Designing Instruction For Speed: Qualitative Insights Into Instructional Design For Accelerated Online Graduate Coursework

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Abstract

The purpose of this exploratory case study was to explore instructional design strategies and characteristics of online, asynchronous accelerated courses and students' choices of deep or surface learning approaches within this environment. An increasing number of university programs, particularly at the graduate level, are moving to an accelerated, time-compressed model for online degree offerings. Through qualitative exploration of triangulated data from the Revised Two-Factor Study Process Questionnaire (Biggs, Kember, & Leung, 2001), student interviews, and course design analysis of an online, accelerated master's program in educational administration, it was found that these adult learners overall approached learning quite deeply despite being pressed for time due to personal and professional responsibilities. As an implication for program and instructional designers, course activities that were engaging, hands-on, practical, and collaborative were found to encourage students to adopt deeper approaches more often. Additionally, courses that were consistent and clear in organization and structure, encouraged opportunities for peers to interact and work together, and limited the use of tests and inauthentic assessment strategies were found to foster deeper approaches which in turn led to reports of deeper learning among student participants.

Introduction

An increasing number of university programs, particularly at the graduate level, are moving to an accelerated distance education model, where time is compressed to help adult learners achieve necessary skills and credentials more conveniently (Rafferty & Lindell, 2011; Wlodkowski & Ginsberg, 2010). Particularly in fields such as nursing and education, the accelerated model of course delivery has become quite popular in recent years. Since the goal of many such programs is to develop higher levels of learner expertise that can be put into practice immediately, it is important to ensure that deep learning of skills and knowledge is evoked, even when time is at a premium (Biggs, 1987; Biggs & Tang, 2007; Clotfelter, Ladd, & Vigdor, 2007; Rafferty & Lindell, 2011; Wier, Stone & Hunton, 2005). However, the movement toward accelerated coursework allows learners the freedom to work more quickly toward desired goals, transcending time and place (Pastore, 2010; Seamon, 2004). Regardless of the instructional design of such coursework, deep learning of program objectives and the approaches learners take to get there may be difficult to assess, particularly when time is at a premium.

Gaps in Understanding Accelerated Online Coursework and Learners

Bransford, Brown, and Cocking (2000) provided a thorough look at how people learn by analyzing and interpreting the most recently available research on the human brain, and theirs is a work that is still frequently referenced as an authoritative meta-analysis. Experts, defined as those with an advanced understanding of a particular topic, link new knowledge to prior knowledge rapidly, developing more advanced and complex understandings. In today's highly technological and information-rich society, being able to understand and create meaning is a hallmark of successful learning, particularly within higher education (McCune & Entwistle, 2011; Wier et al., 2005). At the graduate level, learners are considered to be approaching expert-level understanding of the key concepts and skills within their field, having undergone intensive study and had ample opportunity to apply and synthesize their knowledge (Clotfelter et al., 2007; Wier et al, 2005). Graduate learners also tend to be able to avoid and navigate bias about their topics of expertise better than non-experts, and tend to exhibit greater levels of intellectual curiosity about these subjects as well (Biggs & Tang, 2007).

However, defining and acquiring high levels of professional skill or the ability to problem-solve effectively is not a simple proposition, involving a wide range of concerns for learners and teachers in the design of lessons, courses, and programs. There exists much lingering uncertainty regarding whether students learn more deeply in online environments or traditional, face-to-face classrooms, and what pace or program length is most desirable (Baeten, Kyndt, Struyven, & Dochy, 2010; Clark, 1985; Bernard et al., 2004; Seamon, 2004; Wlodkowski & Ginsberg, 2010). For instance, Clark (1985) noted that many studies directly comparing the two types of instructional delivery are poorly constructed and tend not to be able to control for the many confounding variables that can arise in researching such a complicated subject. When courses are accelerated, compressing the time required to complete them by 25% or more, suspicions as to the quality of deep learning increase even further (Pastore, 2010; Seamon, 2004). Hence, studies comparing distance to traditional education, within all types of time structures, continue to arise in the literature in attempts to provide solid evidence that one is more effective than the other.

Bernard et al. (2004) presented an extensive meta-analysis of studies performed since 1985 comparing the effectiveness of distance education (DE) versus traditional classroom methods. One of the most important conclusions drawn was that the majority of studies comparing DE to traditional learning tended to do so at relatively low levels, evoking the factual and conceptual levels of Bloom's Taxonomy (Anderson & Krathwohl, 2001; Krathwohl, 2002). Examining higher order thinking skills in such a way may prove to be highly challenging in terms of controlling for confounding variables, although Bernard et al.'s (2004) findings suggested that strategies designed to evoke higher-order thinking, like problem-based learning, provide greater opportunities for deep learning approaches to emerge in DE environments.

