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The Effectiveness of Alternative Dissertation Models in Graduate Education

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The Effectiveness of Alternative Dissertation Models in Graduate Education

Rebecca Arlene Thomas

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Master of Science

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ABSTRACT

The Effectiveness of Alternative Dissertation Models in Graduate Education

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Master of Science

Historically, the doctoral dissertation has had two purposes: to train young scholars in proper research methodology, and to contribute original findings to research. However, some feel that the traditional dissertation format falls short of these goals for two reasons. First, the majority of dissertations never get published in academic journals, and dissertations are unlikely to get cited in academic articles. Second, many students in doctoral programs see little authenticity in traditional dissertations because the writing style and process differ from that of academic articles. In response to these concerns, many Instructional Technology programs have implemented alternative dissertation formats.

This study used survey data to investigate the benefits, challenges, perceptions and current practices of alternative dissertation formats in Instructional Technology. Online surveys were sent to 74 students, 61 alumni, and 38 faculty of Instructional Technology programs in 2010, and 78 students, 43 alumni, and 12 department representatives in 2014. Data were analyzed using qualitative and quantitative methods. Surveys found that alumni who completed alternative dissertation formats received more citations for their dissertations than those who completed traditional dissertations, showing that alternative dissertations increase the likelihood of impact. Additionally, respondents reported that alternative dissertation formats facilitate authenticity and collaboration, and prepare students for a career in academia. However, some participants perceived alternative dissertations as less rigorous than traditional dissertations, with ambiguous requirements and expectations of quality. More research is needed in order to understand current practices for alternative dissertation formats in Instructional Technology.

Keywords: alternative dissertation formats, multiple article format, instructional technology

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Thank you...

To my parents, who have *supported and encouraged* my education.

To my professors, who have *taught* me the value of good research.

To my committee, whose *insight* has been invaluable.

And to my advisor, for *mentoring me with faith* and exuberance.

“No one is more cherished in this world than someone who lightens the burden of another.

Thank you.”

~Author Unknown

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DESCRIPTION OF CONTENT AND STRUCTURE

Although a growing number of Instructional Technology students are completing alternative dissertation formats, no known research on alternative dissertation formats in the field has been done. The article in this thesis attempts to address that gap by investigating the benefits, challenges, and perceptions surrounding alternative dissertation formats, particularly in Instructional Technology. The goal for this research is to help students and advisors make informed decisions regarding dissertation formats, as well as inform institutions that wish to implement these formats.

This thesis is comprised of the journal-ready article “The Effectiveness of Alternative Dissertation Models in Graduate Education” and additional appendices and figures, which follow the submitted article. The lead author of this article is Rebecca Thomas, who took the primary responsibility of designing the study, analyzing the data, and writing the paper. Drs. Richard West and Peter Rich were co-authors on the paper, and were instrumental in the conceptualization of the study, as well as the refinement of the survey instrument and the ideas presented throughout the paper.

Journal Article: The Effectiveness of Alternative Dissertation Models in Graduate Education

The Effectiveness of Alternative Dissertation Models in Graduate Education

Rebecca Arlene Thomas

Brigham Young University

Even though doctoral degrees have been awarded since the end of the thirteenth century (McClelland, 1980), numbers of students pursuing and earning PhDs have grown significantly over the past century. During the 20th century, numbers of PhDs awarded in the United States grew from a low of 293 PhDs awarded in 1902 (Thurgood, Golladay, & Hill, 2006), to 49,562 PhDs awarded in 2009 (Fiegener, 2010). This increase of PhDs awarded in the United States reflects similar growth in PhD attainment internationally. For example, the first PhD awarded in Australia was in 1948, and as of 2003, 31,140 students were enrolled in Australian PhD programs (Evans, Macauley, Pearson, & Tregenza, 2003).

As more students are earning PhDs, and in consequence, writing dissertations, criticisms of the traditional dissertation format have surfaced (Duke & Beck, 1999). Most scholars agree that the main purposes of the dissertation are to train students in proper research methodology and to contribute original findings to research (Isaac, Quinlan, & Walker, 1992; Yoels, 1973). However, some worry that the traditional dissertation format is not conducive to either of these goals. Research has shown that dissertations rarely get disseminated into academic journals (De Jong, Moser, & Hall, 2005; McPhie, 1960; Robinson & Dracup, 2008), and that academics rarely cite dissertations that have not been published into articles (Yoels, 1973). Additionally, some scholars argue that the traditional dissertation format is a poor training tool because it is not an authentic experience that prepares scholars for future professional pursuits (Duke & Beck, 1999; Tronsgard, 1963).

