table>

\*p < .01
Six Instructional Best Practices for Online Engagement and Retention


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Abstract

Despite the growing popularity of online classes, lower retention rates have raised concerns about the quality of online higher education. This article outlines six instructional practices to enhance online engagement and retention. Specific strategies to build community and student centered environments are discussed.

Keywords: online education, online retention, online engagement, best practices for online instruction

Overview

In the last ten years, the number of higher education students who participate in online learning in the United States has grown dramatically and there are no signs that the growth in online learning is slowing down (Allen & Seaman, 2011, 2012, 2013). In fall 2012, 7.1 million higher education students were taking at least one online course compared to the 1.6 million in fall 2002. This equates to an annual growth rate of 16.1 percent, which is much higher than the 2.5 percent rate for higher education overall during this same ten-year period (Allen & Seaman, 2013). Nagel (2009) predicts that by 2014, 3.55 million students will be taking all of their classes online.

The rapid expansion of access to the Internet and development of technology have made online learning not only accessible to many more learners but also the preferred method for the adult learner with work and family responsibilities (Geiger, 2010). Online education appeals to the adult learner because of the convenience of accessing higher education from anywhere as well as the ability to attend classes whenever it is convenient in an asynchronous environment (Keller, 2001). In addition, with a shrinking traditional-age learner population, there is growing acceptance for educating higher education students beyond the campus as an element of the university’s mission (Rovai, 2002). In fact, 65 percent of all higher education institutions report online learning is critical to their long-term strategy (Allen & Seaman, 2012).

However, despite this high growth, lower retention rates for online learners compared to the on-campus students continue to be a concern for many (Atchley, Wingenbach, & Akers, 2013; McLaren, 2004). The issue of online student retention has raised questions about the quality of online learning and carries serious implications for the student, the higher education institution,
and the nation (Braxton, Hirschy & McClendon, 2004; Park & Choi, 2009). In fact, some have maintained that student retention is one of the greatest challenges facing online higher education (Allen & Seaman, 2013; Hu, 2011). Moreover, these concerns about retention are increasing not only with the growth of online higher education but also with the greater emphasis that government and accrediting agency bodies are placing on student outcomes (Rovai, 2003; Nagel, 2009).

The purpose of this article is to review the literature on higher education retention and some best practices related to online teaching and learning. We begin by outlining what is known about the stubbornly low student retention rates in American higher education. We continue with six online teaching “best practices” to improve online learner engagement and retention. The following six strategies reflect best practices based on our experience teaching online students in both synchronous and asynchronous formats:

1. Build eCommunity
2. Clarify online course expectations and objectives
3. Identify and employ the best online tools for interaction
4. Promote the exchange of ideas and information in the online classroom
5. Provide timely, relevant, and actionable feedback
6. Create a student-centered environment

These instructional practices have been effective for us in engaging students in the online classroom, deepening learning, and creating a robust online classroom experience.

Retention in Higher Education

Few issues in higher education have received as much attention as student retention. However, there is still much unknown. Student departure has been a long-standing problem for higher education (Braxton, Hirschy & McClendon, 2004; Geiger, 2010). The problem has been recognized in American higher education since the late 1800s and retention research studies began as early as 1926 (Braxton, 2000; Boston, Ice & Gibson, 2011). Intensifying in the 1970s and persisting through the last few decades, student retention research has resulted in a substantial body of information on student persistence. Multiple models and interventions aimed at improving retention have been proposed (Tinto, 1975, 1993; Braxton, 2000; Angelino & Natvig, 2009). Reason (2009) argues “student retention has been the primary goal for higher education institutions for several decades” (p. 659, author’s emphasis).

Recently, government and accrediting agencies have placed a greater emphasis on higher education outcomes, including student retention (Rovai, 2003; Moody, 2004). Consequently, increasing student retention has become a goal of many higher education improvement efforts. Researchers have provided a substantial body of information on the many facets of student retention (Angelino, Williams & Natvig, 2007; Braxton, Hirschy & McClendon, 2004; Moody, 2004; Willging & Johnson, 2009). But despite decades of research, student attrition rates remain stubbornly high. Many have concluded that retention is a complex and multi-dimensional issue (Rovai & Downey, 2010). There appears to be no simple explanation or solution that helps all students complete educational goals (National Center for Educational Statistics, 2011).
With the rapid growth in online distance education, the concern regarding learner retention is increasing (Boston & Ice, 2011). Some believe one of the greatest weaknesses in online education is its lack of student retention (Herbert, 2006). Patterson and McFadden (2009) describe how attrition rates are six to seven times higher in online than in face-to-face programs and Jun (2005) argues “the big problem of e-learning is learner dropout” (p. 230). Street (2010) reports attrition rates are roughly 10% to 20% higher for online learners than face-to-face, residential students. What causes such a marked difference in retention between on-campus and online students? What are the implications for students, higher education institutions, and the nation? How much can faculty affect online student retention and how much is out of their control? There are still many questions to be answered and directions to pursue around the issue of online learner retention (Heyman, 2010; Keller, 2001).

This retention problem is especially compelling given that some have found online learning outcomes to be better than face-to-face learning outcomes. In a 2010 study, the U.S. Department of Education isolated 50 common factors across thousands of studies and concluded that, in general, online learning is more effective than face-to-face learning. This report concluded that “students in online learning conditions performed modestly better than those receiving face-to-face instruction” (U.S. Department of Education, 2010, p. ix). Findings like this led Boston and Ice (2011) to conclude “the development of models to explain online retention is considered imperative,” especially since online learner retention still remains problematic (p. 1).

Administrators, policy makers, and faculty agree about the need for more retention research, which can be translated into forms of action that reduce student departure (Tinto, 2007; Park & Choi, 2009). Tinto (1993) adds that institution-specific studies are critically needed because they provide better information than national studies. He suggests research on individual institutions enhances the total understanding of persistence and departure because “only institution-specific studies ... can provide insight into circumstances” (Tinto, 1993, p. 22). Scholars also concur that additional research may help build consensus regarding how to retain online learners (Hagedorn, 2006; Boston, Ice & Gibson, 2011).

**Online Teaching Best Practices**

When teaching online courses at the university level, one of the central concerns for many instructors is how to encourage student engagement, foster dialogue, and create a sense of community in a virtual setting that reflects what occurs in the face-to-face classroom (Shea, 2006; Glazer & Wanstreet, 2011). As the shifting nature of class discussions, student personalities, and skill levels dictate, part of the challenge of instruction at the higher education level is the ability to effectively convey the class material to a group of students and facilitate interaction. Beyond this, the variables of academic discussions, student engagement, and knowledge levels inherently demand that instructors extemporaneously not only moderate the content dialogue, but also the individual student interactions—with the material and their peers—that transpire in the brick and mortar classroom (Pittway, 2012). How can these communicative and educational intangibles that exist in the face-
to-face educational experience be recreated in the virtual classroom? There will always be obvious differences between the two formats of instruction and learning, but in many effective ways, face-to-face instructional pedagogy and practices can be adapted to create engaging and successful online courses. Through the following six practices, we have seen student engagement flourish, actual learning equal or surpass learning outcomes, and course completion excel.

**Build Community.** In most successful courses, the value for a sense of community fuels student investment, engagement, and motivation (Carini, Kuh, & Klein, 2006; Glazer & Wanstreet; Shea, 2006). To promote a successful learning experience and to engage students with course content, course discussion, and their peers and instructor, it is necessary to create a sense of belonging. Online students need to feel that they are part of a specific community, their contributions to the course are acknowledged and incorporated, and their participation and insights are valued. Along with accountability for the course content, a sense of class community requires student accountability in response to their peers and the instructor. These aspects develop as students are encouraged to nurture collaborative learning relationships with other members of the class (Hrastinski, 2009). In discussion, dialogue, and conversation, the nature of online instruction requires that all participants be aware of, sensitive to, and respectful towards their interaction with those around them. As in the face-to-face classroom, modeling of the desired tone and overall learning environment by the instructor leads students to follow and mimic the same timbre. With structure and modeling by the instructor, this sense of community and accountability between class participants can occur organically in online instruction, and it positively frames and alters the way students offer their insights and manage their interactions in relation to the course material (Ritter, Polnicka, Fink, & Oescher, 2010).

Whether the online course is synchronous or asynchronous, the value of a sense of community for students inherently improves engagement and retention (Fisher & Baird, 2005; Moore, 2014). Community can be fostered through synchronous sessions using meeting software. This offers students the opportunity to have virtual real-time conversations with their peers and instructor. Depending on the length of the session, instructors may decide to meet once a week or several days during the week, replicating relatively the same time commitment students would spend attending a face-to-face course. Hearing and seeing their peers and instructor “live” allows students the immediacy of response to their questions and insights about the course material, and personalizes interactions among members of the learning environment (Cobb, 2009).

If the course is asynchronous, a sense of community can be fostered in student interaction with course content through discussion forums, assigned peer essay reviews and workshops, or small group work using institution specific course management software tools (Alrushiedat & Olfman, 2013; Powell, Jacob, & Chapman, 2012; Rockinson-Szapki, 2012). Moderation and input from the instructor becomes more important in facilitating a sense of community in an asynchronous setting. Online instructors should
encourage specific student interaction, highlight connections between student posts on discussion threads, and respond to the student-led discussions in a timely manner, as these all nurture the student-led learning community.

An instructor’s ongoing presence in the online classroom is crucial for student learning and satisfaction (Angelino, Williams, & Natvig, 2007). Good communication practices will keep instructors consistently present and available to students throughout the course (Zhang, 2010; Motte, 2013). Effective communication occurs not only during the course, but also before it begins. As in face-to-face instruction, much of student success depends on setting the tone for a course and creating the type of open learning environment that allows and encourages a level of respect and trust, invites differing perspectives, spurs inquiry, and fosters engaging and challenging dialogue. In online courses, it is even more important to intentionally create the same mutual respect, openness, and integrity-filled interaction in order to continually engage and motivate students (Arbaugh, 2010).

Corresponding with students in the class soon after registration is complete and before class formally begins allows instructors to not only convey crucial information for the course structure and schedule, but also to share a sense of who they are with the students. Correspondence welcoming students to the course along with vital technical details, specs, and resources written in the tone that reflects an instructor’s teaching style are important to begin building relationships with online students. Some may have taken a course online previously and some may be new to the process, so information and openness to student questions or concerns right from the start helps all involved be cognizant and confident in diving into the course content and online structure at the beginning of the session.

If an instructor has the opportunity to meet with students either face to face or virtually for a short class orientation, this often can help in setting the tone and environment as well. A brief get-to-know-each-other introduction session with a walking tour of the course management site and any online synchronous meeting software (such as Adobe Connect), clarification of the expectations for the course, and an overview of the course syllabus, texts, and schedule is an effective way to begin creating the online learning environment and gives students an opportunity to connect and ask questions.

Similarly, it is a good practice to have an introduction forum or other “icebreaker” forum(s) available for enrolled students before the course begins and during the first days of the course so they can start interacting and get to know each other (Chlup & Collins, 2010). Instructors can post their biographies and photos then encourage students to do the same, using the forum as an opportunity to start connecting the students with the course material in a personable way. Once the course begins if not before, the instructor should acknowledge and comment on each student’s introduction.

An integral aspect to any format of instruction is the symbiotic nature of delivery and moderation of course content. As the nature of online instruction relegates much of this interaction be done in writing or through meeting software, posted video lectures, voice threads, forums, and
e-mail, attention to how an instructor communicates in a professional yet welcoming personal style frames the foundation of the course tenor (Kim, Kwon, & Cho, 2011). Friendly, frequent, and responsive correspondence and interaction with students as well as encouraging this kind of exchange between members of the course inherently maintains consistency of tone and learning environment. It not only encourages peer-to-peer and instructor-student relationship, but also fosters student engagement and investment in the course and material, with an eye towards increasing overall course completion and retention (Fisher & Baird, 2005).

**Clarify your online course expectations and objectives.** In an online course, a comprehensive syllabus is necessary to clarify and set expectations for the nature and functioning of the course (West & Shoemaker, 2012). The syllabus should include course objectives and learning outcomes; assignments and evaluation methods, including student participation requirements or expectations; textbook information; roles or duties of faculty and students; a detailed class schedule; grading, late work, and other policies; and other course requirements. It should also include instructor contact information and availability, provide course communication instructions and guidelines (i.e., instructor e-mail or message guidelines), and set appropriate standards for instructor responsiveness and availability (e.g., response time, assignment feedback). If synchronous sessions will be part of the course, dates and times for synchronous activities should be noted as well. We recommend the syllabus be posted in the course prior to student enrollment and the course be made available to students at least a week before it begins.

We also recommend instructors send an additional message, letter, or announcement to students before the course begins (Kranzow, 2013). This should be designed to help students prepare for the course (e.g., hardware and software requirements, a tech check, instructions for using an online lab or textbook), give them advice for being successful in the course, and encourage them to ask any questions about the functioning of the course before it starts.

During the course, instructors should use announcements or messages to provide course information and reminders on a regular basis, and address student questions and concerns promptly and thoroughly (Silverstone & Keeler, 2013). It is also important to be available for one-on-one meetings with students in real time (Ritter, Polnicka, Fink, & Oescher, 2010). Virtual meeting rooms can be used for office hours, or they can be held over the phone or Skype. Office hours can be held at designated times each week, by appointment, or through a combination of the two. Instructors should be sure to communicate their availability to their students, offer their help, and encourage students to seek it.

Especially in an online course, it is important to clarify expectations and grading criteria for assignments (Kranzow, 2013). First, clear guidelines and grading expectations for discussion or other participation should be communicated to students. They should address the expected quantity and quality of contributions, and clarify the expectations for an initial post or contribution as well as responses to classmates’ contributions. These guidelines can be provided through rubrics,
assignment instructions, or other grading criteria. (Examples of guidelines and rubrics for discussion forums are included in the Appendix.) While not all interaction such as introduction forums or icebreakers needs to be graded, activities that correlate with or are clearly related to learning objectives or course outcomes should be graded.