Studies of student experiences of learning in time-compressed coursework, including courses that can be completed in 25% or less time when compared with conventional offerings, have produced similar mixed results as studies in online learning effectiveness (Cangelosi & Whitt, 2005; Johnson, 2009; Rafferty & Lindell, 2011; Seamon, 2004). Despite growing popularity due to the convenience that accelerated programs may offer, particularly online, research has shown little conclusive evidence regarding how deeply students learn in such venues. For instance, Seamon (2004) demonstrated in a longitudinal study of student learning and retention that students in accelerated courses may have trouble recalling information after time has passed when compared to colleagues who have taken traditional-length courses. More recently, some studies in nursing education have found no significant difference between performance of students in traditional and accelerated courses (Penprase, 2012; Rafferty & Lindell, 2011). Rafferty and Lindell (2011) found that nursing students in accelerated programs that employ hands-on clinical experiences might even have a slight edge in some respects, although their performance may be lacking when compared to students from semester-length programs in other categories.

In light of these findings, and similar findings from others such as Bekele and Menchaca (2008), Johnson (2009), Shachar and Neumann (2010), and Wlodkowski and Ginsberg (2010), it may be reasonable to assume that course designs for accelerated learners should include more learner-centered activities and opportunities for learners to share what they know, which would appear prudent given the tendency of accelerated learners to be much more savvy regarding the foundational aspects of course concepts, and much more apt to benefit from practical, real-world applications (Driessnack, Mobily, Stineman, Montgomery, Clow, & Eisbach, 2011). A learner-centered design model for accelerated courses is also in alignment with Merrill's first principles of instruction (2002; 2012), as well as with many other research-based instructional design models that stress immersion in real-world, task-centered problem solving and questioning methods (Jonassen, 1997; Kirschner & van Merriënboer, 2008; van Merriënboer, Clark, & de Croock, 2002). When learners engage in authentic learning situations, they have the opportunity to synthesize all of the skills and concepts that they have learned thus far, allowing them to develop practice that in turn leads to the development of more extensive and complex schemata and expertise regarding the topic of study. In other words, deep learning as defined by Biggs and Tang (2007) and Bransford et al. (2000) is more likely to occur in authentic, learner-centered environments.

Method

Following previous studies that have explored dimensions of the interaction between delivery mode, timeframe, and learning (Kirtman, 2009; Rafferty & Lindell, 2011; Seamon, 2004), the current study presumed that it is valuable to the body of knowledge in instructional design for distance education to study the types of learning approaches adopted by students participating in online accelerated programs, in order to reach the levels of expertise expected of them. Biggs and Tang (2007) noted that as learners reach higher levels of understanding, they tend to adopt more advanced approaches to learning, allowing them to make clearer relationships between ideas and draw abstractions in order to further their understanding and application of ideas. However, the development of such expertise can take time as cognitive schemata develop and mature with regard to the subject and its related parts (Biggs & Collis, 1982; Bransford et al., 2000). This study thus sought to explore whether graduate students in accelerated coursework typically adopt deep or surface learning motivations and strategies, and what roles time and design of course structures may play in this process.

This exploratory case study therefore was guided by two primary questions involving the relationship between deep, expert-level learning as defined by Biggs and Collis (1982), Bransford et al. (2000), and Krathwohl (2002), and the design of asynchronous online courses offered for graduate study at an accelerated or compressed pace:

1. How do learners approach learning in accelerated, asynchronous online graduate courses?
2. Which instructional design characteristics and strategies used in accelerated asynchronous online courses play a role in helping learners reach deeper levels of learning?

The study was conducted as an embedded, single-case qualitative design (Yin, 2008) within an accelerated master's program in educational administration at a medium-sized, public university located in the Midwestern United States. In the program, each of the ten courses was five weeks in duration, and students took courses in succession with a one-week break in between, allowing them to complete the program in as little as fifteen months. This program has been in operation for over one year and served 136 students at time of the study, who were grouped within sixteen cohorts. Students were exclusively practicing teachers in K-12 schools, seeking an administration license in order to move into the principalship or another leadership role within the school. They varied greatly in age but most were over the age of 30, and most had had at least five years of teaching experience. However, while the university was located in the Midwest, students could and did participate from any location around the country, from Florida to Alaska.

Multiple participants and evidence from three sources of data were gathered and triangulated in order to understand themes and connections, and provide recommendations, across various types of data including questionnaires, interviews, and course materials analysis (Merriam, 1998; Yin, 2008). Such an interpretive case study design was deemed appropriate for this study, as the research questions attempted to explore the nature of learning approach from the student's perspective and the influence course instructional design characteristics may have, as well as develop theory as to how and to what degree deep learning approaches are adopted within accelerated online courses. This bound the experiences within a particular context (Merriam, 1998; Yin, 2008), but since different individuals typically experience online learning in varying ways, focusing on particular instances within this context provided a more in-depth understanding that may have led to stronger interpretation.