In an attempt to overcome limitations of the traditional dissertation format, some Instructional Technology programs have implemented alternative dissertation formats. However, no research has been done on the perceptions of these alternative dissertation formats within the field, or on lessons learned by institutions that have implemented alternative

dissertation formats. This research attempts to fill that gap by using qualitative and quantitative survey data to answer the following research questions:

1. What are the perceived benefits and challenges to students, faculty, and institutions of completing an alternative format dissertation?
2. What current practices are there for completing and mentoring an alternative format dissertation?

Literature Review

Despite being the dominant pedagogical approach in doctoral education, there is little research done on the process and goals of completing a dissertation. In looking for information on this topic, we searched ERIC (EBSCO) and Google Scholar using search terms such as *Doctoral Dissertation, Higher Education, PhD, Doctorate, History, Origins, Alternative Dissertation Formats, Multiple Article Formats, Education, and Authenticity*. Results were then sifted through and discarded if they did not contain information about the history of the traditional dissertation, critiques of the traditional dissertation, or content regarding alternative dissertation formats. Additionally, all tutorial-based results were discarded (e.g., publications on how to write a dissertation) leaving academic literature that was either research-based or theory driven. After the initial search, a reverse citation analysis was performed on all relevant articles found, using Web of Science and Google Scholar. All relevant literature found using the reverse citation analysis was added to the literature review.

In this literature review, we will first give a brief history of the dissertation. Second, we will discuss the purposes of the dissertation, and address the two main concerns of the traditional dissertation format: lack of dissemination and authenticity. Then, we will introduce alternative format dissertations, particularly the multiple article format dissertation, and discuss the

advantages and disadvantages of such a format. To conclude, we will discuss why the field of Instructional Technology may be inclined to use an alternative dissertation format, and how this research will help those in the field understand, implement, and improve alternative dissertation formats.

History of the Dissertation

From this review of the literature, the history and purposes of the dissertation, and doctoral education, became apparent. At the end of the thirteenth century, German scholars merged research and teaching in universities, creating the first doctoral degrees (McClelland, 1980). As these studies developed, culminating projects for PhDs evolved from oral lectures to published dissertations by the mid-eighteenth century (Breimer, Janssen, & Damen, 2005; McClelland, 1980). A century later, Americans visited Germany, and were inspired to duplicate the German educational tradition in America (Duke & Beck, 1999; Fox, McMillan, & Eaton, 1999). As a result, the first American PhD was awarded by Yale University in 1861 (Wolfle & Kidd, 1971). It wasn't until the 20th century that countries outside of Germany and the United States started regularly requiring doctoral students to complete dissertations (Willis, Inman, & Valenti, 2010).

Purposes of the Dissertation and Concerns

Since its origin, the dissertation has had several purposes (Berelson, 1960; Gilman, 1974; Tronsgard, 1963). When it first originated, the main purposes of the dissertation were to train young scholars in proper research methodology, and to contribute original findings to research. While most scholars agree that these are still purposes of the dissertation today (Isaac et al., 1992; Yoels, 1973), some argue that the dissertation is more of a training tool than it is a contribution to the field (Berelson, 1960; Breimer, et al., 2005; Gilman, 1974), because

dissertations are rarely disseminated in academic journals (De Jong et al., 2005; Duke & Beck, 1999; Gross, Alhusen, & Jennings, 2012; McPhie, 1960; Morris & Tipples, 1998; Robinson & Dracup, 2008). Very few dissertations get cited in academic publications (Yoels, 1973), and the majority of dissertations never get published into academic articles or books (De Jong et al., 2005; McPhie, 1960; Robinson & Dracup, 2008).