Grading of assignments should be approached in a way that promotes both fairness and challenge to students. Fairness is achieved when instructors explain expectations and how work will be assessed before students begin their assignments by conveying the standards for evaluation in rubrics or other grading criteria, making sure students are clear about the expectations and how to earn a high grade, and using realistic and consistent methods for students to demonstrate learning (Atkinson & Siew Leng, 2013). At the same time, academic challenge is important to engage students in their work. Instructors should set high standards when grading and assess student work in regard to them. Instructor feedback should encourage students to deepen their understanding of the subject matter and further improve their skills.

Identify and employ the best online tools for interaction. In an online course, active student participation—whether synchronous or asynchronous—is tantamount for student engagement and achievement of learning outcomes (Chao, Hung, & Chen, 2012). Because the format necessitates inherent geographical distance, it is important for instructors to design, require, and facilitate student participation using a variety of tools and strategies (Stear & Mensch, 2012).

In a synchronous course, which also should always use asynchronous discussion and interaction, activities for participation are integral in the "live" virtual meetings where students can converse directly with each other and the instructor. In synchronous class sessions, use of small and large group discussion engages students directly with the course content. Various meeting software formats include tools such as a chat box, small group breakout rooms, ability to share documents, PowerPoints, video and film clips on screen, in service of increasing engagement and participation (Bradshaw & Hinton, 2004; Sher, 2009). These tools allow instructors to implement the same pedagogy and practices as they would in a face-to-face course. Encouraging students to either speak through audio capabilities or use the chat box to offer contributions to discussion not only increases student agency by giving participants choice in venue of participation, but also allows them to tailor their online learning experience to their individual learning style.

In synchronous sessions, small group breakout sessions through meeting software replicate small group activities in the traditional classroom (Kranzow, 2013; Rourke & Anderson, 2002). Use of these smaller groups not only fosters student-to-student interaction and relationships, but it inherently increases engagement in large group discussions following the activity. Instructors should give students a guided task or list of discussion questions displayed on the shared screen during the small group activities in order to maintain the focus for the session and keep student attention on the assigned material. Large group discussion sessions following small group activities then
allow a synthesis of student perspectives from small group discussions as well as instructor input and facilitation in navigating course content.

In solely asynchronous courses, instructors should structure and facilitate participation in small group activities through use of the course management site by assigning students to groups and providing clear instructions for the goals and tasks they are to complete collaboratively (Grinnell, Sauers, Appunn, 2012; Kranzow, 2013). Flexibility for the students increases for asynchronous small groups, as participants are free to schedule small group interaction and activities depending on the variables in their individual schedules. For asynchronous courses, student participation should be largely focused on discussion and response to course material and peer insights through use of forums.

Whether synchronous or asynchronous, the use of asynchronous discussion forums through course management systems should be a foundation in any online course (Nandi, Hamilton, & Harland, 2012). Asynchronous discussion is an excellent tool for creating and sustaining a high level of interaction between students and their peers, and between students and instructor (Moore, 1989). It fosters student engagement with the course material, the instructor, and classmates. It is a way for ideas to be heard, shared, and developed. It provides instructors with the opportunity to express their passion for their subject matter and inspire it in their online students. Asynchronous discussion should be a staple of any online course, regardless of the subject matter or discipline.

Assigning daily or weekly forum posts in response to the course material is an effective and important way to encourage student agency and active learning (Amador & Mederer, 2013; Kranzow, 2013). Forums should be structured to allow students to illustrate their insights, questions, understanding, and application of and engagement with the texts, concepts, and material being presented and discussed. Requiring students to participate in and complete individual form/discussion posts as well as respond to several of their peers’ posts nurtures student-to-student learning and offers class members a birds-eye view into how their peers are interacting with assigned materials. Again, this exchange of perspectives is invaluable in an online course. Asynchronous discussion is also a strong pedagogical strategy to support student-led learning, as it not only asks students to posit their individual reaction to and analysis and synthesis of course content, but it inherently asks them to place their voice in the context of the larger class perspectives. Forum posts and discussion encourages participants to dig deeper into the course material as well as build community with their peers (Davidson-Shrivers, 2009; Edelstein & Edwards, 2002; Farmer, 2004).

**Promote the exchange of ideas and information in your online classroom.** Rich interaction with and among students can take place through a variety of asynchronous collaboration tools, such as forums, blogs, wikis, and VoiceThread, and instructors should make liberal use of these collaboration tools to foster engagement (Bradshaw & Hinton, 2004; Sher, 2009). The great benefit of asynchronous activities is increased participation from more students (Hammick & Lee, 2013). In the face-to-face classroom it is often the same few students
who contribute, whereas the shy students are less likely to participate regardless of the value of their thoughts and ideas. Even when shyness is not a factor, many students may need more time to form their thoughts into words and may miss the chance to express them when others speak up instead. Because time and public speaking are not factors in asynchronous interaction, everyone has the opportunity to participate (Hammick & Lee, 2013). Asynchronous activities do not need to fit within a scheduled class session and do not have to end with it either. In fact, they can and often do continue 24/7. This allows students to continue to explore the readings, materials, ideas, and concepts throughout the week or unit in which the activity is held. With more time to think, reflect, develop, and find evidence for ideas, student contributions are generally thorough and well constructed.

However, the advantages of asynchronous participation do not occur without some careful forethought and planning on the part of the instructor (Nandi, Hamilton, & Harland, 2012). Instructors should take preliminary steps to ensure the interaction is effective and worthwhile. Effective interaction occurs when all students participate, take the assignment seriously, make quality contributions, and respond meaningfully to each other’s ideas, and these elements should comprise the grading criteria. Either each individual discussion or activity can be graded or the course can have an overall participation grade. Individually graded assignments generally produce better results, especially for courses where discussion of texts or materials is central to the learning outcomes. However, the choice depends on the subject and nature of the course and the relative importance that participation should take. Whichever approach is used, participation should constitute a good percentage of the course grade weight.

Furthermore, for asynchronous discussion to be effective, topics need to be well designed and structured. This requires good forethought and planning on the part of the instructor. Discussion topics should clearly relate to course and unit outcomes, provide an opportunity for students to engage with the course material, and serve as the “glue” between other assignments by providing a meaningful sequencing between them. Instructors can create topics that are well constructed to provide focus and depth to key concepts (Baker, 2013).

Repetition and shallow contributions may be negative consequences of having all students participating in discussion (Lam, 2004). Several students may share the same idea or reaction, and while only one of them (the first one to speak up) would have the chance to express it in the face-to-face classroom, all students may express it on the discussion forum. To address this challenge, instructors should create topics that cannot be exhausted in a couple of posts (e.g., interpretations, debatable issues, open-ended questions) and indicate through their grading criteria that students cannot simply express agreement with each other, but need to add other ideas in their replies to keep the conversation going. To reduce the number of posts while increasing their quality, instructors can also use small group discussion then have each group make one initial post to the full-class discussion (Maddix, 2012).
Similarly, spontaneity in the discussion may be lost or diminished, even while having the time to think and reflect before contributing makes student posts thoughtful (Tiene, 2000). To address this challenge, instructors can facilitate personal reactions and real-life applications, and present topics in a way that allows and respects multiple perspectives. Non-graded icebreakers or personal reaction questions can also be used to encourage spontaneity and keep the class fun.

**Provide timely, relevant and actionable feedback.** In online courses, much of the teaching consists of providing meaningful input and feedback on student work (Kranzow, 2013; Motte, 2013). Feedback on student work should be constructive, individualized, and actionable, indicating concrete steps that students can take to improve their knowledge and skills going forward. It should contain an appropriate balance of positive feedback and constructive criticism, provide thorough explanation and concrete examples of where the student’s performance was lacking and how to improve it, and describe what steps the student can take to complete future assignments successfully. Students should receive feedback on an assignment with enough time to apply it to the next one. Importantly, it should be used to help all students improve their knowledge and skills regardless of level of performance.

Instructor input in asynchronous discussion is just as important as feedback on other assignments. Online asynchronous interactions are mainly student driven and promote active learning and student agency, both of which correlate with student satisfaction and positive learning outcomes (Ke & Kwak, 2013). Instructors are frequently surprised when they log into their course and observe many discussion posts ongoing without their presence. However, instructor input is still essential (Baker, 2011; Lam, 2004). The challenge for instructors is finding the right timing and amount to contribute as effective facilitators (Maddix, 2012). While students want to know the instructor is involved and receive the benefits of that expertise, the instructor’s weighing in too much can discourage students. Instructors need to judge when and how they can best add value to discussion. They can contribute by conveying subject matter expertise through well placed commentary, interjecting follow-up questions to encourage more in-depth analysis of the subject matter and higher level critical thinking, asking for or presenting further or contradictory evidence or examples, and providing summary posts at the end of a discussion or activity to bring it to a logical closure and make connections between units.

Moreover, this strategy will help instructors manage the greater workload of a student-driven, 24/7, high participation discussion. Instructors should be present and effective facilitators within reasonable parameters. Instructors can pace their involvement with more follow-up questions at the beginning; more commentary later; and summary comments, discussion debrief, or unit connections at the end to acknowledge or applaud what students have done and challenge them going forward.

**Create a Student-Centered Environment.** A key element in the nature of online instruction is to offer students scheduling flexibility in completing their educational goals and degrees (Goddu, 2012). Thus, inherent in the structure of online courses is a need for instructor flexibility.
and sensitivity not only to students' wildly varying
work, school, and life schedules, but also to
unforeseen situations that inevitably arise (e.g.,
emergencies, travel, illness, conflict with
deadlines). Adult online learners often manage
full-time jobs, family demands, and other personal
responsibilities that initially lead them to the
flexibility of online instruction and course/degree
completion.

Building individual learning relationships
with students that are heavily infused with
flexibility and sensitivity to each student’s skill
level, schedule, personal concerns, and obligations
positively influences and increases students’
likelihood to develop a personal commitment to
the material covered in the course, their
involvement and confidence in participation in
course activities and discussion, and their
successful completion of the course (Ke & Kwak,
2013). As an increasing number of traditional
students and adult-learners pursue courses and
degrees online, flexibility and sensitivity to
individual student schedules and situations are
fundamental necessities and effective approaches
to increasing student engagement and retention.

Because online courses necessitate and
encourage a high percentage of individual student
motivation in order to fulfill the requirements of
the course, instructors should see themselves
largely as learner-centered facilitators (Witt, &
Scott, 2012). Instructors can iterate to participants
that the course will be largely guided by learner-
led activities, such as small and large group
discussion, assignments, projects, presentations,
and individual responses to course content
through use of online forums. This also
encompasses instructors using and encouraging a
“hands-on” student learning style in online
courses (Ruey, 2010). Online instruction benefits
from student-driven learning, activities, and
discussions that encourage and focus on student
engagement with the course material (London &
Hall, 2011; Ruey, 2010)

In conclusion, student-to-student interaction
and faculty-to-student interaction are essential in
an online course and should be facilitated in a
variety of ways. Instructors can foster this
interaction by clearly stating their expectations or
requirements for student collaboration, creating a
sense of community using a variety of techniques,
initiating communication with and among
students in a variety of ways, modeling interaction
for students, and providing ample opportunity for
discussion, including forums for students to
discuss class content and activities and to get help
from their instructor and classmates.

Further Research Needed

The need for more research to better
understand the lower retention rates for online
learners is well documented (Braxton, 2000;
Kasworm, Polson & Fishback, 2002; Moore,
Bartkovich, Fetzner & Ison, 2002; Moody, 2004;
Angelino & Natvig, 2009). Despite decades of
research, there is still much we do not know about
higher education retention. There is no consensus
on how to define retention let alone the reasons
for high attrition levels (Boyd, 2004; Street, 2010).
Rovai (2003) argued that “adult persistence in an
online program is a complicated response to
multiple issues” where “numerous internal and
external factors come into play as well as
interactions between factors” (p. 12-13). One
thing many would agree on is that student
retention is a complex challenge, subject to
multiple factors (Allen & Seaman, 2011; Boston & Ice, 2011).

Some have observed that online education is quickly becoming part of the mainstream in higher education (Allen & Seaman, 2004). Administrators in charge of online programs continue to look to retention models for solutions. As discussed earlier, prominent retention researchers such as Tinto, Bean, Metzner, Rovai, Angelino, and Natvig provide us with models that need to be further developed and tested. Student academic and demographic characteristics such as deficiencies in academic preparation and online skills as well as age, gender, and ethnicity need to be examined more closely. Once admitted, student internal factors of self-efficiency, motivation, and time management as well as external factors of family, course design/relevance and organization, and technical support need to be further explored (Park & Chio, 2009). A more comprehensive understanding of the predictors of persistence can help with the development of the more effective online teaching methods and services for online learners.

As the number of students enrolled in online education continues to grow, online learning has the potential to bring higher education to more students than ever before (Geiger, 2010). Research is needed on special populations that could benefit from online higher education. Retention research could examine how to improve persistence for disabled students, military learners, geographically isolated students, prison populations, and other nontraditional adult learners. We might hypothesize that these populations have unique teaching and retention needs.

Continued scholarly efforts to find practical solutions to increase online learner retention are needed. Researchers need to continue to examine some of the most notable findings around online learner retention. The findings need to be replicated with larger student samples, different adult learner populations, and longitudinal evaluations. Retention for the online learner continues to be a critical issue facing higher education researchers, policymakers, and administrators as attrition for this growing student population remains stubbornly high (Tinto, 2007; Zusman, 2005).