Internal validity, or credibility, was controlled through qualitative strategies summarized by Merriam (1998), Crouch and McKenzie (2006), and Yin (2008), including triangulation of data, pattern matching, constant comparative analysis, exploring all rival explanations thoroughly, using member checks and peer examination, and clarifying researcher bias. Specifically, triangulation refers to ensuring that multiple sources of data are used and analyzed in order to confirm findings. In addition, pattern matching, constant comparative analysis and investigating all rival explanations (Yin, 2008) was used to establish validity, and assisted in ensuring that logical inferences are made based on all available evidence. Member checks asked participants whether data and derived interpretations were plausible, and because case study and interview-based research does not feature extensive abstraction of participant input, this was found to be a useful strategy to maintain credibility (Crouch & McKenzie, 2006; Yin, 2008). Peer examination was also implemented by having a third-party evaluator examine findings as they emerge during the iterative data collection and analysis process (Merriam, 1998), allowing for a second set of eyes to examine the findings and confirm their logic and validity. Finally, the researcher's biases were clarified at the start of the study in order to address past experiences and orientations that may shape the interpretation of data collected (Yin, 2008). Providing this information sets the stage for research and establishes an honest starting point for the researcher from which to begin the investigative journey.

External validity, or the ability to generalize findings, is often more difficult to establish in qualitative research to the personal and unique nature of the data collection process and of the phenomena being investigated. However, Payne and Williams (2005) recommended that both extensive thick descriptions of participants and themes, as well as theoretical generalization strategies, be used to enhance qualitative external validity. This included ensuring that interviews and document analyses focused less on the content and who had been included in the study, as opposed to what they had to say that could inform the research questions. Focusing on the individuals and thus potentially limiting generalizability is often a key shortcoming of qualitative research, but this can be readily avoided through conscious effort (Payne & Williams, 2005; Thomas, 2010). The analysis and full reporting of this case study therefore incorporated all sources of data throughout the analysis process, and employed rich, thick descriptions, including providing actual quotes from participants and narrative evidence from courses reviewed wherever possible and appropriate.

With these concerns in mind, all 136 students enrolled in the program within any of the cohorts were solicited to complete the Revised Two-Factor Study Process Questionnaire (R-SPQ-2, Biggs, Kember, & Leung, 2001) to get an understanding of the learning approaches of students throughout all stages of the program. The R-SPQ-2F is an established measure of both learning motivation and approach to understand the processes students go through during their coursework, and while completing the R-SPQ-2F respondents could voluntarily choose to participate in a follow-up interview as well. The R-SPQ-2F was not used as a predictor of learning (Choy, O'Grady, & Rotgans,

2012), but rather to establish a baseline understanding of where students believed their learning approaches fell between surface and deep.

Due to the fact that a large number of students in the program under study were extraordinarily busy as adult professionals who work, raise families, and tend to an array of other responsibilities, it was difficult to solicit a large number of participants for the study. In addition, time and direct researcher access to cohort groups was limited. However, 17 students responded to the R-SPQ-2F, and five consented to participate in a follow-up interview. These students varied in age, teaching experience, level within the program, and geographic location, providing a range of experiences from across several spectrums. Also, it may be noted that particularly when data collection deals with dynamic and complex data such as interviews, sample size often has little bearing on overall logic and outcomes that can be gleaned from the research if saturation in acquired information is reached (Crouch & McKenzie, 2006; Yin, 2008). The diversity amongst the participants within the sample allowed for multiple perspectives to be explored in order to reach saturation, which helped to increase the trustworthiness of the data once responses were compared and multiple, strong trends were discovered across all participants.

Accelerated coursework examined included assignments, assessments, and online study materials such as presentations and articles from all nine of the core program courses. Characteristics of each course were compared to experiences related through student interviews, painting a more complete picture of learning approach and the instructional design of accelerated courses in the case study. Measurements of these characteristics were made based on the work of Biggs and Collis (1982), Biggs and Tang (2007), and Merrill (2002; 2009; 2012), whose respective SOLO Taxonomy and Effective, Efficient and Engaging (e3) instruction rubric provided the tools for analyzing how course design characteristics and stated objectives were intended to lead to gains in higher-order learning and critical thinking. The resulting analysis formed a more complete understanding of the instructional design of each course involved in the study, from the perspective of how it may promote deeper learning strategies according to established theories related to learning and instruction.

Key Findings from the Triangulation of Data

Participant Data Analysis

The R-SPQ-2F (to review the questions and scale used in the R-SPQ-2F, visit http://www.johnbiggs.com.au/pdf/ex_2factor_spq.pdf) is a measure of learning approach designed as a brief, 20-question self-report (Biggs et al., 2001). It is based on the Presage-Process-Product theoretical framework originally developed by Biggs (1987), in that learning activities – or the Process – dictate the quality of the learning Product. In other words, the approaches students take toward study can have a direct influence on how well and to what they degree they are able to accomplish given learning objectives. Learning approaches can be found to either be surface-level or deep, which also relate to their motivations for learning (Biggs et al., 2001). The R-SPQ-2F attempts to measure both motivation and approach to understand the processes students go through during their coursework. Because the heart of this study, and in particular the first research question, revolves around student approaches to learning, the R-SPQ-2F was a useful tool to assist in understanding participant tendencies toward either deep or surface strategies.