Lack of dissemination. Traditional dissertations in education consist of five extensive chapters that explain a single research study: Introduction, Literature Review, Methods, Results, and Conclusions (Calabrese, 2006). Critiques of the traditional dissertation format have two main concerns: dissemination and authenticity. As mentioned earlier, most dissertations never get published as academic articles (De Jong et al., 2005; Duke & Beck, 1999; Gross et al., 2012; McPhie, 1960; Morris & Tipples, 1998; Robinson & Dracup, 2008). Research on percentages of dissertations disseminated is sparse, but some work has been done. For example, McPhie (1960) sampled 385 dissertations from 54 universities and colleges completed in social studies education from 1934-1957. Of about 75% of those dissertations, publication data were available. Almost two-thirds were never published as articles, and over 93% never became book chapters. While some argue that a dissertation should lend itself to several academic articles (Boeckmann & Porter, 1982), the reality is that it is difficult for students to publish after graduation (Morris & Tipples, 1998; Robinson & Dracup, 2008; Tronsgard, 1963). Since dissertations are often written differently than academic articles, most dissertations have to be revised and rewritten in order to be suitable for publication (Duke & Beck, 1999). It is common for recent graduates of PhD programs to get a time-consuming job, and lose motivation to re-write their dissertation for publication (Robinson & Dracup, 2008; Tronsgard, 1963). Often, dissertation results become outdated if a PhD graduate waits too long to publish.

Lack of authenticity. The second main critique of the traditional dissertation format is that it has little authenticity (Tronsgard, 1963). The traditional dissertation requires a thorough account of the research completed (Reid, 1978; Robinson & Dracup, 2008), including a literature review covering everything related to the topic of investigation, complicated statistics and design, and extensive conclusions (Gilman, 1974). Due to length requirements for journals,

academic articles are much shorter than dissertations, and therefore, require shorter literature reviews, methods, and discussion sections. While an academic will write many academic articles through his or her career, he or she will only write one dissertation (Duke & Beck, 1999). Critics of the traditional dissertation argue that a scholar will never have to do research in the amount of depth a dissertation requires after receiving a doctorate degree (Duke & Beck, 1999). However, others argue that the in-depth experience is necessary for a complete knowledge of the field (Lee, 2010), and worry that shorter literature reviews will result in a loss of expertise (Boote & Beile, 2005).

The traditional dissertation also lacks authenticity for PhDs who plan to work outside of research and academia. For example, students who plan to go into practical fields may see minimal personal relevance in the traditional dissertation (Boeckmann & Porter, 1982), especially because it is unlikely to be disseminated to practicing professionals (De Jong et al., 2005; Gross et al., 2012; Morris & Tipples, 1998; Robinson & Dracup, 2008). Additionally, the process of the traditional dissertation is different than most practical work. Most educational practitioners work in teams, while the dissertation tends to be a solo endeavor (Monaghan, 1989; Tronsgard, 1963). The traditional dissertation's apparent lack of authenticity could be a reason why many students want to avoid research after graduation (Gilman, 1974), and why the dissertation is the main reason many doctoral students aren't awarded PhDs (Gilman, 1974; Tronsgard, 1963).

Alternative Dissertation Formats

In an attempt to overcome the limitations of the traditional dissertation, some programs in higher education have approved alternative dissertation formats (Archbald, 2010; Lee, 2010). One alternative is the multiple article format. While requirements vary by institution, the

multiple article format requires students to complete multiple research studies, written as articles ready for publication. This format addresses the two main concerns of the traditional dissertation, dissemination and authenticity, for several reasons. First, it makes dissemination easier because the articles are ready for journal submission (Gross et al., 2012; Morris & Tipples, 1998; Walkington & Jenkins, 2008). Second, the process of writing the articles is authentic to academic research. Students who complete a multiple article format dissertation gain experience in writing for an audience outside their institution (Duke & Beck, 1999; Hartley & Betts, 2009; Hill, Kneale, Nicholson, Waddington, & Ray, 2011; McPhie, 1960; Morris & Tipples, 1998; Robinson & Dracup, 2008; Walkington, 2008), and gain experience in publication, which is part of the entire research experience (Robinson & Dracup, 2008; Walkington & Jenkins, 2008).