Given our experience, we find that student engagement and agency correlates positively with student learning outcomes and retention. Therefore, we recommend studies be conducted that focus specifically on the correlation between student engagement and retention. A framework of best practices that focus on instructional activities and methods that promote engagement can provide the basis for measurement that can be used in such studies. Further research is needed to address the question of how much faculty can affect online student engagement and retention, and how much is out of their control.
References


### Appendix: Rubrics and Guidelines for Asynchronous Discussion

#### Example of rubric for Discussion assignment

<table>
<thead>
<tr>
<th>Criteria</th>
<th>A (36-40 points)</th>
<th>B (31-35 points)</th>
<th>C (26-30 points)</th>
<th>D/F (0-25 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Post</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Outstanding</td>
<td>Proficient</td>
<td>Basic</td>
<td>Below Expectations</td>
</tr>
<tr>
<td></td>
<td>Fully responds to the questions and/or addresses all topics thoroughly; provides thoughtful and well developed analysis; chooses pertinent, specific examples from the readings to support ideas. (Initial post should be a minimum of 200 words.)</td>
<td>Responds to the questions and/or addresses all topics without fully developing answers; provides substantial analysis; uses appropriate, specific examples from the readings to support ideas.</td>
<td>Responds to some of the questions and/or topics; analysis is thin or commonplace; supporting specific examples are lacking or missing.</td>
<td>Response to questions/topics is incomplete or missing; rudimentary and superficial analysis; examples are missing or lacking; comments are speculative and unsupported.</td>
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<tr>
<td>Reply Posts</td>
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<tr>
<td></td>
<td>Frequent, substantive, and thoughtful responses to classmates’ posts that contribute additional opinions, insights, examples, and questions, and motivate further discussion.</td>
<td>Responses contribute to the discussion yet lack some depth and/or do not further motivate discussion.</td>
<td>Replies mainly express agreement or merely repeat the ideas of a classmate’s post; not sufficiently developed; do not motivate discussion.</td>
<td>Little or no responses that demonstrate depth and accuracy; off topic; state “I agree,” without supporting comments.</td>
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<tr>
<td>Critical Thinking</td>
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<td></td>
<td>Posts offer original and concrete ideas; interpretations are well supported; insightful and clear connections are made within and among readings; posts demonstrate in-depth understanding of readings.</td>
<td>Posts offer original ideas and/or connections but they lack depth and/or detail; posts demonstrate accurate understanding of the readings.</td>
<td>Few if any new ideas or connections; posts use vague generalities, rehash or summarize other postings; posts show basic understanding of the readings.</td>
<td>No posts or posts show inaccurate or superficial understanding of the readings.</td>
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<tr>
<td>Timeliness</td>
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<td></td>
<td>All posts are completed early and throughout the discussion in time for others to read and respond to them.</td>
<td>All posts completed within the designated time period but some not in time for others to read and respond to them.</td>
<td>Some posts late (initial post and/or responses).</td>
<td>Posts not made within the designated time period; some or all required postings missing.</td>
</tr>
<tr>
<td>Stylistics</td>
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<tr>
<td></td>
<td>All posts are written in grammatically correct, formal English; use correct sentence structure and spelling; demonstrate a coherent organization of ideas.</td>
<td>Minor errors in grammar, spelling, or sentence structure; language too informal or colloquial; loose organization of ideas.</td>
<td>Number of errors in grammar, spelling or sentence structure detracts from meaning; expression of ideas is confusing or seems rushed; ideas are disorganized.</td>
<td>Frequent errors in spelling, grammar, and sentence structure; posts are largely incomprehensible due to mistakes; posts contain texting lingo.</td>
</tr>
</tbody>
</table>
Example of Instructions and Guidelines:

For a course with an overall Participation grade:

Your grade will depend on both the quality and quantity of your posts. Quality discussion posts are well written, address the topic(s) thoroughly, and offer new ideas to discussion. Your posts should provide thoughtful, well developed, and original contributions to the discussion questions or other related topics of interest. You should use specific examples from the readings to support your ideas. Your posts can be made in response to a discussion topic or in response to a classmate’s post, but a quality reply post goes beyond merely expressing agreement or reiterating points already made. Contributions should further the discussion with additional examples, analyses, questions, or insights.

While there is no exact number of posts that you should make for each unit, the following grade-point scale is meant as a general guideline:

- 90-100: 3 or more quality posts per unit
- 80-89: 2 quality posts per unit
- 70-79: 1 quality post per unit
- 0-69: depends on the number and quality of posts throughout the course

For a course with individual graded discussion assignments:

For each discussion, you need to make a seed post of at least 200 words that responds to the topic and a minimum of 2 reply posts of at least 50 words that respond to your classmates’ posts. You can make your seed post as the start of a new discussion thread or in response to another post or posts within a discussion thread, but it must conform to the following criteria:

Your seed post should provide thorough, thoughtful, well developed, and original contributions to the discussion topic(s). Your post should be well written with a coherent organization of your ideas. You should use examples from the readings to support your ideas. When you quote or paraphrase a specific section of the readings, please provide the page number in parentheses.

Your reply posts should provide thorough, thoughtful, and original contributions to the topic of discussion. A quality reply post goes beyond merely expressing agreement or reiterating points already made, and contributions should further the discussion with additional examples, analyses, questions, or insights. Frequent, substantive replies in a discussion will add points to your grade for that discussion.

Example of Assignment Instructions:

Steps:

1. Complete the assigned readings and consider the discussion topics.
2. Choose 1 topic to write about in a post of 200-300 words.
3. Post your thoughts either in response to a classmate’s post or as a new thread.
4. Make additional replies of 50-100 words to at least 2 of your classmates’ posts in order to keep the discussion going.
Healthcare Reform Means Training Reform

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Abstract
Healthcare reform, including the reforms exemplified in the Affordable Care Act (ACA), has significant implications for the demand of healthcare professionals, including clinical psychologists. This paper critically reviews extant workforce analyses of both current and future statuses of the supply and demand for clinical psychologists. While there is significant vagueness and variability in these analyses, it appears there will be a significant new demand for behavioral health professionals who can work in medical teams to assist in the identification and treatment of patients who are presenting due to behavioral health pathways. This demand may be as high as 80,000 and would represent a near doubling of the current workforce of clinical psychologists. The traditional training processes of clinical psychologists have exhibited a number of problems, including exact outcomes are generally unknown; likely have great variability; are very costly to produce; have little or no data regarding their effectiveness or consumer satisfaction despite decades of use; are somewhat arcane, uncoordinated, and overly complex; produce too few professionals; and are very time consuming. This paper examines the use of web-based training to both overcome some of these problems and to help meet future workforce needs.

Keywords: healthcare reform, Affordable Care Act, workforce analysis, clinical psychology training, web-based training, integrated care

Clinical psychology is a profession that involves a variety of specific roles and, hence, a variety of competencies. These roles include, but are not limited to, functioning as a clinician for a diverse set of tasks, including treating various populations (e.g., elderly, children, autistic children, alcoholics); working in an academy as a teacher, administrator, or researcher; working as a part of upper management in various organizations (e.g., managed care company, consulting firm), and private consulting in a variety of contexts (e.g., forensics). This wide array of roles has allowed clinical psychologists to be highly sought after professionals.

However, when examining present or future workforce needs for clinical psychologists, there have been conflicting views about whether there are or will be sufficient psychologists to meet the demand of all these roles. Some have argued that the field of clinical psychology is currently
oversaturated (Robiner, 1991; Robiner, Ax, Stamm, & Harowski, 2002) and that the production of clinical psychologists should be slowed. This alleged oversaturation would in turn lower the marketability of existing psychologists and the potential earnings of those in the field due to supply exceeding demand. Others have argued the opposite, saying there are not sufficient numbers of clinical psychologists due to the wide variety of roles that psychologists could engage in, particularly in the future (VandenBos, DeLeon, & Belar, 1991). This hypothesized undersupply means some individuals who would benefit from services or expertise are not receiving or will not receive them. Both circumstances are not ideal in that the former is detrimental to those practicing in the field of clinical psychology or training to be a psychologist, and the latter is detrimental for the public who would benefit from the particular skill sets that psychologists possess. It must be recognized that these estimates may serve self-interests, although these interests vary. Concerns of oversupply could be self-serving in that restricting supply can increase the prices for the labor of existing psychologists. On the other hand, claims of undersupply can serve the interests of those selling their services as trainers.

To analyze which of these situations is currently occurring or is likely to occur in the future, workforce analyses are useful (Rozensky, 2011). Workforce analyses are vital for any given service-based field in that these projections allow the field to be responsive to any factors that may affect the supply or demand for practitioners. In addition, through these analyses, a given field may redefine training priorities to ensure individuals in the field do not compete in an oversaturated market or the number of service providers is sufficient to meet the changing demands of the public (Rozensky, Grus, Belar, Nelson, & Kohout, 2007).

For example, given the passage of the Affordable Care Act (ACA), individuals in the medical specialty of primary care have conducted workforce analyses to predict future workforce needs (Petterson et al., 2012). Using national databases in regards to primary care utilization and supply projects, these authors were able to provide estimates regarding how many primary care physicians would be needed and for what reasons (e.g., aging population, increased insurance coverage). With these reforms, Dill and Salsberg (2008) estimated there will be a significant shortage—46,000 by 2025—of primary care physicians, which will comprise 37% of the workforce shortage of physicians in 2025. This is a staggering deficit that will seriously hamper any attempt to reform healthcare. In response to these predicted shortages, a call for new methods of training primary care providers has been made (Petterson et al., 2012). Given this successful example of a workforce study and the utility of workforce studies, it would seem imperative for clinical psychology to engage in this process.

Many of the recent analyses regarding clinical psychologists have first focused on determining the state of the current workforce (Michalski & Kohout, 2011). This seems to be a more straightforward matter as it is a descriptive task—counting existing psychologists in the workforce. However, some of these analyses suggest conducting an accurate workforce analysis in clinical psychology is quite difficult (Rozensky, et.
The fact that the field of clinical psychology has difficulty conducting an accurate workforce analysis in comparison to other healthcare professionals such as primary care physicians is understandable given that these other professions have much more sophisticated databases regarding their current workforce numbers and their overall utilization (Rozensky et al., 2007). Also, because clinical psychologists engage in such a wide variety of duties, it is difficult to pinpoint a method that would effectively capture all those who are currently working as “clinical psychologists” in all of these diverse roles (Rozensky et al., 2007). With these difficulties in mind, a workforce analysis could still produce valuable numbers that provide a useful guide for streamlining training.

The purpose of this article is to investigate whether or not clinical psychology can meet the need of recent healthcare reform that is having and will continue to have a huge impact on how healthcare is delivered. Some authors have predicted healthcare reform will lead to growth for behavioral health providers (Cummings & O’Donohue, 2011). What is less clear is the extent to which clinical psychologists will fill these new roles. Recent healthcare reform—particularly, the ACA—has placed an emphasis on providing individuals in the United States with access to interdisciplinary teams that allow for improved access to care and improved care in the primary care setting (Rozensky, 2011), because a key to reducing costs and improving care is to identify and treat behavioral health drivers of medical presentations such as depression, anxiety, poor treatment compliance, smoking, obesity, and other behavioral health problems (Cummings, O’Donohue, & Cummings, 2011).

These changes in the healthcare system may also require a rapid expansion of the mental health workforce in the primary care setting that the field of clinical psychology may not be able to fulfill given its current model of training and service delivery (Blount & Miller, 2009). If there are too few clinical psychologists to fill these positions, other disciplines that have shorter training periods such as social workers may fill this gap. This article will present trends in healthcare and the changing role of mental health providers. It then will be followed by a workforce analysis of the current and future psychological workforce, and our predicted shortcomings of the future workforce. We will conclude by providing recommendations on how online education and training can potentially help address these new training needs.

The Changing Landscape of the United States’ Healthcare System

The healthcare system in the United States is continually changing. However, recent events like the passing of the ACA have set in motion requirements that will increase the rate of change. These changes regarding how healthcare will be delivered and even its quality will be defined and measured will have significant implications for clinical psychologists. While an in-depth analysis of these changing trends and their potential implications on mental health professionals has been conducted (see Rozensky, 2012), there are some key trends that should be reiterated. Understanding the change in landscape—what will be expected from healthcare professionals and who will be accessing their services—is an
important first step to help determine future workforce needs (Rozensky, 2012).

The Affordable Care Act’s Focus on Prevention and Health Maintenance

Chronic diseases such as heart disease, cancer, and stroke account for 7 out of 10 deaths in the United States (CDC, 2012). In response to this, one of the main focuses of the ACA is disease prevention and health maintenance (Rozensky, 2012). However, to effectively engage in disease prevention and health maintenance, clinical psychologists must shift their focus to include population-based interventions aimed at the behavior health determinants of chronic disease management. In addition, demographic trends have an impact on future medical utilization. The population in the United States is experiencing a significant shift in that it is aging. By 2050, the number of individuals over age 65 is expected to double compared to today (Rozensky, 2012). This presents a unique problem to healthcare providers, due to the fact that the geriatric population has traditionally been a high utilizer of healthcare (Stanton, 2006). This is mostly due to the increase of chronic disease in older age (Stanton, 2006). This new and expanding population has unique needs, which will require healthcare providers to receive specialized training.

The Affordable Care Act’s Focus on Evidence-Based Care and Accountability

The ACA was partly a reaction to the groundbreaking report Crossing the Quality Chasm published by the Institute of Medicine (2001). The IOM identifies a number of quality problems in the way healthcare is currently being delivered, including access, safety, use of evidence-based procedures, timeliness and continuity, equity, being patient centric, and cost.

A follow-up to the original report Improving the Quality of Health Care for Mental and Substance-Use Conditions (IOM, 2006) was published to address issues specific to mental health. This report highlighted the similarities between general physical healthcare and mental health, and the evidence-based treatments available for mental health concerns and their effectiveness. However, this report also highlighted the quality gaps in mental health care delivery. The report states deficiencies in mental health care lead to a “considerable burden” (p. 7) on the workforce, educational achievement, and society overall. The deficiencies of providing effective mental health care lead to safety issues (e.g., prescribing anti-depressants to children may be more harmful than beneficial) (Antonuccio, 2008), lower overall quality of medical care (Bjorkenstam et al., 2012), and the overutilization of psychotropic medications, which leads to excess morbidity and mortality (Parks, Svendsen, Singer, & Foti, 2006).