The R-SPQ-2F (Biggs et al., 2001) contains 20 statements, with 10 of these items reflecting surface approaches to learning, and 10 reflecting deep approaches to learning. In addition, each of the 20 items also reflects one of four different subscales: deep motive, deep strategy, surface motive, or surface strategy. These subscales, associated with five items each in the R-SPQ-2F, assisted in determining whether approach to learning is influenced by intrinsic motivation of the learner, or whether it related to the strategies taken during study. The subscales were a way of understanding the difference between why students take either surface or deep approaches, as opposed to what they do to accomplish their learning tasks (Justicia et al., 2008). Respondents indicated whether they agreed or disagreed with each statement based on a Likert-based scale ranging from, "This item is never or only rarely true of me" to, "This item is always or almost always true of me" (Biggs et al., 2001, p. 148). The results from the R-SPQ-2F can be found in Table 1.

Table 1

All Participants' Surface Motivation (SM), Surface Strategy (SS), Deep Motivation (DM), and Deep Strategy (DS) Scores and Means on R-SPQ-2F

Participant	SM Score	SM Mean	SS Score	SS Mean	DM Score	DM Mean	DS Score	DS Mean
Interview 1	5	1.000	6	1.200	21	4.200	18	3.600

Interview 2	7	1.400	8	1.600	13	2.600	13	2.600
Interview 3	9	1.800	14	2.800	21	4.200	20	4.000
Interview 4	5	1.000	9	1.800	17	3.400	14	2.800
Interview 5	5	1.000	7	1.400	15	3.000	17	3.400
Participant	10	2.000	14	2.800	18	3.600	20	2.800
Participant	10	2.000	15	3.000	18	3.600	13	2.600
Participant	8	1.600	9	1.800	16	3.200	17	3.400
Participant	9	1.800	15	3.000	12	2.400	15	3.000
Participant	5	1.000	9	1.800	22	4.400	22	4.400
Participant	6	1.200	7	1.400	19	3.800	19	3.800
Participant	10	2.000	11	2.200	15	3.000	18	3.600
Participant	7	1.400	10	2.000	20	4.000	25	5.000
Participant	6	1.200	13	2.600	17	3.400	15	3.000
Participant	5	1.000	11	2.200	17	3.400	15	3.000
Participant	7	1.400	10	2.000	16	3.200	18	3.600
Participant	9	1.800	9	1.800	19	3.800	19	3.800

With regard to research question 1, the results from the R-SPQ-2F provided insight into learner approach by showing that learners tended, overall, to have deeper motivations and used deeper learning strategies as opposed to surface approaches. However, while learners tended to have low surface motive scores overall, they did have slightly higher surface strategy scores, a difference that was significant at the .05 level. These findings led to the development of several key themes to be considered during the analysis of data, including surface motivation and strategy, and deep motivation and strategy. The theme of time was also especially prevalent, as revealed in part by the difference between surface motive and surface strategy scores, and by the difficulty in acquiring responses to the survey from students, despite repeated emails and announcements from their advisor and professors.

The follow-up interviews conducted via Skype with five of the participants each shed additional light on the issue of learning approach in accelerated online courses, as well as on course design preferences and strategies. Thick descriptions and deep analyses were generated from the transcripts of each interview. In considering research question 1, the interview data provided greater insight into the learners' approaches to learning by examining their personal motivations for entering the program, the routines they had adopted for completing their coursework, their preferences for project-based work, and the successes and challenges they encountered in their program. Often, participants provided corroborating insights, with similar responses being brought forward on many issues regarding study habits and course design preferences. This led to the generation of a number of important themes and categories

to be analyzed further and added to those already gleaned from the analysis of the R-SPQ-2F.

Analysis of Courses

The nine core courses (the internship was not included in the study) analyzed in the Educational Administration program appeared to cover a range of learning objectives, moving learners through a minimal number of unistructural tasks into multistructural, relational, and extended abstract levels of understanding, as analyzed through the SOLO Taxonomy (Biggs & Collis, 1982; Biggs & Tang, 2007). All courses contained at least one example of a learning objective that related to each of these four main levels of the SOLO Taxonomy, indicating that the courses were designed with the intention of moving students toward deeper understandings and performances. In fact, learning objectives found in most courses used the same or similar verbs to describe what learners should be able to accomplish by the end of an activity or module, showing clear consistency in expectations placed on learners throughout each course.

With regard to research question 2, the analysis of the data from the e*3* rubric for each course in the Educational Administration program shows that nearly every one of Merrill's (2002; 2009; 2012). First Principles are present in at least some of the courses, indicating that deep learning is encouraged throughout the program. This is in part accomplished through the use of objectives at higher levels of the SOLO Taxonomy, as well as through the use of the First Principles as a guiding force in developing authentic projects, high levels of peer interaction, and a student-centered approach to instruction. However, deep learning may not be encouraged consistently in event course, and surface approaches may also be promoted within some of the courses. Table 2 summarizes the courses and their First Principles data.