Multiple article format advantages. The multiple article format has other advantages to the traditional dissertation as well. Since this format makes dissemination less time consuming, and requires students to do multiple research studies, students often publish more prior to graduation. These publications can be advantageous for both students and their advisors. While students with publications upon graduation tend to have better employment options and salary (De Jong et al., 2005; Hartley & Betts, 2009; McPhie, 1960; Robinson & Dracup, 2008; Walkington, 2008), and a foundation for a research career (De Jong et al., 2005; Morris & Tipples, 1998), advisors are often co-authors on the publications, increasing their job security and tenure (De Jong et al., 2005; Hartley & Betts, 2009; Gross et al., 2012; Robinson & Dracup, 2008).

Additionally, the multiple article format can present a psychological advantage to students. Some students find this format less stressful, as it breaks one large dissertation into smaller projects (De Jong et al., 2005). Also, students tend to find writing articles to be more

motivating, and feel rewarded with a sense of confidence and accomplishment upon publication (Charlesworth & Foster, 1996; De Jong et al., 2005).

Multiple article format disadvantages. Even though it has several advantages, the multiple article format also has disadvantages and critiques. One main concern is the issue of depth. Since articles are shorter than traditional dissertations, publications tend to have shorter literature reviews, methods sections, and conclusions (Reid, 1978). Many worry that students need the in-depth research experience a dissertation provides in order to fully understand academic research (Lee, 2010; Robinson & Dracup, 2008). In response to the issue of depth, some programs require students to include appendices to the dissertation, with expansion on the literature reviews, methods, and conclusions in the articles (Thomas, Nelson, & Magill, 1986).

Another issue with the multiple article format in education is lack of familiarity (Morris & Tipples, 1998). Considering most education professors completed a traditional dissertation themselves, some find it difficult to mentor a student completing an alternative format. Doing so can be uncomfortable, and may require more work. Additionally, some professors may want to continue the convention of the traditional dissertation. Since they went through the process of the extensive, traditional dissertation, they may want their students to have the same experience (Tronsgard, 1963). If university faculty are unfamiliar with the multiple article format, they may be wary of its implementation.

Initial implementation of the multiple article format has also called for changes in practice. For example, most universities store dissertations of graduates in an open access section of the library. When articles get published, the journal owns the copyright (Breimer et al., 2005). In order to publish multiple article format dissertations with traditional dissertations, some universities solve this problem by publishing alternate versions of the published articles

(Baggs, 2011). Similarly, other practical changes in response to the multiple article format include, but are not limited to, issues of authorship order in articles (Gross et al., 2012) and the tendency to self-plagiarize in multiple articles (Robinson & Dracup, 2008). Each concern that arises with the implementation of the multiple article format calls for adaptability within the structure of the institution.

Even with all the adaptations made to address the concerns and critiques above, acceptance of the multiple article format in education has been slow (Morris & Tipples, 1998), as it was when biology first implemented the multiple article format (Reid, 1978). With time, biologists have progressively become more accepting and accommodating of the multiple article format, and now it has become mainstream in the hard sciences (Monaghan, 1989). With time and effort, many education professors have reported that the multiple article format appreciation grows (Morris & Tipples, 1998; Reid, 1978). Because of this debate over the merits of this alternative dissertation format, many questions remain about its acceptance in Instructional Technology, as well as the perceptions of students and faculty who have completed one.

Instructional Technology and the Current Study

Instructional Technology in particular may be poised to take advantage of alternative format dissertations because it is a practitioner field that aims to produce research that impacts practitioners as well as scholars (Anglin, 1995; Seels & Richey, 1994). Since the majority of traditional dissertations don't get published in academic journals (De Jong et al., 2005; Duke & Beck, 1999; Gross et al., 2012; McPhie, 1960; Morris & Tipples, 1998; Robinson & Dracup, 2008), practitioners are more likely to benefit from published articles. However, as yet, no study has measured the acceptance of the multiple article format in the field of Instructional Technology. Understanding this can help students make informed decisions when planning

dissertations, and can help faculty advise students in different dissertation formats. Additionally, the knowledge of different perspectives can help administrators who wish to implement alternative format dissertations in their institutions.