Psychologists must shift both research and practice to ensure these factors are captured in therapy. They must also embrace the “accountability” factor of the ACA and provide consistent outcome data to ensure individuals receiving behavioral health services are actually improving.
The Affordable Care Act’s Focus on Multidisciplinary Teams, Primary Care, and Patient-Centered Medical Homes

The healthcare system in the United States is currently the most expensive in the world (Bodenheimer, 2005). In order to help reduce healthcare costs, the ACA is focusing on shifting the majority of healthcare to the less costly primary care setting. To ensure patients receive the highest quality of care, the ACA promotes the use of multidisciplinary teams and patient-centered medical homes (PCMHs; Bechman, Kinman, Harris, & Masters, 2012). This comprehensive care in turn makes the primary care setting a “one-stop shop” for consumers and promotes continuity of care for patients due to the fact that healthcare providers no longer operate separately in “silos.” With these reforms, providers of different specialties and backgrounds would be co-located and collaborate to come up with a more comprehensive, non-redundant, and coordinated care plan. This focus on providing primary care within a team-based system provides clinical psychologists or other behavioral health professionals with an avenue to play a key role in the delivery of more effective primary care. There has been much written on the utility of clinical psychology in the primary care setting in regards to medical cost offset and improved patient outcomes (Cummings, Ferguson, & O’Donohue, 2002). However, this setting requires psychologists to shift from traditional “specialty care” models of psychotherapy and learn to deliver brief, effective interventions that can operate within the ecology of fast-paced primary care setting (Cummings, 2011).

An Analysis of the Current Workforce of Clinical Psychologists

Current Number of Clinical Psychologists

A workforce analysis in clinical psychology has proven to be a very difficult endeavor due to the broad definition of what entails a “clinical psychologist.” While agencies like the U.S. Department of Health and Human Services collect data on psychologists, the definition of what a “psychologist” is may differ from county to county and not agree with what the American Psychological Association (APA) defines as a psychologist (Rozensky et al., 2007). Also, due to its reliance on information from other agencies and limited funding towards workforce analyses, the field of clinical psychology lacks a systematic or comprehensive manner of collecting relevant and important data in comparisons to other healthcare fields (Rozensky et al., 2007). Given these limitations, this manuscript will present a critical review of some of the major analyses of the current workforce of clinical psychologists, how these numbers were calculated and the strengths and weaknesses behind each methodology.

U.S. Bureau of Labor Statistics’ Estimate of the Current Workforce. The U.S. Bureau of Labor Statistics (BLS) is the principle federal agency responsible for measuring labor market activity, working conditions, and price changes in the economy (BLS, 2014a). The BLS analyzes and disseminates these economic data to support both the private and public sectors to better inform economic decision making. The website provided by the BLS provides users with the ability to search specific professions, and offers its users information about current employment, future
employment predictions (ten years from now), number of individuals self-employed, job openings due to growth and replacement needs, annual wages, and types of education needed.

For clinical psychologists, the BLS has the occupation listed as “Clinical, counseling, and school psychologists.” According to BLS data, 145,100 clinical, counseling, and psychologists were employed as of 2012 and a growth of 16,400 is projected over 10 years for an estimated workforce of 161,500 by 2022 (BLS, 2014c). The BLS also predicts that due to growth and replacement needs (e.g., retirement, individuals changing employment), 55,900 positions in clinical, counseling, and school psychology will open between 2012 and 2022. Because it takes approximately 7 to 10 years to produce a licensed clinical psychologist as of 2012 (O’Donohue & Boland, 2012), this means that 55,900 new psychologists must be trained in the next 8 years to meet the needs of the future workforce and to account for those who will be retiring.

The BLS also provides users with information on how it calculates values. It lists the measurement of employment as “a count of jobs, not a count of individual works” (BLS, 2014b). Job openings due to growth and replacement needs are calculated by combining expected job growth or loss with the number of individuals projected to retire or permanently leave the occupation. The BLS reports this replacement value was calculated through a two-step process. First, the BLS measured the net change in occupational employment for thirteen different age cohorts over a five-year period. This provided the BLS with historical replacement rates of a profession. Taking this historical replacement rate, an estimate replacement needs was calculated by assessing the replacement needs from 2012 to 2017, recalculating cohort ages, and repeating the analysis from 2017 to 2022. These numbers were then combined to create the replacement number from 2012 to 2022. By creating these numbers, a field can predict how many professionals would need to be trained to just replace those who are currently active.

**Strengths and Weaknesses of the Bureau of Labor Statistics.** The BLS has the unique advantage of being a federal agency. Due to this, the BLS has access to information that would be considered confidential (e.g., private surveys, census data) and not available to the public. Another strength of the BLS is that information across occupations is analyzed the same way. This allows users of the BLS’s website to make reasonable comparisons between occupations. While the BLS attempts to make its website and information as user friendly as possible, it can also be somewhat confusing. For example, there are actually multiple numbers in regards to the current workforce of a given field. In the case of clinical, counseling, and school psychology, the numbers vary, either being 103,590 or 145,100, depending on which type of analysis is accessed on the website. For the purposes of this manuscript, both values were considered in determining current workforce size. Another weakness of the BLS is that it sums clinical, counseling, and school psychologists. While the website lists typical entry-level education is a doctoral or professional degree, it is not clear if the BLS definition of this occupation is similar to that of the APA. Also, it is not clear how many professionals are in each sub-group. Another
weakness is it fails to explicate exactly how these figures are calculated. For example, there is no explicit mention of the impact of the ACA on its calculations. Thus, it is unclear if the BLS has considered accurately the impact of healthcare reform on the future market for psychologists.

The major strength of BLS is it has access to databases and resources that are unique, and is a department dedicated to calculating and predicting workforce size. However, unclear is what BLS defines as a “psychologist.” Also, depending on which database is accessed, there is a wide range for predicted workforce size — 103,590 to 145,100 — making a focused analysis difficult.

**American Psychological Association.** While the field of clinical psychology has struggled to devise its own comprehensive method of calculating workforce size, the APA has made an active effort to create a system to calculate this. The creation of the Center for Workforce Studies (CWS) has been the APA’s response to utilize workforce analyses to help progress the field and hone training agendas to meet the needs of society by releasing reports four to five times a year (APA, 2014b).

According to the demographic data of the APA membership in 2013, there were 77,149 members who had a doctoral-level degree (APA, 2014a). These members included a wide range of psychologists working in clinical, counseling, school, forensic, and many subspecialties. More specific to the workforce question, the CWS estimates 93,000 clinically trained psychologists are in the United States (APA, 2014c). Unfortunately, the total number of clinically trained psychologists provided on the CWS website is not accompanied by a citation or explanation of how this number was calculated.

**Strengths and Weaknesses of the American Psychological Association.** The APA’s CWS is one of the only “in-house” programs dedicated to answering questions relevant to workforce analyses. Given the APA’s important role in regards to establishing course requirements and accreditation for doctoral programs, using these data can be particularly useful for decision making. The numbers provided by the APA reflect what the group would define as a “clinical psychologist” and, therefore, can reflect a more accurate count.

The APA’s methods of workforce analysis and access to relevant information are not as well-established or inclusive as those used by agencies like the BLS. This lack of access to pertinent information that agencies like the BLS use limits the scope of the analyses conducted by the CWS. Also, the reliance on APA members is problematic, due to the fact there has been a steady decline in the total number of APA members over the years (Michalski & Kohout, 2011). Another weakness is that many psychologists are not members of APA, may only be members of “rival” organizations such as APS, or not members of any professional organization.

The APA has the benefit of ensuring that those who are included in its analysis meet the requirements of being considered “clinical psychologist.” The group’s analysis also includes clinical psychologists, but no other fields of psychology. However, the analysis is based on its membership total, which has been steadily declining for years. Therefore, while more specific,
the APA analysis may not be inclusive enough to be accurate.

**Workforce Numbers from Other Articles and Reports.** Individual authors have also published workforce numbers about clinical psychologists. The prediction of clinical psychologists is presented within the larger frame of “mental health professionals” (Heisler & Bagalman, 2014; Robiner, 2006). These authors integrated information from numerous sources in order to provide estimates of the workforce size. One report estimated the size of the workforce for clinical psychologists is between 92,227 and 134,000, depending on the source of information (Hisler & Bagalmn, 2014). Another article estimated approximately 89,514 licensed providers, but this number was an estimate from 2002 (Robiner, 2006). However, these articles do not report estimates for future workforce needs.

**Strengths and Weaknesses of These Other Articles and Reports.** These authors compiled data from numerous resources, databases, and other authors. The numbers provide a wide range of estimates from the various sources. The authors are able to present these various numbers and the sources from which they compiled the information. For example, these articles presented data from sources that include APA, BLS, and the Institute of Medicine.

Due to the lack of more sophisticated databases used in other healthcare professions, these authors were not able to conduct workforce analyses that required the similar methodological and statistical analyses used by other healthcare professionals (Rozensky, et. al, 2007). Due to the reliance of numbers from other agencies, their estimates are confounded by the strengths and limitations of those agencies. Since workforce analyses have not improved since these publications, this paper suffers from the same strengths and limitations of these authors.

Given these various sources and different methodologies of estimating the current workforce of clinical psychologists, the estimates range between 90,000 and 145,000. Due to the fact this range is too large, for the purposes of this manuscript we estimate approximately 100,000 clinical psychologists are currently in the workforce. This number was selected, because the majority of sources (e.g., APA, BLS [non-inclusive number]) (Heisler & Bagalmn, 2014) have estimates that are between 90,000 and 105,000 psychologists.

**Some Key Demographics of Current Clinical Psychologists**

In addition to the total workforce, the demographics of current clinical psychologists are also a valuable dimension in a workforce analysis. In a survey study conducted by Michalski & Kohout (2011), the current workforce of clinical psychologists is referred to as more “heterogeneous” than previous studies. In this study, about 58% of the respondents were women. This can be significant, as women are more likely to work part-time than men. Thus, it should not be assumed that there are 100,000 full-time clinical psychologists in the workforce. For the purpose of this manuscript, age of the workforce was the most interesting variable of demographic information available. Multiple studies have indicated the modal age of the clinical psychology workforce is over 55 years, thus relatively close to the age of retirement (Michalski & Kohout, 2011; Salazar, Frinske, &
Kohout, 2004). This number indicates the workforce as a whole is more mature than it has been in the past. While the workforce is getting older, the average age of retirement of a psychologist is also higher than average at 71 years (Saure & Zoabi, 2011).

Even though retirement for psychologists is somewhat delayed, this more mature workforce requires that the field prepare itself for a “mass exodus” when these psychologists retire, although the age at which these psychologists will retire will vary and is somewhat unclear. This trend is also consistent with the BLS estimate that 55,900 positions will be open due to expansion and retirement in the field, with the majority of those positions due to retirement. It is also important to note an important limitation of these data: It is based on APA membership. As mentioned earlier, the APA membership has slowly declined over the years and younger individuals are not becoming APA members. This factor could skew the data in a way that indicates a more mature workforce than there actually is. However, the field must prepare itself to ensure there will be enough psychologists to fill the positions of those retiring and new positions created.

**Estimates of the Future Need for Clinical Psychologists**

The BLS predicts that between 2013 and 2023 there will be an employment change of 16,400 new jobs— an increase of 11.3%—for clinical, counseling, and school psychologists (BLS, 2014c). However, this number fluctuates considerably across years. For example, clinical, counseling, and school psychologists were forecast in 2008 to grow between 7% and 13% (Rozensky, 2011).

Given our estimate of 100,000 psychologists currently in the workforce, this would mean that in 10 years the workforce would range from 107,000 to 113,000 psychologists.

While these numbers may give some useful information regarding what the field could expect in internal competition, they do not provide useful information about what areas in the field will require more emphasis in the future due to healthcare reform. It is also important to note that implications of the ACA in regards to future needs may not be factored into the predicted growth percentages.

While the future workforce needs of clinical psychology may be difficult to predict due to lack of information and the multiple areas in which a clinical psychologist can engage, there are specific areas that have enough information to make a prediction. As mentioned earlier, healthcare trends are pushing for more team-based, integrated care (IC). Some have offered that for an integrated care program to work ideally, there is a specific ratio of primary care providers (PCPs) to behavior health consultants (BHC). Ratios can range from 3 PCPs:1 BHC to 5 PCPs:1 BHC, depending on the goal of the clinic in regards to managing psychiatric problems (Cummings et al., 2011). For example, based on data collected across multiple family practices, a ratio of 3 PCPs: 1 BHC allowed for most (80%) psychiatric care to be conducted within the primary care clinic before needing to make referrals to specialty care while a ratio of 5 PCPs: 1 BHC allowed primary care clinics to handle about half its patients’ psychiatric needs before having to refer (Cummings et al., 2011).

Multiple workforce analyses in regards to future needs of PCPs predict the workforce...
demand in 2020 for PCPs will be between 241,200 (HRSA, 2013) and 245,975 (Petterson et al., 2012). With these predictions in mind and using the ratios above, a workforce between 48,240 and 81,991 mental health providers would be needed to meet the demands of multi-disciplinary practice in the primary care setting.

To place the number of clinical psychologists needed to work in integrated primary care in another context, if internship placements were to expand at a steady rate of 5% a year starting in 2010, there would be a total of 44,051 new doctoral psychologists produced by 2020. If every one of those new psychologists were to go into IC and no psychologists left the workforce, there would still be a minimum shortage of 4,189 psychologists in 2020, according to our calculations. These shortages in the workforce indicate a new model of training may be required in order to ensure that not only is the future workforce demand for integrated primary care met, but also to fulfill all of the other activities in which clinical psychologists engage. This is a tremendous opportunity for the behavioral health professions, but if clinical psychology does not recognize it and prepare to take advantage of it, other professions likely will. One aspect that needs to be reexamined is the efficiency of the field’s training.