Table 2

Illustration Displaying Summary of First Principles Presence in Each Course

First Principles	Presence in each course								
	ED501	ED502	ED503	ED504	ED505	ED506	ED507	ED508	ED509
Activation of prior knowledge	X	X	X	X	X	X	X	X	X
Demonstrations and worked examples	X	X		X	X		X		
Guidance	X	X	X	X	X		X	X	X
Effective Multimedia	X	X	X	X	X	X	X		X
Problem-Centered Application	X	X	X	X	X	X	X	X	X
Real-world application (field experience)	X	X			X			X	X
Feedback	X	X	X	X	X	X	X	X	X
Coaching	X	X	X	X		X			X
Interaction – Discussions	X	X	X	X	X	X	X	X	X
Interaction – Group Projects		X	X			X			X
Interaction – Peer Review		X	X						

Discussion and Implications

Time

The findings regarding the interplay of time and learning approach echo what was found in the literature (Driessnack et al., 2011; Johnson, 2009; Penprase & Koczara, 2009). Research question 1 asked about learning approach in accelerated, online graduate programs, inquiring about the choices learners make between deep and surface learning approaches. The R-SPQ-2F and interview results revealed that participants in the educational administration program are extremely busy. They take on extra roles at work, have family and personal health concerns, and are continually working toward their next big achievements in life and career. Because learners had only had five weeks per course as opposed to the traditional sixteen, they each recalled stories of learning how to use their time as wisely and efficiently as possible. Time for study was typically relegated to evenings and weekends, sometimes limiting participants' options regarding when they could get their best work accomplished and turned in to their instructors. For example, all five participants mentioned their strong preference for Sunday deadlines over weekday deadlines, and when instructors had different or changing expectations with regard to due dates, students tended to react negatively. The difference of just one day could make a large impact in terms of their ability to get work done in a timely and effective manner, and as such, may have an impact on whether surface or deeper strategies were used.

Struggles with time may also be to blame for the significantly higher average score for surface strategy as opposed to surface motive on the R-SPQ-2F. Pursuing extra learning opportunities, regardless of interest level, is not always achievable for students that work and care for families while completing their education. Therefore, it is likely more difficult to go "above and beyond" on a routine basis, and for many students, simply getting the work completed is in itself an achievement. The idea of "getting it done" was expressed by many participants. However, though learners may have sometimes adopted surface approaches due to time constraints based on their frequent references to this effect during interviews, overall they strove toward deep strategies whenever possible, and indicated deep motivations to succeed and learn. In fact, thematic coding of interview transcripts showed only two references to surface-level strategies and three references to surface-level motives, while 11 references were made to deep strategies and 18 references were made to deep motives. With that said, there were some elements of courses that invoked higher levels of deep motivation than others, and for those courses or assignments that were not perceived as useful or engaging, learners did not report being as willing to try hard to do well.

Learning Approach, Course Content, and Learner Experience

Other issues were noted as potentially capable of inducing surface-level approaches to learning as opposed to deeper levels. Content that was not interesting or useful to students tended to be given less enthusiastic reviews. As in Driessnack et al.'s (2011) study, where students reported valuing new processes and insights over general content knowledge in their accelerated coursework, participants seemed to prefer courses directly related to application of content knowledge. Overly demanding courses, though, did not receive much praise regardless of the types of projects offered. The few courses that offered quizzes and shorter projects over longer, more extensive projects and discussions were very much disfavored by the participants.

The type of work that was involved in a particular course was further found to have some influence on the choice of surface or deep approaches, according to participants. During interviews, all participants heralded courses that employed practical and engaging projects and field experience components. They felt that such experiences were far more authentic and offered more real-world opportunities to apply their knowledge, even when compared to exams that required extensive essay writing versus multiple-choice quizzes where answers could easily be looked up during test-taking. The importance of practical, hands-on projects is also reflected in the literature, including in the work of Merrill (2002), who noted that authentic problems were at the heart of meaningful learning experiences designed with the First Principles of instructional design in mind. Likewise, Driessnack et al. (2009), Kasworm (2008), and Penprase and Koczara (2009) each noted the importance of real-world activities and interactions, particularly for adult learners in accelerated online environments. Such activities allow for more direct correlation to the skills learners need on the job, and provide needed practice in applying new techniques and processes.