Methods

This research used a mixed-methods approach, in order to capitalize on the strengths of both qualitative and quantitative survey items. Johnson and Onwuegbuzie (2004) stated that a mixed methods approach “can answer a broader and more complete range of research questions because the researcher is not confined to a single method or approach” (p. 21). Additionally, Morse (1991) posited that methodological triangulation often involves determining which method is given dominant status. Since this research is primarily interpretive in nature, an emphasis was placed on qualitative methods, which were used to investigate the usefulness, benefits, and challenges of alternative dissertation formats. Quantitative measures were simultaneously used to supplement qualitative findings by reporting tendencies, patterns, and differences between groups. In order to provide convenience and confidentiality to participants, we used an online survey to collect both qualitative and quantitative data from students, alumni, faculty, and department representatives of instructional technology (and similar) programs.

Participant Sampling

We wanted to understand the perspectives of doctoral students, alumni, faculty, and department representatives from instructional technology and similar programs. To identify these programs and representatives, we first used the list of programs and department representatives identified in the Educational Media and Technology Yearbook (Orey, 2013). After we identified the programs, we sent links to the various surveys to the department

representatives listed for each of the 161 programs and requested their participation. In addition, we requested that department representatives send surveys to their faculty, graduates, and current students. To recruit additional participation, notices were posted to educational technology professional communities and networks such as ITFORUM and the Facebook/email groups for the Association of Educational Communications Technology and Professors of Instructional Design Technology organizations. The survey was administered two times, once in September 2010, and once in January 2014, in order to compare trends. 74 students, 61 alumni, and 38 faculty responded to the 2010 survey, and 73 students, 43 alumni, and 12 department representatives responded to the 2014 survey.

Instruments

In 2010, we developed a survey entitled, “Exploring Alternative Dissertation Formats.” In 2014, we separated the 2010 survey into two surveys, one for students and alumni and one for department representatives. The 2014 survey for students and alumni included 3 qualitative and 2 quantitative items for students (see Appendix A) and 7 qualitative and 9 quantitative items for alumni (see Appendix B). The 2014 survey for department representatives included all of the alumni items, with an additional 19 qualitative and 12 quantitative items (see Appendix C).

Student and alumni surveys asked about types of dissertation formats available as options, their preferences toward certain dissertation formats, and a rationale for their preferences. In addition, alumni surveys asked additional questions about their current professions, publications from dissertations, and perceptions of how their chosen dissertation formats affected their educational experience. For example, some items asked about the time it took alumni to complete a PhD, and other items asked about the quality of the mentoring they received on their dissertation.

Department representative surveys included all items contained in the alumni survey. These items were pooled with the remaining alumni data, and were included in all analyses specific to alumni. In addition to alumni questions, department representative surveys asked representatives about their institution's available dissertation formats, followed by a rationale for those decisions. If respondents indicated that their institutions provided alternative dissertation formats, questions were asked about challenges they have faced, ways they have overcome such challenges, and perceived benefits of the decision to implement alternative dissertation formats.

Additionally, all respondents were asked basic demographic questions, along with perceived advantages and disadvantages of alternative dissertation formats. Since these questions were given to all respondents, findings for these themes were reported as a conglomeration, with specifications of different perceptions highlighted between groups. The full surveys are available in Appendix A, B, and C.

Administration

The first time we administered the survey in 2010, one survey was sent to all participants, with questions at the beginning separating the students, alumni, faculty, and department representatives. However, after administration, we realized that faculty were also alumni of other programs, and needed to complete the survey twice. As a result, when administering the survey the second time in 2014, we separated the survey into two different online surveys, one for students and alumni, and one for department representatives. Department representative surveys contained alumni items as well as questions specific to department policies.

Prior to administration of the 2014 survey, additional items and improvements were made to the instrument, making quantitative comparisons between the 2010 and 2014 data difficult. Qualitative themes between 2010 and 2014 were compared, but responses tended to be similar,

leading us to report the 2010 and 2014 findings in aggregate with few comparisons between time of administration. Quantitative findings were derived from the 2014 data, unless otherwise specified.

Data Analysis

Quantitative items were analyzed using both inferential and descriptive statistics. A Chi-Square test of independence was used for inferential statistics. Respondents were stratified according to their occupational role following graduation (professor vs. practitioner), along with the year in which they completed their PhD (2009 and before vs. 2010 and later). We then compared participation in these groupings with dissertation format preference.