**Using Online Education to Facilitate Effective and Efficient Training**

When the profession of clinical psychology has examined models of training, generally the focus has been on the content regarding *what* to train instead of the process of *how* to train. Even when examining what to train, there has been much more attention spent on broad models of training, such as the well-known-scientist-practitioner model, the scholar-practitioner model, or, more recently, the clinical science model (O’Donohue & Boland, 2012; McFall, 1999). There has been much less attention spent on the processes needed to reach any of these broad goals, particularly the efficiency of these models and processes. It appears the dimension of effective and efficient didactic processes has been largely assumed to be untouchable, uninteresting, or unalterable.

In recent years there have been two salutary movements regarding clinical training: an interest in more clearly specifying training outcomes, often in terms of competencies (O’Donohue & Boland, 2012), and an increased availability of teaching technologies that present opportunities to increase the effectiveness and efficiencies of clinical training. However, there also seem to be several important impediments to innovations in clinical training. Perhaps the principle one is the generally conventionalist biases of both faculty and accrediting bodies, particularly the APA. However, the hope is that part of the onus will be a research agenda in which data on the effectiveness and the efficiency of innovative teaching methods such as online training can be used to persuade accrediting educators and accrediting bodies not only of their acceptability, but also their increased value over traditional training methods. Large deficits in the supply of clinical psychologists to fill the needs created by healthcare reform may contrive to show the necessity of these innovative teaching processes.
The Failure of Traditional Training Methods

It can be fairly argued that the traditional training methods used in clinical psychology programs are not only problematic but also have failed. A brief sketch of the argument for this failure follows: These traditional teaching methods produce outcomes that 1) are generally unknown; 2) in all likelihood have great variability; 3) are very costly; 4) have little or no data regarding their effectiveness or consumer satisfaction despite decades of use; 5) are somewhat arcane, uncoordinated, and overly complex; 6) produce too few professionals; and 7) are very time consuming. It is beyond the scope of this manuscript to present full arguments for each of these problems but again a sketch of some evidence is possible:

Current Training Models Produce Outcomes That Are Unknown. While some heterogeneity in training outcomes is advisable, it is not at all clear what core competencies are taught across training sites and even within specific training sites. For example, will all graduates in clinical psychology understand single subject research methodologies? Probably so if graduating from a behaviorally inclined program or probably not if graduating from some other theoretical orientation. Victor Remy’s (1950) admonition is very much still relevant. “I am afraid that in spite of our efforts we have left therapy as an undefined technique which is applied to unspecified problems with unpredictable outcomes. For this technique we recommend rigorous training” (Raimy, 1950, p. 93). The same vagueness also seems relevant to other key competencies of a clinical psychologist (e.g., research, consultation, training).

Significant Variability. Variability of training outcomes can be produced by a wide variety of factors, including program philosophy, individual faculty interests, individual faculty strengths and weaknesses, gaps in program faculty expertise or interest (e.g., no gerontologists on the faculty), individual student interests, individual student strengths and weaknesses, internship and externship point of emphases or gaps, geographical variability such as different concentration of problems or cultures, and chance (e.g., types of clients present at the training clinic, funding opportunities).

Cost. Increasingly, particularly in state university systems, legislators are decreasing funding for higher education and asking for evidence of value and return on investment. There has been justified concern that small classes of clinical psychology students taking 5 to 7 years to graduate (and who may or may not even work in the state) are vulnerable to criticisms from these legislators about value for dollars spent. Graduate education is generally much more expensive than undergraduate education due to these small class sizes. Legislators may judge that professors’ salaries and benefits are less efficiently used when teaching small classes, especially since a number of these are needed to eventually produce a cohort of clinical graduates. Graduate education also is costly for students, because of the tremendous opportunity costs—time spent out of income-producing jobs. Research is needed in more efficient graduate training to lower these costs.

Evidence Based Teaching? There is little to no data to suggest the training regimen that is currently used in clinical psychology is efficient and effective, let alone optimal. There are few data
showing its general effectiveness or efficiency, and fewer data still showing its superiority to alternative methods. Thus, there is a neglected research agenda on methods of teaching clinical core competencies. The methods relied on today—lectures, seminars, supervised research projects, supervised externships, supervised internships, and supervised post-doctoral fellowships—need to be better evaluated and compared to innovations.

**Uncoordinated Training.** O’Donohue and Boland (2012) called the current training model “the Rube Goldberg model of clinical training” after Goldberg’s infamous cartoons showing simple tasks being made much more complex by very intricate, complicated, multistep machines. Currently, there seems to be too little attention to the perhaps needless complexity of the training regime: Is the pre-doctoral internship still needed or is it anachronistic (O’Donohue, Thorpe, and Gregg, 2004)? Students increasingly accumulate thousands of hours of clinical experience during their doctoral training in order to try to be competitive in their internship applications. But even after the pre-doctoral internship, many states also require another year or two of additional post-doctoral supervised experience based on some sort of inchoate notion that all the training to date still has been insufficient to instill minimal competency. There are no data showing the added value of these additional years. And as the final step, even after passing all these hurdles, most states still require the student to study for the EPPP and even an idiosyncratic state test is a final hurdle. These again have no predictive validity regarding competent practice (O’Donohue & Buchannan, 2000). Thus, this entire convoluted training process can take 8 to 10 years before someone is finally licensed to practice. This is too long and too inefficient. Early steps need to clearly show that competency has been archived so other steps are superfluous.

**Producing Too Few Professionals: Our “Craft” Model of Training.** The workforce analyses presented above suggest that too few professionals are being produced to meet the demands of reformed healthcare delivery. It appears that we have adopted what might be called a craft model of training—a few outputs are produced with many inputs over a quite extended period of time. Class sizes in clinical programs associated with universities are usually less than 10 (often much fewer). Class sizes in independent professional schools of psychology are great, but these still vary and there has been pressure put on by APA accreditation to reduce these. A question can be raised regarding why medical schools can admit training cohorts that are many multiples of clinical psychology cohorts. Their curricula are demanding, complex, and multifaceted (e.g., basic science, applied science, diagnosis, treatment)—much like that of clinical psychology. However, it seems the schools can train more studies in a smaller period of time. If clinical psychology is to meet the future needs of healthcare reform, the number of psychologists it produces needs to expand dramatically (i.e., many times) current class sizes.

**Lasting a Decade.** It takes seven or more years to produce a licensed clinical psychologist because of all these training inefficiencies. This long time period can discourage applicants from pursuing a career in clinical psychology and our profession will be slow in filling developing gaps.
Innovations

Innovations need to be made regarding methods of training clinical psychologists to create more efficient training, less costly training, and more predictable outcomes as well as to meet the needs of healthcare reform. Web-based training has the potential to help achieve these aims but it should not be assumed to accomplish this. Outcomes need to be measured and evaluated with respect to training as usual. In addition, this sort of training has greater flexibility for students to proceed at their own pace instead of using what Skinner (1957) called the phalanx method of teaching in which all students are assumed to progress equally. More specifically, some particularly attractive innovations include:

Videos of Master Sessions. It could be useful to begin a video library of therapy leaders demonstrating courses of therapy. (This would also be an interesting way to create a historical record.) The videos could be stored and accessed online. Currently, it is possible to view master therapists in their workshops, but a video library would increase access and be at lower cost. Didactically, it can be useful through modeling to see the ultimate goal of training. There can be a wide variety of videos. Some possible topics are how to conduct an intake session, a termination session, how to handle client resistance and other therapy interfering behavior, and how to implement each step in an evidence-based protocol. William Miller’s motivational interviewing (motivationalinterviewing.com) is probably the best way to start this.

Websites with Other Training Resources. Again, it is useful to create websites that can archive other key training materials. Key articles, PowerPoints, and videos of presentations can be archived. William Miller’s motivationalinterviewing.com is an excellent exemplar of this kind of innovation.

Centers of Excellence and Technical Assistance Centers. In addition, it would be useful to have web-based centers of excellence that could serve as technical assistance centers to train and support skill development. Leaders in the field (e.g., Marsha Linehan’s DBT) can be supported to provide consultation and supervision to therapists. There are too few academics with the credentials to teach integrated care, and with the future need, this sort of resource is required.

“Canned” Breadth Requirements. Accreditation requirements need to be analyzed to see what can be put on the web in perhaps “canned,” or recorded, courses vs. what needs to be taught live. For example, it would seem that the breadth requirements (e.g., social bases of behavior, learning and conditioning, cognitive bases of behavior) can be presented in canned web courses. Perhaps these can be team taught, consisting of master teacher and researchers in multiple specialty domains. For example, it may be more interesting and impactful on students for Daniel Kahneman to lecture on heuristics than to merely have this summarized by another professor.

Distance Learning. Geography currently is a significant constraint. Reducing the number of months or years a student has to be in residence at the school can make the training more accessible, cheaper, and less intrusive. This might also help with underserved areas. For example, training people who prefer to live in rural areas
can perhaps be a partial corrective to the well known geographical disparities. In addition, this can allow international students to participate, allowing the dissemination of skills across a much wider geographical area at lower expense while helping emerging economies acquire improved healthcare.

**Canned Lectures Saving Class Time for Other Activities in the Kahn Academy Model.** The popular Kahn Academy model of training assumes the traditional model of teaching ought to be reversed. Lectures should be viewed at home online while questions can be raised, problems should be worked on, and discussions can occur in class. This way, the teacher is not observing students listening but rather is helping them solve problems, answering their questions, or correcting their discussion comments.

**Allow Students to Progress at Own Pace.** Instead of taking courses when they are offered, which may not be in the summer or a year later if a particular professor is on sabbatical, students can take and complete courses when they are ready. At minimum, more courses can be completed in the summers. In addition, if students have personal issues, they can proceed more slowly.

**Training In Interdisciplinary Skills.** It can be difficult to gain access to training that can best be taught by professionals in other disciplines. For example, integrated care students need to become medically literate and this can be best taught by a professional in medicine or nursing. Business skills can also be key as often the emphasis is on reducing cost or showing return on investment. An understanding of healthcare economics is also useful and obviously this is best taught by a healthcare economist. Again, web-based training in which professionals in these disciplines create canned course work can make training more efficient.

**Conclusions**

Currently, it is very difficult to conduct an accurate workforce analysis in clinical psychology. However, based on the information provided from multiple agencies, we were able to predict there are roughly 100,000 psychologists in the workforce. Given recent healthcare reforms—in particular, the ACA—there will be a large demand for behavioral health providers to work in medical settings. This new demand along with the slow rate at which clinical psychologists are produced will lead to serious service gaps in the new healthcare setting.

These innovations surrounding online training can perhaps create the efficiencies needed to train better and prepare more professionals to meet the workforce demands of healthcare reform. Too little attention has been spent on the how of training, thus there has been too little innovation in training methods. The healthcare crisis and attendant healthcare reform may create the urgency and shake the complacency so training reforms are attempted and evaluated.
References


Teaching Methods to Overcome Challenges in Online Graduate-Level Courses

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Abstract
Graduate students face challenges adapting to the demands of their programs and learning appropriate academic discourse. Faculty running online graduate education programs will have to use innovative teaching methods to overcome the drawbacks of distance learning while still reaching all the goals of their programs. This article seeks to review research on innovative teaching methods that may be applied to graduate-level distance learning.

Keywords: online doctoral education, innovative teaching methods, teaching tips

Postgraduate education is complex and distinct from undergraduate coursework in intensity and quality. Graduate students are expected to interact with primary source material in ways that undergraduates are not. Coursework frequently involves interpreting, critiquing, and integrating research findings with classmates along with a great deal of high-level writing. Graduate students also need to interact with professors and peers in ways that are different from undergraduate students. Education statistics indicate that 40% to 70% of matriculated graduate students do not complete their degrees (Nettles & Millett, 2006). Adjusting to the demands of graduate school is clearly a difficult process and may be even harder for graduate students from minority backgrounds because departments can be hostile to minority groups (Gardner, 2008), or because some seem to view personal characteristics and academic achievement as incompatible (Oyserman, Bybee, & Terry, 2003). Carr (2000) claims the attrition rates for distance learning courses are 10% to 20% higher than their in-person counterparts, so graduate students taking classes online will likely face greater challenges than other graduate students. Rockinson-Szapkiw’s (2012) review of the research reveals distance learners and graduate students have high rates of attrition for related reasons: dissatisfaction, lack of community and engagement, and miscommunication. Strategies to encourage persistence in graduate school and distance learning courses may therefore overlap.

In some ways, it is easy to understand why dropout rates are greater for distance learning. Developing a strong social support network of peers can be difficult without face-to-face
meetings and social support is crucial for persistence (Angelino, Williams, & Natvig, 2007). Also, there is a learning curve for knowing appropriate ways of discussing course texts, disagreeing with peers, and supporting opinions during class discussions. During in-person courses, faculty model and encourage appropriate discourse in real time or address issues the moment they arise. Online doctoral courses will need alternate ways of approaching the socialization of students into professional-level behavior and thinking while also increasing engagement and a sense of community among students (Rockinson-Szapkiw, 2012).

Online doctoral education will need to use innovative teaching methods in order to ensure all students are supported and prepared to meet their goals and complete their education. The purpose of this paper is to review and suggest innovative teaching methods that could be used in high-quality online graduate level coursework in many domains in order to overcome these challenges. This paper will review research on increasing connectedness among distance learning students, supporting diversity, structuring high-quality discussion board assignments, using group work and competition, and using social media for online learning. Some of the work included here was conducted at the undergraduate level, but as undergraduate instructors and graduate instructors share many of the same goals for their students (e.g., learn a new skill or information), the techniques in research using undergraduate students can pertain to graduate education. When applied appropriately, these techniques could increase satisfaction with online graduate-level courses by increasing the connectedness among students and faculty, and can lead to higher-quality academic discussions, learning, and persistence.