Intended Learning Outcomes

Objectives found in each of the nine courses that were reviewed as part of this study were spread across the spectrum of the SOLO Taxonomy (Biggs & Collis, 1982; Biggs & Tang, 2007), with nearly every course containing a mixture of intended learning outcomes (ILOs) at the unistructural, multistructural, relational, and extended abstract levels (review Figure 1). ILO consistency between courses may not just serve to help students feel oriented within each course, but may also serve the purpose of ensuring that students are able to work through from basic to advanced applications of course topics and theories, even within the short timeframe given to each course. This is consistent with Biggs and Tang's (2007) discussion of the SOLO Taxonomy's intended use, indicating that learning demands increase in complexity in stages, and that these stages can be reflected through the SOLO levels employed. Approach

to learning is related to this, as it deepens as SOLO level increases. Therefore, the courses in the educational administration program appeared to follow a steady and logical progression in order to both increase knowledge and deepen understanding (Biggs & Tang, 2007). Based on comparison between course analysis and R-SPQ-2F data, the study found that not only did courses address the SOLO spectrum reasonably well, but also, students' statistically significant higher levels of deep motive and strategy in learning approach seemed to reflect that learning was in fact moving from the quantitative to the qualitative aspect.
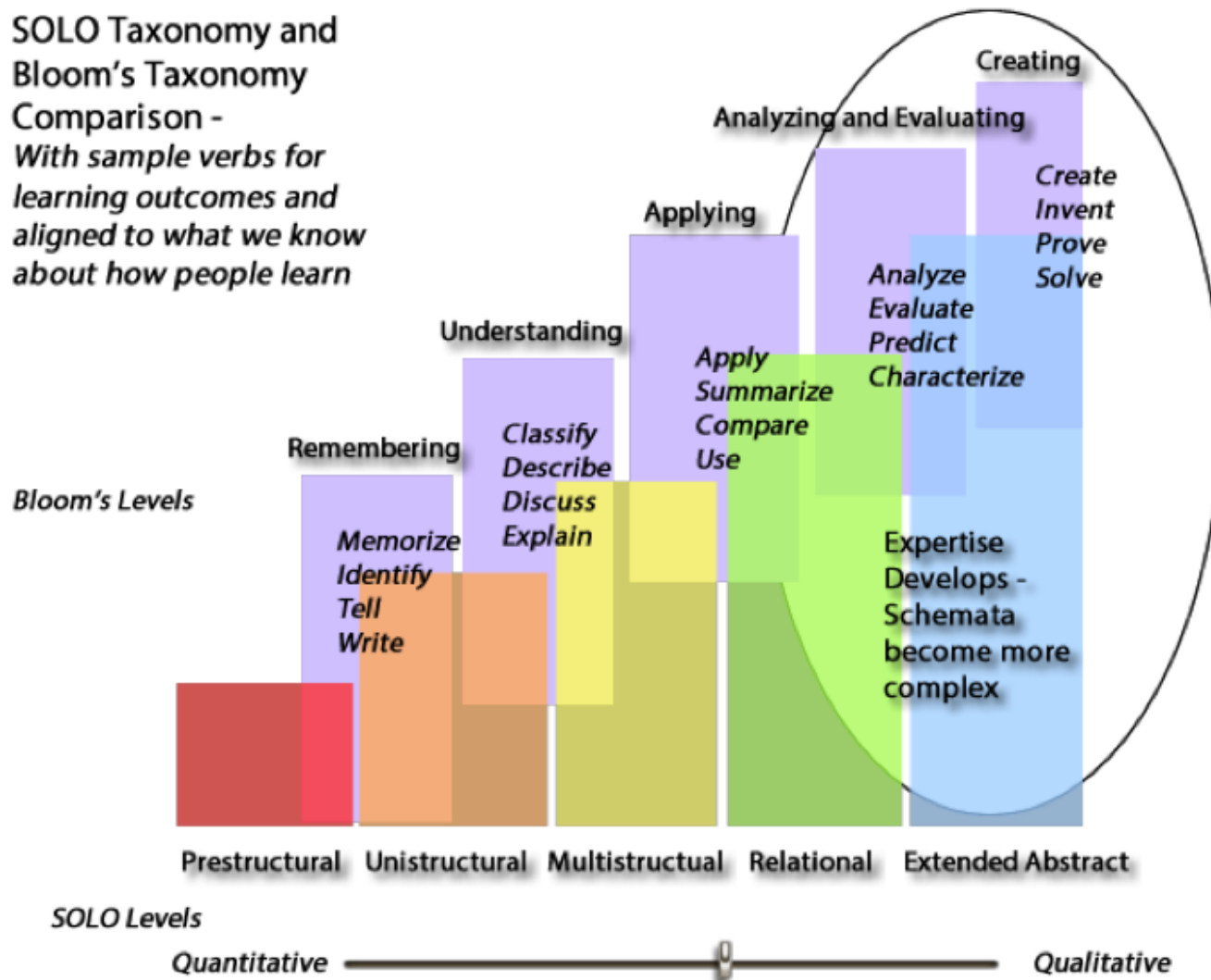

Figure 1. Comparison of SOLO Taxonomy (Biggs & Collis, 1982; Biggs & Tang, 2007) to Revised Bloom's Taxonomy (Anderson & Krathwohl, 2001; Krathwohl, 2002) with sample learning outcome verbs and indication of when schemata become more developed and curriculum moves from quantitative to qualitative phase, beginning at the Relational/Analyzing level (Biggs & Tang, 2007; Bransford et al., 2000).