**Connectedness**

Connectedness among students not only decreases feelings of loneliness, but also makes students more willing to interact with each other on course topics (Slagter van Tryon, & Bishop, 2012). A simple introduction activity at the beginning of the semester allows students to get to know each other on a personal level. This increases interpersonality among students and leads to interaction on discussion boards instead of a series of individual responses to a prompt (Beuchot & Bullen, 2005). Any activity that allows course members to perceive each other as “real” people has the potential to increase each person’s social presence online, therefore increasing interpersonality and learning (Garrison, Anderson, & Archer, 2000). Beckett, Amaro-Jiménez, and Beckett (2010) found that forming personal relationships with one another helped graduate students learn to use appropriate academic discourse.

Promoting connectedness among distance learning graduate students can be accomplished by straightforward techniques. For example, the instructor could ask everyone to introduce themselves in a special discussion board during the first week of class and to share some likes and dislikes or their reasons for pursing a graduate degree (Ko & Rossen, 2010). This discussion board could be left up for the entire semester as a virtual "student lounge." Students could also be encouraged to post photos of themselves, but this should be entirely optional. While more labor-intensive for faculty, low-stakes competition
among groups of students (discussed below) may also promote connectedness among students (Fleck & Hussey, 2009).

**Supporting Diversity**

Gardner (2008) reports attrition rates in graduate school are especially high for women, students of color, students with families, part-time students, and older students. Gardner’s qualitative study revealed that issues of personal identity (e.g., race, age, sexuality, sex) are salient to students as they progress through doctoral education. In a qualitative study of 40 chemistry and history students, 30 students spontaneously brought up themes of personal identity (e.g., race, age, etc.) in connection with their graduate school experiences (Gardner, 2008). Socialization is important for helping students feel that they belong in graduate school and are fulfilling obligations appropriately, and thus may be crucial for persistence in one’s program. Socialization is the “process through which an individual learns to adopt the values, skills, attitudes, norms, and knowledge needed for membership in a given society, group, or organization” (Gardner, 2008, p. 126). However, if a field is predominantly oriented toward one social group, such as the way many sciences are male-dominated (Trower & Chait, 2002; National Science Foundation, 2013), the socialization process will also be oriented toward that group and may alienate others. The socialization process experienced by the students in Gardner’s study was quite challenging and accentuated their personal identities because they were not normative in their fields. Failures of socialization were linked to the students considering leaving the program. Therefore, effective graduate programs and courses need to be cognizant of the personal characteristics of their students and should support them through course characteristics.

Supporting minority students seems to be especially important when the department does not have minority groups represented in the faculty or easily visible, as in the case of online education. Intentional inclusion of diverse role models can help minority students by showing them it is possible to be both a chemist and African-American, for example. (For further discussion of the importance of socially relevant possible selves on academic performance, see Oyserman, Bybee, & Terry, 2006; Oyserman & Saltz, 1993). If individuals from minority groups are invited to be guest lecturers, the instructor may include photographs of the guests or link to the professionals’ websites.

Faculty and more experienced graduate students can also be intentionally instructive in their interactions with new and minority students to ease and elucidate the socialization process, but simply forming some level of personal relationship with one’s student colleagues also seems to be a benefit. In a 2-year longitudinal study, Beckett, Amaro-Jiménez, and Beckett (2010) traced the socialization process of an ethnically and culturally diverse group of teachers of English as a second language (TESL) graduate students. Analysis of discussion board conversations across several courses found that student experience in appropriate academic discourse was obtained from higher-level students and faculty through “engaging in joint OAD [online asynchronous discussion] activities, sharing resources, learning from each other, and building relationships through shared practice” (Beckett, et
In other words, ethnically and culturally diverse graduate students were socialized into academic life online by the formation of interpersonal relationships with classmates.

Course content should also reflect the diversity of the real world. Many textbooks primarily cover majority or privileged social groups with only small portions of the text devoted to diverse groups (Hussey, Fleck, & Warner, 2010). Even individual scientists included in the textbook are primarily members of those privileged social groups. This underprepares students to thrive in a global community (Fluck, Clouse, & Shooshtair, 2007) and may send the message that only privileged social groups can become professionals in these fields (Oyserman, Bybee & Terry, 2003). Hussey and colleagues (2010) investigated the impact of intentional inclusion of diversity topics through writing assignments, choices of textbook and additional readings, outside of class assignments, course content, in-class activities, guest speakers, and a capstone project. The control course section used traditional materials, which included only minimal coverage of diversity-related topics and materials. Results suggest infusing diversity content into the course had a positive influence in reducing a number of negative attitudes toward minority groups without a cost to core content knowledge.

However, not all minority graduate students experience great difficulties in socialization. As Gardner points out (2008), an individual student’s experience is heavily dependent on context. An environment supportive to minority or underrepresented groups can make a great difference in the socialization of students. In interviews, students in a science department chaired by a female faculty member did not mention any issues of sexism while students in a male-chaired science department frequently mentioned sexist attitudes and gender discrimination experienced in their department.

**Asynchronous Conferencing Tools**

Asynchronous conferencing tools (ACT) such as discussion boards are a large part of online instruction (Darabi & Jin, 2013). Asynchronous discussion presents some challenges (e.g., students may delay posting, which inhibits conversation), but also can be an excellent tool for online education. Online discussion boards can be used for a wide variety of course tasks and educational goals (e.g., relationship formation and socialization, discussions of readings, collaboration on writing, mentoring relationships with faculty, and small group formation for course projects or task discussions). However, asynchronous conferencing tools should be used thoughtfully and intentionally. Much of the research on ACT has focused on how to structure assignments in order to promote advanced level discussion and cognition. In addition, theory-based approaches have revealed some empirically supported techniques for implementing ACT in your course.

One goal of graduate-level courses is students will be able to analyze and evaluate academic work of others and create academic products of their own. These abilities require higher-level learning processes. Students can think in complex ways, but they do not always produce high-quality work. To complete an assignment, students must devote their cognitive resources to processing and interpreting the assignment requirements,
remembering relevant course material, and producing responses. If a person's working memory is taxed with too many items to process at once, that person will be unable to engage in complex thought processes. Cognitive load theory posits that there is limited space in working memory. Therefore, instructors can promote high levels of cognition in their students by structuring assignments in ways that reduce this cognitive load. Indeed, Darabi and Jin’s (2013) experimental manipulation found that both providing students with examples of appropriate student responses and limiting the number of visible posts per webpage to no more than nine increased the cognitive complexity of students’ discussion board postings.

To promote engagement in the course as well as deep processing of the material, instructors can assign students to lead online discussions in pairs. Murphy, Mahoney, Chen, Mendoza-Diaz, & Yang (2005) investigated the discussion board postings from a graduate course in which pairs of students were required to lead discussion on course readings during different weeks of the semester. The course paradigm was based on Vygotsky’s social constructivist theory, which states that learning is a collaborative process performed through interaction with others (Vygotsky, 1978). As such, each pair of students was given access to a private discussion forum to prepare for their week with private access to TAs and professors for mentoring and coaching. The process was successful as students were able to effectively facilitate discussion. According to the social constructivist model, students learned actively and became facilitators of one another’s learning through their interactions with their partner and through guidance from the TAs and professors of the course. This course design also has the benefit of reducing the load on online instructors through “creative management of their teaching responsibilities” (Murphy, et al., 2005, p. 343). A graduate seminar employing this method might involve discussions on reading assignments facilitated by the instructor during the first 3 or 4 weeks of class followed by student-lead discussions for the remainder of the term.

However, instructors need to structure assignments so that instructions and expectations are clear. Pawan and colleagues (2003) evaluated collaborative interaction in three online courses for teachers. These students were expected to discuss course readings with one another. The instructor expected true discussion on the course material, with students responding to and elaborating on each other’s ideas and questions. What they actually produced most often can be described as “serial monologues” (Pawan, et al., 2003, p. 122) in which each student tended to produce individual reflections on the reading or the instructor's posts, not on each other’s posts. Pawan and colleagues’ findings support other research that concludes students are reluctant to disagree or call another’s ideas wrong (Beuchot & Bullen, 2005; Orrill, 2002; Painter, Coffin, & Hewings, 2003). These results may stem from students’ uncertainty of the type of interaction expected in online discussions. Bolliger and Shepherd’s evaluation of a set of assignments that focused on graduate students’ ePortfolios at one university revealed the vast majority of students (90%) agreed that “expectations and procedures were clearly stated” (2010, p. 305), which may be linked to the overall positive view of online
assignments that students reported in this study. To aid in this process, instructors could create a separate section of the online course for students to ask questions about assignment requirements.

Another suggestion for ACT assignments is to post examples of excellent student work. Darabi and Jin’s (2013) manipulation of cognitive load in an online discussion task showed that discussion quality was higher when students were provided with examples of high-quality posts. Beckett, Amaro-Jiménez, and Beckett’s (2010) longitudinal investigation of online discussions also concluded that explicit grading instructions and good examples were important for students’ development of appropriate academic discourse. In an online graduate-level course, the instructor should consider posting examples of the target type of response along with a brief description of how it meets the goals of the assignment. For example, if the goal of the discussion is to evaluate a journal article, the instructor might post a high-quality example of an evaluation of a previous reading from the course while pointing out that the example is more than a simple summary and identifying which components of the example make it an evaluation.

The provision of frequent feedback throughout the entire semester can advance writing ability and the discussion level. Instructors can point out student posts that meet expectations or model the target level of discussion themselves. Appropriate instructor feedback can advance writing ability and discussion level. Guasch, Espasa, Alvarez, and Kirschner (2013) studied the effects of different types of feedback on collaborative writing. Epistemic feedback (i.e., requests for explanations from the student) from the instructor alone or coupled with suggestive feedback (i.e., comments that invite exploration or improvement) were shown to produce the best written outcomes. Pawan and colleagues (2003) evaluated online discussions in several online courses for teaching. The highest-level discussion among students occurred when the instructor responded to students’ posts while also referring back to the text under consideration and challenging students. This type of instructor feedback was responsive to students’ comments while also modeling the expected type of student products. Pawan and colleagues concluded that instructor “teaching presence” in the form of obvious discussion facilitation and feedback is crucial in facilitating learning.

**Group Work and Competition**

Small group work is one classroom strategy that can help students build personal relationships and increase engagement while also supporting learning. Fleck and Hussey (2009) developed an innovative, semester-long group competition for an introduction to psychology course called Project Psychology. The authors were motivated by literature suggesting that safe competition, peer learning, and small group work could be beneficial for motivation and learning (Hartman, 1998, Schomberg, 1986, Light, 2001; McKeachie, 1994). In addition, the teaching method was a way to connect with “student subculture,” which was marked by reality television, game shows, and competition at the time (Fleck & Hussey, 2009).

Project Psychology consisted of a series of small group challenges that were related to important course concepts. For each challenge,
every group presented its work, students voted for a group winner, and students eliminated a group that underperformed. However, every group completed all challenges regardless of their competitive status in order to gain additional exposure to the material as well as to compete for reentry into the competition. By the end of the semester, the students voted one group the winner of the competition, but all groups learned throughout the process (Fleck & Hussey, 2009).

Students reported that the unique challenges improved their understanding of the course material, helped them apply the course content to real life, and allowed them to be creative and social. Compared to other sections of the same course, Project Psychology also improved attendance (Fleck & Hussey, 2009). The authors recommended the focus of small group competitions should be on student learning, not the “game” being played. This will help to create a safe learning environment where everyone feels comfortable to participate and learn.

Project Psychology was developed for use in an introductory psychology course with undergraduate students. This particular project may be perceived as sophomoric to doctoral students, but it does raise the question of how competitive learning in the classroom might be applied to the doctoral level. After all, engagement, understanding, and persistence are necessary at the doctoral level as well as the undergraduate level. A similar game could easily be developed among graduate students with the wealth of resources and technology available in online platforms. Not only could this be used as a means for learning, but also as a way of increasing sense of connectedness, which is a challenge in online education (Bolliger & Shepherd, 2010; Reinhart, 2010; Rockinson-Szapkiq, 2012).

One approach that may achieve the same ends in graduate courses is problem-based learning (PBL), a student-centered approach to course design. Small groups of students choose a real-world topic or a problem to solve and work on it together for the duration of the term (Lou, 2004). This approach to learning is ideal for higher-level courses because it requires more than just knowledge acquisition. Students must know facts about the course, but they must also be able to apply that knowledge and be cognitively flexible in order to solve a problem. PBL is effective at producing high-level cognitive products from students. For example, small groups could compete against each other in trying to find the best solution to the same problem as contractors do when making a bid for government work.

Keep in mind that interaction among, not just within, small student groups is also beneficial. If your course uses small groups, there is always the chance that some groups will work together quite well whereas others will struggle and face conflicts. One course with small group work required students to view, analyze, and comment on not just other groups’ work products, but also their “behind the scenes” discussion boards mid-semester (Lou, 2004). This was a novel approach to small group learning, because it is typically only the end result that other groups are required or even allowed to view. In Lou’s study, students in one group were able to see the creative ways that another group handled issues among its members and established their roles, in addition to their solution for the course assignment. The course under study assigned a very complex task for each
small group to work on throughout the semester, so some level of conflict was present in all groups. Many students reported learning from other groups’ ideas and how other groups handled any conflict that arose. Lou, supported by both qualitative and quantitative data, concluded that between-group collaboration has great potential to improve student learning in complex problem solving (2004).

**Using Social Media**

Another way faculty can promote participation, engagement, motivation, and learning is to incorporate social media (George & Dellasega, 2011; Lave, 1988; Marsick & Watkins, 1990, 2002). Social media (SM) includes popular web-based and mobile applications such as Facebook, Twitter, blogs, YouTube, and Wikispaces. Most US students are accepting of SM use in higher education (Fleck, Richmond, & Hussey, 2012). Students reported SM could be effective for communication and to help them understand course material, and many expressed excitement at the possibility of using SM in the classroom. Similar findings have been reported in other survey data studies (see Chu & Meuleman, 2008; Hewitt & Forte, 2006; Mazer, & Simonds, 2007; Roblyer, McDaniel, Webb, Herman, & Witty, 2010). Experimental findings also reveal that the use of Twitter and Facebook to deliver course material significantly increased retention of the material when compared to classes only exposed to course content through traditional lectures (Blessing, Blessing, & Fleck, 2012).

Social media can also be used as a community-building tool as well as a learning tool. Online students often feel isolated. However, as previously discussed, community building among students can lead to greater learning and persistence in doctoral education. Socialization among graduate students online can lead to greater willingness to engage in in-depth discussions on course topics. Previous research on online graduate education has investigated the use of blogs, wikis, Twitter, Facebook, and ePortfolios as educational and socialization tools. In the following paragraphs, we describe various forms of SM and how they have been employed effectively in distance learning education.

**Blogs.** Powell, Jacob, and Chapman (2012) suggest that blogs can be tools for academic scholarship and outreach. Blogs can support the goals of higher education and complement and contribute to traditional publications. Students can document their research processes, write about and troubleshoot issues, find collaborators, and receive feedback through comments on postings—even from interested parties beyond their own institutions. If instructors use blogs and social media as part of their courses, this may result in greater involvement from students. Some studies report increases in language competence after frequent blog-writing assignments with appropriate instructor feedback (Lee, 2010), so blogs can also be tools for advancing academic discourse and collaboration. Blogs should be approached with academic rigor and appropriate citations, of course. For example, faculty could make regular blog writing assignments a component of their course design, requiring students to provide links to their sources (paralleling citations in scholarly works). Blog assignments could focus on summarizing others’ research, analyzing or critically evaluating other’s research, synthesizing several reports, reflecting
on the student’s research progress, or explaining a topic to a hypothetical non-academic audience, depending on the instructor’s goals.

**Wikis.** A wiki is “a simple Internet application that allows social networking and direct interaction by multiple users” (Beames, Klenowski, & Lloyd, 2010, p. 50). Wikis can have limited access with only a select group of users, which would be beneficial in an education setting. One difference between wikis and other Internet learning tools is that students make posts plus work together to edit them. For example, students could work together to write a monograph or book relevant to the course topic. Using the wiki’s functionality, students could edit each other’s work to make a final product that meets their field’s standards. When students engage with each other through wiki creation and refinement, it could allow the creation of a community of practice while also advancing domain-specific writing skills.

**ePortfolios.** Portfolios of student work and academic development are not a new concept, but thanks to the ease of website development today, ePortfolios are becoming more popular. Some universities are now requiring portfolios to be created and maintained online. Google Sites is one free and easily customizable option for this process. Bolliger and Shepherd evaluated the ePortfolio experience of students in two graduate instructional technology courses (2010). The university at which Bolliger and Shepherd conducted their study not only used ePortfolios as a tool for student reflection, but also so students could collaborate and review each other’s work. The researchers found that ePortfolios helped some students achieve beneficial communication with peers and instructors, and increased program connectedness and a sense of community. Most students in this study agreed that ePortfolios were of benefit to their learning and motivation in their graduate coursework. In this study, the ePortfolio was a semester-long assignment that included “several Web pages: an introduction, résumé or curriculum vitae, learning philosophy, program timeline, summary of goals and achievements, and evidence of goal attainment” (Bolliger & Shepherd, 2010, p. 299). Students were required to give feedback to their peers at mid-semester and students also received feedback from their professors. The specific components of the ePortfolio can, of course, be tailored per institution and department.

When using SM, instructors are advised to keep their personal and professional lives separate online. Appropriate self-disclosure has been the topic of much research and is especially important when utilizing online technologies such as Facebook or Twitter in educational contexts. However, personal profiles should remain personal. Best practice dictates that a separate professional profile be created through which the professor can appropriately disclose information regarding the self (Fleck et al., 2012). Such disclosure, when done properly, can increase motivation and affect student learning (Mazer, Murphy & Simons, 2007). In fact, privacy issues are a concern for students as well as faculty (Fleck et al., 2012). Based on these concerns, instructors should employ SM in the classroom with the utmost care. Best practices include the creation of a professional account on all SM platforms to interact with students. If this is undesirable, instructors can set privacy settings to limit the
information that students can see while visiting the instructor profile. Instructors should also refrain from visiting, browsing, and spending time on student profiles. In fact, all SM interactions between students and professors can occur through closed groups. On Facebook, a closed group can be used where members do not have to “friend” all individuals to participate. In Twitter, a special indicator called a hashtag can be used so the whole class can locate particular tweets. Finally, private messages with students should be avoided. All messaging can be done on the public forum or, if needed, via the official school email or learning platform.

**Conclusion**

Although some of the research reviewed was conducted with undergraduate students, applicability clearly exists for online doctoral education. Thoughtful, innovative, and creative pedagogy can help produce quality courses. Some suggestions include creating safe classroom competitions, infusing diverse perspectives, utilizing social media, and being mindful of how asynchronous conferencing tools are used. While utilizing these methods, instructors are urged to do so with care to socialize students with one another, the instructor, and appropriate academic discourse. In addition, instructors should be mindful of the type of feedback provided, clarity of instructions, and consider allowing students some autonomy over their work. In these ways, some of the challenges of online doctoral education course creation and implication can be overcome.
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From Candidate to Colleague: Mentoring Online Doctoral Students

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Abstract
Faculty who work with candidates in online doctoral programs entail many of the same challenges and opportunities as those serving candidates in programs that are offered in traditional, face-to-face modalities. The main difference is that in working with online doctoral candidates, there is no common physical space for candidates to interact with faculty and peers, which can present additional challenges for candidates and their committees. This editorial article focuses on the dissertation phase of online doctoral candidates’ studies and the ways in which chairs and committee members can understand, frame, and most effectively guide their candidates through that phase by understanding theories and models relevant to working with adults who are destined to become not just graduates, but professional peers.

Keywords: andragogy, cognitive apprenticeship, communities of practice, dissertations, mentorship, motivation theories, online doctoral education

Introduction
Anyone with a doctoral degree knows that the post-coursework process is a lonely one. Hours are spent developing ideas, crafting and enacting a research plan, then writing up the outcomes. While the work is the online doctoral candidate’s to do, the chair and committee play a large role in helping to make manifest that work. Serving candidates in online doctoral programs entails many of the same opportunities and challenges as serving candidates in programs that are offered in a traditional, face-to-face modality. However, in contrast with their brick-and-mortar peers, the online doctoral student has no common physical space in which to occupy and interact with faculty and others who are in the same stage of their dissertation. Online doctoral candidates who are past coursework essentially are tethered to their universities primarily by way of the relationships with their chairs, committees, and peers.

In many ways, the committee chair becomes the face of the learning context for the doctoral candidate. This editorial article focuses on the dissertation phase of online doctoral candidates’ studies and the ways in which chairs and committee members can understand, frame, and most effectively guide their candidates through that phase by understanding theories and models relevant to working with adults who are destined to become not just graduates, but professional peers.
Considerations for Working with Online Doctoral Candidates

During coursework, online students have each other: they are by default a cohort of learners moving through a learning experience together. They go to class by visiting an online courseroom where they interact with each other, the content, and the faculty member. They are connected by default to a community of learners and the university while taking courses. If the institution provides an online courseroom for doctoral students and chairs to work in, the faculty interaction in that courseroom typically is focused on the administrative elements of the program and on documenting progress toward graduation. Interacting with peers in these administrative tracking courserooms is encouraged, but it is rarely mandatory. Because it is a courseroom, candidates may not use this space to foster more personal relationships. And, given the depth of focus that doctoral students need and the degree of immersion in their chosen research topics along with the differences in their stages of completion, online doctoral candidates simply may not consider each other as integral parts of their individual processes.

Faculty are often asked, or expected, to help candidates overcome the obstacles that come with the dissertation phase and to help them build the peer network they need for success. Theory and practice can inform the faculty’s process as they guide their candidates through the dissertation process. Facets of working with adults online in dissertation programs that faculty should be aware of include theories of andragogy, motivation, cognitive apprenticeship, and communities of practice. Further, the ideas and best practices around both informal learning and mentoring can play key roles in understanding the relationship and meeting the needs of online doctoral candidates. A brief overview of these six facets is followed by a discussion that explores how they can be applied to committee service.

Andragogy

Andragogy, simply put, is the theory of how adults learn. It is distinguished from pedagogy primarily because of its focus on fully developed learners versus ones who are not only expanding their knowledge base but also undergoing physical and cognitive developmental changes. Knowles’ (1990) andragogical model is based on six assumptions:

1. **The need to know**: adults need to understand why they need to absorb what is being taught;
2. **The learners’ self-concept**: adults need to be in control and be self-directed;
3. **The role of the learners’ experiences**: adults need to position current learning within their past learning experiences and current knowledge base;
4. **Readiness to learn**: adults not only need to know why they should learn something, but what they are learning should align with their current situations;
5. **Orientation to learning**: adults need to connect what they are learning to tangible reality; and
6. **Motivation**: adults are more intrinsically motivated than they are extrinsically motivated.

Since adult learners are engaged participants in their learning processes, doctoral chairs and
committee members need to understand how these differences impact their mentoring of adults.

Just because adult learners are more engaged in terms of ownership over their learning, this may not translate to self-efficacy. Self-efficacy is defined by Bandura (1982) as the belief in one’s own abilities to accomplish a task. Adult learners are often experts in their professional and personal lives. This degree of expertise juxtaposed with the inevitable feelings of insecurity that embarking on a journey into unfamiliar territory like writing a dissertation can elicit often results in feelings of low self-efficacy. That is, while doctoral students might be intrinsically motivated in terms of their orientation to their learning, they can still need their confidence bolstered. Bandura (1997) further highlights the following four areas on which one’s self-efficacy depends: mastery experiences, vicarious experiences, verbal persuasion, and psychological state. The doctoral chair and committee are not in full control of any of these areas – particularly the last one – but they can still have some influence on students’ self-efficacy.

For example, chairs can help their online doctoral candidates realize that the mastery they experienced in the coursework part of their program may not translate into mastery in the dissertation phase. The shift from coursework to dissertation work is not easy, and online learners can stumble as they sort out the new way to function as doctoral candidates, learning about both their topics and the dissertation process simultaneously while producing the actual dissertation. Vicarious experiences can be particularly useful in the dissertation phase; these experiences can be with their current peers, others who are working on the same or similar degrees in the same online setting, or with a chair’s past graduates by way of reading completed dissertations. Through awareness of those who have succeeded under a chair’s guidance, current online doctoral candidates can be helped to envision their own success. Verbal persuasion seems obvious – be encouraging. But, it is not just limited to statements of encouragement. Bandura (1997) cautions that negative input can have a greater impact on lowering self-efficacy than positive input can on increasing it. Chairs must be careful to maintain a positive affect so that they are not eroding their candidates’ self-efficacy while still providing useful feedback that helps move their candidates toward completion.

Acknowledging that adults learn differently is key to working with doctoral candidates, but this awareness must also extend to an understanding that ownership and engagement does not place the onus solely on the candidate to self-propel through the processes involved in crafting a dissertation. Bain, Fedynich, and Knight (2011) found in their study of graduate students that graduate students believe increased self-esteem related to success in their graduate studies is one of the most important factors in their overall academic success. One’s sense of self-efficacy can only emerge from within, but the chair and committee can create a learning environment that promotes it. The chair and committee must work within the androgogical model to support and help grow their candidates’ sense of self-efficacy while simultaneously guiding them through the stages of dissertation development.
Motivation

Theories and models of motivation are wide-ranging and exist to provide lenses through which we can understand and influence human behavior. Most people are at least superficially acquainted with Maslow’s (1943, 1970) hierarchy of needs, which began with five layers but now has eight. This model is grounded in needs-based motivation theory; that is, people are motivated to fulfill successive layers of personal needs. For Maslow, these needs are related to each other, as depicted by a triangle with the basic and broadest needs at the bottom and the more lofty needs at the top. The eight stages of his model are biological and psychological needs, safety needs, social needs, esteem needs, cognitive needs, aesthetic needs, self-actualization needs, and finally transcendence needs (Maslow, 1970). Of note here is that according to Maslow, one cannot progress to a higher-order need if one’s lower-order needs are not met; thus, the online doctoral candidate who has social or esteem needs that are not being met will not be able to progress into the cognitive, aesthetic, self-actualization, or transcendence stages.

Hanley and Abell (2002) offer a revision of Maslow’s models, one that eschews the triangle and instead focuses on concentric circles of interpersonal and environmental connectivity: “Where Maslow focused on the benefits of creative expression to the individual, our model views the full potential of artistic expression as a manifestation of the relationships between individuals” (p. 55). While a dissertation is not commonly thought of as a creative expression, it is in many ways just that. Harkening back to Aristotle and Cicero, invention is an act of creativity where the writer – or orator in ancient times – starts with nothing but an intention and develops the most persuasive argument based on the circumstances surrounding the rhetorical situation. Similarly, the dissertation student must identify and articulate a problem statement then engage in scholarly argumentation that is thesis-driven and fact-based by way of their literature review, research study, analysis, and discussion.

Practically speaking, a chair needs to be able to help foster motivation. Keller’s (1987) ARCS model offers one way to design motivation into instruction. The acronym stands for attention (get the learner’s attention), relevance (communicate the relevance of the material to the learner and her goals), confidence (build the learner’s confidence as they develop mastery), and satisfaction (create opportunities for the learner to mark successes); the model has been successful in online environments as well as traditional ones (Keller 1987, 1998; Keller & Suzuki, 2003). In essence, the model offers instructional designers a way to best incorporate motivation into any course or lesson regardless of content. In the case of chairs and committee members working with their online candidates, the four arms of the ARCS model offers a clear framework to help guide interactions. Feedback, for example, is one of the primary places where direct instruction is enacted by the chair and committee. Crafting that feedback with an understanding of the ARCS model could make the feedback more readily internalized then applied by the candidate.