Online Course Structure

The structure of course offerings overall was consistent in terms of the length of each course and its presentation. Each of the nine core courses (not including the internship) within the program were analyzed, and each featured five weekly modules, allowing students to become quickly acclimated to the environment at the start of each course. A consistent approach to course design that adheres to some basic standards has been shown to be effective in improving student learning, as it eliminates one of the most prevalent intervening variables found in research on distance learning effectiveness (Bernard et al., 2004; Shachar & Neumann, 2010; Swan et al., 2012). In examining the triangulation of the three types of data gathered for this study, interview participants also reported that they enjoyed the focused structure of the five-week courses and the online course management system, which is congruent with the available literature (Shachar & Neumann, 2010; Swan et al., 2012; Wang et al., 2008). In fact, all students commented positively about both the course length and the way in which their materials were presented to them online. It may be worthwhile to note that shortly after this study's completion, the technology used to present the courses in this program was changed, which may warrant follow-up research to determine whether the design principles preferred by students were continued in the new environment.

However, some participants did note a lack of direction or clear assessment criteria present in some of their individual course assignments, and their comments were substantiated in the review of the course materials. Often, instructions for completing assignments were straightforward and simple, and less than a page in length, although in some cases, the assignment may have warranted more explication in order to provide clear guidance. Also, in some cases, rubrics were taken from standards documents related to the overall program standards adopted within the program, but did not appear to be related directly to what students had created, written, or presented for a given assignment. Online environments demand some self-direction on part of the learner, but instructions and assessments must be clear in order for students to understand what is expected of them (Bernard et al., 2004; McCune & Entwistle, 2011; Wuensch, Aziz, Ozan, Kishore, & Tabrizi, 2008). Without clarity, too much room for interpretation is available, and students may become confused, unhappy with the learning experience, or unwilling to devote deeper learning approaches to that activity. Interview data related to those course assignments that were less clear supported this finding from the literature.

Instructional Approaches

Merrill (2009; 2012) noted that such an authentic, problem-based approach, as demonstrated in most educational administration course projects, is an essential element to his First Principles model of instructional design. Without a basis in the real world, students are unlikely to develop the most complete understanding of a situation possible, leading to a lessened ability to solve a wider range of problems associated with the topic. This idea also coincides with research on deep learning, where the ability to apply knowledge and make reasoned decisions comes through practice in a variety of contexts, including those that can draw upon learners' prior knowledge to help build more complex schemata around a topic (Biggs & Collis, 1982; Bransford et al., 2000; McCune & Entwistle, 2011). It is no wonder, then, that all participants in interviews reported enjoying projects such as field experiences more than exams in their courses – they felt that they were learning more deeply about course topics and getting more hands-on experience with what real administrators experience in the workplace.

Quizzes and exams were used sparingly in the program overall. Multiple-choice exams in online courses do tend to be open to cheating practices without proctoring, making them a poor measure of student learning unless they can be tied to other types of assessment (Pearson, 2011). Only one of five interview participants noted feeling that she had learned a great deal from the exams used in some of the courses, while the others complained about them, especially when they did not function correctly in the online environment. However, all participants did report that essay exams were far more tolerable, as they require more diligence in study in order to succeed than multiple-choice exams may allow for.

A final course design element that received mixed criticism from participants was the presence of worked examples for projects. Worked examples as demonstrations of what is expected in a project can help learners understand what a finished project should look like, and can serve as just-in-time assistance and a reduction on extraneous cognitive load (Merrill, 2007; 2012; van Merriënboer & Sluijsmans, 2009). They can also, however, limit students' imaginations to only what they have been shown, especially for tasks requiring advanced and creative thinking strategies (Atkinson, Derry, Renkl, & Wortham. 2000). Few courses in the present study provided examples of completed assignments from previous semesters, although it was possible that students could have asked for examples from professors at any time during a course in session. When students are shown what is successful, they may not think that other, alternative approaches may be just as successful, leading to a less deep approach to the project than otherwise might have been possible.

Peer Interaction

Students also reported enjoying discussing and working with their peers online, and every course featured a number of asynchronous discussion forums for various purposes, including reading review and reflection, debate, analysis, and case study response. Swan et al. (2012) noted that the most effective way to implement discussion in creating effective course designs that reach deeper levels of learning is to use them as collaborative spaces where learners can draw upon their experiences to share in analysis and knowledge construction as a group. Many, though not all, of the discussion activities found in the educational administration program were designed in this way, allowing students to learn from one another, agree and disagree, and discover the nuances of the topic based on each learner's individual knowledge and background. Particularly when so many students were located in different locations around the country, a multitude of peer perspectives could potentially stimulate interest in course content and promote richer dialogue between peers, leading to deeper understanding of course theories and topics.