Moving from the level of feedback to a longer view of motivation, chairs and committees should also consider Miller and Brickman’s (2004) model of future-oriented motivation and self-regulation,
which links proximal goals to distal ones. That is, they propose that far-off goals are the incentive for the establishment, management, and enactment of sub-goals that make up the steps along the way to obtaining that far-off goal. Their model is based in social cognitive theory and considers the role that influencing social constructs – like one’s family and one’s values, for example – play in goal setting and attainment. Further, they point out that just having a far-off goal does not mean that the sub-goals are readily apparent. Thus, an online doctoral candidate might be highly motivated to obtain a doctorate degree – a distal goal – but might not effectively identify and manage the sub-goals needed to get there. While the university often scaffolds that process, relating what seems like administrative or bureaucratic requirements to the process of conceiving of and developing a dissertation can be challenging for candidates. Chairs and committees can help with both processes – ticking off the steps and relating those steps to a candidate’s personal journey toward graduation.

Cognitive Apprenticeship

Cognitive apprenticeship is an appropriate way to frame the chair-candidate relationship as chairs are guiding their future colleagues to full rank, just as the master blacksmith guides her apprentice through journeyman and finally to becoming a master in her own right. Cognitive apprenticeship is defined by Collins, Brown, and Newman (1989) as “learning through guided experience on cognitive and metacognitive, rather than physical, skills and processes” (p. 456). It takes the traditional, trade-based apprenticeship model into the cognitive realm where learners are observing, practicing, and reflecting while the expert, or teacher, enacts the following strategies, inviting the learner to participate where appropriate:

1. **Modeling**: externalizing thinking and thought processes
2. **Coaching**: supporting the learner’s cognitive activities
3. **Reflection**: assessing one’s own actions and refining them
4. **Articulation**: sharing that refinement with the learner
5. **Exploration**: problem solving

Chairs and committees with an understanding of a cognitive apprenticeship model can approach their dissertation service work differently to the way they approach working in the classroom; although, a cognitive apprenticeship model could benefit them and their learners there as well.

In a review of empirical research around cognitive apprenticeship and computer-mediated instruction, Dennen and Burner (2009) discovered (1) that the cognitive apprenticeship model is an accurate description of how learning occurs naturally as part of everyday life and social interactions and (2) that the instructional strategies that have been extracted from these observations of everyday life can be designed into more formal learning contexts with positive effect (p. 50).

This cognitive apprenticeship approach requires conceiving of candidates as peers on a continuum. Invoking Vygotsky’s (1978) theory of the Zone of Proximal Development (ZPD), the candidate is the peer stretching to embrace a new skill as it is demonstrated by a more experienced peer: the faculty member. Framing the faculty-candidate relationship in this way helps create
space for the human relationship that is at the core of the cognitive apprenticeship model.

In the computer-mediated environment in which online candidates and their chairs are working, fostering an apprenticeship model can be difficult. But this relationship is critical because the information being imparted relies on more than direct instruction; the relationship between the expert and novice is as important as the information. Ways to build this relationship traditionally are to bring doctoral candidates into teaching, research, and publishing activities. These opportunities – particularly the first two – may not exist for, nor be desirable to, online doctoral candidates. Add to this that in many online programs, chairs are assigned to committees versus being sought after by candidates, so building the core relationship needed for a cognitive apprenticeship model seems like an insurmountable goal.

Co-publishing does offer one avenue for chairs to build an apprenticeship relationship with candidates. Chairs could consider identifying the development of a publication as an optional tertiary distal goal at the onset of the committee service then they could establish a working relationship with both goals in mind. This expanded working dynamic could provide a context for the faculty member to function as the more experienced peer more explicitly. The candidates have to see themselves as the less experienced peers if they ever are to see themselves as colleagues, not as pupils.

Communities of Practice

Learning communities and communities of practice – these are both fairly commonly used terms to refer to efforts at organizations to foster an environment of peer-to-peer learning for the betterment of the organization and the individuals. Communities of practice are groups of people who are engaged with each other using specialized language while in pursuit of similar activities (Wenger, 1998; Wenger et al., 2002). Wenger (1998) identifies three key elements and five roles that give shape to a community of practice. Members share a (1) mutual engagement, are involved in a (2) joint enterprise, and rely on a (3) shared repertoire, and membership can take the form of one of the following roles – often characterized as trajectories to reflect the fluidity inherent in a community of practice

1. **Peripheral** – not a full-fledged member but someone who takes part in community activities;
2. **Inbound** – someone who is becoming a member of the community;
3. **Insider** – a full-fledged member of the community;
4. **Boundary** – a specialist who is peripheral but is also given the accord of a full member; and
5. **Outbound** – someone who is leaving the community (Wenger, 1998).

Membership involves enacting different roles over time, and a person can be a member of overlapping communities, occupying a different role in each. Holley and Caldwell (2012) highlight the benefits of an interdisciplinary approach to peer-to-peer networking along with the programmatic and chair-centered ones.

Attempts by organizations to manufacture these communities are relatively new, but these types of social groups are common to human experience. Upon closer inspection, the invisible
boundaries of a community of practice and the virtual ties that bind online doctoral candidates, their committees, and their institutions together are not so different. The online doctoral candidate’s trajectory through the dissertation phase in many ways mimics the sequence of entrance, inhabitation, and departure any member of any community of practice experiences. For the candidate, the community’s boundaries are defined by her university and program, her chair and committee, and her peers.

Findings from their own study reinforce what Bain, Fedynich, and Knight (2011) found in the literature: a feeling of connectedness is important for graduate students and should be addressed by the institution as well as by the student. They define features of connectedness as relationships with peers, faculty, departmental environment, and the administrative aspects of the graduate program. As with most of the models and concepts discussed in this editorial, faculty can only influence, not control, a candidate’s feelings of connectedness. Fostering a community of practice amongst the candidates whom a faculty member serves is one way she can attempt to make manifest that feeling of connectedness.

Informal Learning

Informal learning is a topic often reserved for discussions about the workplace, but chairs and committee members serving online doctoral candidates may benefit from a deeper understanding of informal learning. Placing learning on a continuum from informal to formal, Eraut (2004) characterizes informal learning as “implicit, unintended, opportunistic and unstructured learning and the absence of a teacher”; he places mentoring somewhere in the middle and locates coaching at the formal end (p. 250).

In a discussion of the role social networking technologies have in workplace informal learning and professional development, Burner (2012) notes that institutional support for informal learning could be on the rise given the ease with which social networking technologies can be incorporated. In their study exploring a cross-disciplinary, formal mentoring program that involved faculty, peer mentors, and doctoral students in a face-to-face environment, Holley and Caldwell (2012) noted that an unanticipated benefit that participants pointed out was the transfer of information from program participants to non-participants from the participants’ home departments. This scenario exemplifies the kinds of informal learning that can happen in graduate programs. Much like communities of practice, informal learning can be promoted by institutions. For example, an undergraduate environmental experiences. More like an effective study group than a purely social one, an intentionally created community of practice could function to provide motivational support and opportunities to bolster candidates’ self-efficacy.
An education program successfully coupled formal and informal educational opportunities in an attempt to reinforce the curriculum in and out of the classroom (Hopkinson, Hughes, & Layer, 2008).

For the chair and committee working with the online doctoral candidate, informal learning can help make manifest features of the androgogical and cognitive apprenticeship models, particularly if the chair or institution provides technologies that can support a community of practice approach to interpersonal interactions between the candidates themselves. Frequently, online candidates only interact in formal ways with their chairs and committees, which not only reinforces the hierarchical structure of the instructor-student dyad, it offers little room for informal learning between faculty and candidates and no room for peer-to-peer learning.

**Mentoring**

What is a mentor? Depending on the setting, formal or informal, a mentor is either a chosen or an assigned individual with more experience who is tasked with elevating a less-experienced individual in a specific arena, typically one that is work or professionally related. The word “mentor” is used a lot in academia when referring to a candidate’s chair. Often, the two words are used interchangeably. Chairs do act as mentors, but not in the same way as in the informal mentoring relationships found in the workplace. Clearly committee chairs are performing a job function, so their actions are not purely altruistic like an unpaid, volunteer professional mentor’s might be.

In their discussion of building mentoring relationships between surgeons, Sanfey, Hollands, and Gantt (2013) point out that a workplace mentor should be ahead of the mentee by at least two years, should have a wide social network, should be altruistic, and that the mentee should have a clear goal for enlisting the mentor’s help. The success of this typically long-term relationship relies on both parties being fully vested. In their study of non-academic e-mentoring, de Janasz and Godshalk (2013) found that the frequency of interaction was significantly related to greater career development and psychosocial support; that is, the more often and regular the interaction, the bigger the benefit to the mentee. While these authors were not specifically addressing the academic chair-candidate relationship, their results can inform that relationship, particularly when that relationship is framed by the cognitive apprenticeship model.

Directly addressing the chair-candidate relationship, Fedynich and Bain (2011) suggest five essential dynamics for quality mentoring in an academic setting:

1. Faculty must exhibit genuineness.
2. Faculty must be knowledgeable about the program.
3. Faculty must create a climate of trust.
4. Faculty must create a climate of connectedness.
5. Faculty must be willing to exhibit, demonstrate, and model personal and professional ethics (p. 4).

In an online environment, these dynamics pose challenges that differ from the face-to-face one. Encouragingly, de Janasz and Godshalk (2013) suggest that the corpus of anecdotal and empirical evidence shows parity between e-mentoring and traditional face-to-face mentoring. This means
that computer-mediated (e-mentoring) relationships can have the same impact that face-to-face ones have. The key is figuring out the best modality for the candidate and committee.

**Guiding Online Doctoral Candidates**

Applying the ideas of andragogy, motivation, cognitive apprenticeship, communities of practice, informal learning, and mentoring to dissertation service can help faculty members in their committee service. How to make that happen? What follows are some suggestions drawn from the literature and based on anecdotal experiences.

The first two acts a faculty member should undertake are not dependent on any one type of learning environment. Faculty should start by conceiving of candidates not as students in the traditional sense, where information is transferred from the expert to the novice. Instead, candidates could be thought of as postulants: people who are just on the outside and about to join an organization or group. By reframing how they see candidates, faculty can orient themselves to the idea of being on a continuum with candidates. Developing a cognitive apprenticeship dynamic depends on the notion that the primary difference between two people is experience and knowledge, a gap that can be closed with careful guidance.

The next act faculty should undertake in pursuit of applying this nexus of theoretical and practical information is also conceptual: seeing oneself as being a more-experienced peer in a dynamic relationship with another human being. This requires harkening back to one of the three ancient inscriptions at the temple at Delphi: know thyself. The faculty member’s personality, personal communication, and leadership style play a big role in how their relationships with others are enacted. Faculty who have a keen understanding of their own styles can apply that understanding to developing these relationships.

This reconceived faculty-candidate relationship relies on both parties trusting each other enough to give and receive information. In an online environment, establishing this level of mutual trust can be challenging. Social media and synchronous technologies can be used to lessen these challenges, but using them has to be approached carefully. Institutional and federal privacy policies need to be in the forefront of any endeavor that involves candidates. In general, as long as faculty do not breach the privacy line by discussing grades or graded work in a public setting, using social media or Web 2.0 technologies is acceptable practice.

A practical step that faculty can take is to use a blog or Facebook group to create a space to interact with candidates and for candidates to interact with each other asynchronously. Web conferencing tools that include video conferencing are available for free or low cost on the internet and are fast becoming standard features of learning management systems, such as Blackboard’s Collaborate feature. Being able to see each other can help bridge the distance and can build the kind of trust one experiences in face-to-face interactions. Faculty can use these tools to host research group meetings amongst their candidates, and candidates can use them independent of faculty to interact with each other. Web 2.0 technologies do not hold all of the solutions for the problems around building relationships at a distance, but they offer up a lot
more possibilities than technologically based communication has in the past.

**Conclusion**

Developing the mindset and creating the space for a more collaborative, collective approach to the dissertation experience is a good beginning. Faculty can attempt to create a strong mentoring relationship with the candidates they are serving by applying these ideas to their practice. As they develop these novices, faculty guide them toward graduation, the point at which they will become members of the academy or, if not going the academic route, members of the rank of people holding doctorate degrees. In the US, according to the 2013 census data, that number is 1.7% of the total population, a small section of the larger population.

Although she was focusing on course design, online doctoral faculty and program directors would benefit from heeding Winterwood’s (2010) recommendation that online courses leverage the computer-mediated informal learning practices that online students already employ. With the growing popularity of social media and synchronous communication technologies both in and out of the online courseroom, interactions between faculty and candidates working at a distance can mimic the best of a face-to-face environment and capitalize on the inherent strengths of distance learning.

What is needed most, however, is research into the practices of online faculty as they serve on committees. Work like that done by Holley and Caldwell (2012) can inform the development of mentoring programs, and drawing from traditional face-to-face models is a wise beginning. But as online learning environments differ in key ways – both for faculty and candidates – online doctoral programs should formally investigate what works and what does not, with the goal of developing a data-driven and systematic approach to fostering the best committee-candidate experience possible.

However they choose to do it, chairs are mentoring their future colleagues, ones with whom many continue to have relationships. These relationships often involve ongoing professional or career mentoring once the dissertation process is completed. That relationship can fade over time as it becomes more informal and less beneficial, but some chairs remain lifelong mentors and are part of a newly minted academics’ approach to career and professional development – and this typically happens at a distance. It is worthwhile to remember that how candidates are mentored informs how they will in turn mentor their own protégées. The relationship is at the heart of the process.
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