In addition, although two participants noted a dislike or dissatisfaction with working in groups with other students on projects, it should be noted that the majority of courses in the program did not feature extensive group projects. While there was a great deal of collaboration found in the form of discussion activities, projects where groups did research together and presented a product were only found in four of the nine courses. Wang et al. (2008) cautioned

that distance learners need strong instruction when it comes to group projects in particular, as their physical separation can make it more difficult for them to focus and work through more abstract concepts together, especially if some level of emotional engagement is present because of the topics under study. Wong and Lam (2007) found that groups were most successful when learning approach was deep as opposed to surface-level, and since the tendency in the Educational Administration program was toward the deeper end of the spectrum according to results from the R-SPQ-2F, it is likely that those positive reports from the other three interview participants regarding group interactions were genuine.

Study Limitations

While the results of the study were limited to one case, the participants did come from a wide geographic area and varying life experiences. Such factors limit overall generalizability, although qualitative case studies, as well as other types of qualitative research, are typically employed to expand theories and understanding of phenomena, rather than to attempt to generalize based on frequency (Crouch & McKenzie, 2006; Yin, 2008). The program under study was also at the master's level, and it is possible that differences would be noted with doctoral level, or within in other disciplines. Nonetheless, the results of this study showed that deep learning is indeed possible within accelerated graduate-level online courses, and that it should not be assumed that the types of individuals who tend to participate in them are looking for a "shortcut" to degree attainment. On the contrary, this study showed that learners in accelerated programs can potentially be just as driven, ambitious, and excited about learning than those who commit to a face-to-face master's or doctoral program that may be several years in duration. If an accelerated online graduate program offers consistent design elements and expectations, immersive and engaging project-based curriculum, and multiple opportunities to share with and learn from peers, it may be able to provide students with a memorable experience that will encourage them to dig deeply into what they are learning.

Recommendations for Further Research

While this study provides some important contributions to the instructional design field, it is important to note that there are ways in which accelerated online programs can be further explored. The study was investigative in nature, and as such provided initial insight into graduate-level online accelerated programs and learning approach. Multiple perspectives were included from individual students, and this may introduce a certain level of bias into the results, as is true with all qualitative research to some degree (Merriam, 1998; Yin, 2008). While small samples within a case study is both common and often not detrimental to the logic drawn from complex qualitative data (Crouch & McKenzie, 2006), more participants within different contexts are necessary in order to make more confirmatory generalizations with regard to graduate student learning approaches in accelerated environments. Follow-up research may attempt to use an experimental design instead of a case study design as well, attempting to make more specific determinations that are repeatable, even with different samples of learners.

Further studies in other types of accelerated programs, such as graduate programs in other disciplines, undergraduate programs, or professional certification programs, would also be useful contributions to the field. By examining learning approach in different types of accelerated environments, with a different target population, it may be shown that certain instructional design strategies and characteristics are more or less useful than others. What works within one population and content area may be confusing, unwelcome, or unable to stimulate deeper learning approaches in another. Additional studies of both exploratory and experimental natures are necessary to understand the complexities of effective online instructional design in accelerated courses.

This study also examined learning approach, but did not go so far as to attempt to measure learning acquisition. Because of the many variables at play, studying learning within online environments is generally difficult (Bernard et al., 2004). However, a deep learning approach is often presumed to lead to deeper learning acquisition and therefore, higher levels of expertise and understanding (Biggs & Collis, 1982; Biggs & Tang, 2007; Bransford et al., 2000). In order to establish whether this relationship is present and whether accelerated programs are able to truly produce competent graduate students who are experts in their given fields, it would be prudent and beneficial to explore ways to research this aspect further. This might be accomplished through study of learning approach in comparison to learning acquisition within a controlled experimental environment that specifically examines online accelerated graduate programs.

Conclusion

The results of this study showed that deep learning is indeed possible within accelerated graduate-level online courses, and that it should not be assumed that the types of individuals who tend to participate in them are looking for a "shortcut" to degree attainment. On the contrary, this study showed that learners in accelerated programs can be just as driven, ambitious, and excited about learning – if not more so – than those who commit to a face-to-face master's or doctoral program that may be several years in duration. An accelerated program is not simply about finishing a program in a shorter period of time – it is about allowing those with limited personal and professional time the opportunity to achieve the same level of success as those with more time to spare. This study has shown some

evidence to support that adult learners at the graduate level are willing and able to approach learning deeply, particularly when instruction is designed to promote real-world skills, reflection, and understanding of concepts that spans the range of learning objectives from baseline to advanced. In addition, if an accelerated online graduate program offers consistent design elements and expectations, immersive and engaging project-based curriculum, and multiple opportunities to share with and learn from peers, it is more likely to provide students with a memorable experience that will encourage them to dig deeply into what they are learning. Further exploration into the experiences of learners in accelerated programs, as well as the instructional design characteristics featured in coursework, will help program directors and designers develop meaningful programs that are much more than just "fast tracks" toward a degree or certification.

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