Qualitative data were initially analyzed using an emergent coding scheme, in order to establish categories following preliminary examination of responses (Stemler, 2001). Categories generated were used to identify perceptions of the advantages and disadvantages of alternative dissertation formats, and to describe the types of policies and expectations required of those completing alternatively formatted dissertations. After the lead researcher developed categories for each qualitative survey item, two senior researchers reviewed the categories. Once agreement on categories was established, codes were established by “themeing the data” in order to deduce the meanings in each category (Saldaña, 2012; p. 139). “Themeing the data” was chosen because qualitative survey responses in the 2010 survey often implied themes without explicitly stating them. For example, one respondent may respond to the question, “Why did you choose to do an alternative dissertation?” by typing, “Publications.” While the original category for this code would be, “Publication,” the meaning of this code could be, “Perception that the completion of an alternative dissertation will yield a greater number of publications.” The process of “themeing the data” put responses into context and gave them meaning, so researchers

could draw implications. Throughout the process of “themeing the data,” the lead researcher developed codes, and discussed codes with two senior researchers. Codes were revised until all three researchers reached a consensus.

Concerning the reporting of findings, themes supported by five or more participants were included in the results section. Since the major thrust of this research was qualitative, quantitative data were included if it supported or contradicted qualitative findings.

Trustworthiness

Regarding the qualitative survey responses, several measures of trustworthiness were used. During the data analysis, the lead researcher generated 70 codes under 11 categories. Following the original coding, the lead researcher consulted with two senior researchers, and incorporated their feedback. Once the coding was complete, the lead researcher condensed the original codes into the 15 codes under seven categories discussed in the paper (See Figure 1).

Following data analysis, we conducted two trustworthiness techniques as described by Lincoln (1985). First, the lead researcher met with a senior qualitative researcher that was not part of the research team to conduct an inquiry audit. Second, the lead researcher conducted a negative case analysis for the 2014 data, and the few negative cases found were incorporated into the results throughout the paper. In an additional effort to ensure trustworthiness, researchers made the data available to participants in aggregate form and welcomed their feedback.

Results

The following are findings related to dissertation format preferences, perceived advantages and disadvantages of alternative dissertation formats, and current practices of alternative dissertation formats in Instructional Technology programs.

Dissertation Format Preferences

While student preferences leaned slightly toward traditional dissertation formats, many students favored alternative formats. When asked in 2014 what dissertation format they would choose to complete, 45% of students who had not begun working on their dissertation stated they would prefer an alternative dissertation format. However, a smaller proportion of students who had begun work on their dissertations had chosen alternative dissertation formats, with 69% of those students working on traditional formats, 23% multiple article, and 8% hybrid. When asked for a rationale for their preferences, many students stated that their institutions did not offer alternative dissertation formats, and that a traditional format was their only option.

Alumni preferences skewed in favor of alternative dissertation formats. Even though 73% of alumni surveyed in 2014 completed a dissertation in a traditional format, only 19% of them recommended a traditional format to other students (see Table 1). The remaining 81% of alumni recommended that students complete some kind of alternative dissertation format, with 36% recommending a multiple article format, 24% recommending a hybrid format, and 21% recommending “Other.” Alumni showed no significant difference in recommendation based on career choice (professor vs. practitioner), $\chi^2(1, n = 48) = 0.072, p = .788$, or the year in which they graduated (2009 and before vs. 2010 and later) $\chi^2(1, n = 48) = 1.651, p = .199$.

Perceived Benefits of Alternative Dissertation Formats

Students and alumni identified several benefits of alternative dissertation formats, most of which fall under the following themes: publication and dissemination, authenticity of experience, and psychological benefits.

Publication and dissemination. Respondents across all survey groupings perceived alternative dissertation formats, and in particular, the multiple article format, to be a supportive

format for publication and dissemination. Students surveyed felt that having publications when they graduate could give them additional opportunities to attend conferences and be a part of discussions in the field. Alumni shared similar views, and added that writing articles while in graduate school gives students the opportunity to get feedback on their work from readers outside their institution, resulting in collaboration and integration within the academic community.

Additionally, students who preferred alternative dissertation formats expressed a desire for their research to be heard, and felt that their findings would go unnoticed if left unpublished. As one student put it, “I would rather write something that has a chance to be read by more than my committee and my mom.” While traditional dissertations can be published as articles, students appreciated that alternative dissertation formats have the potential to cut down or eliminate re-writing prior to journal submission.

Alumni self-reported publication statistics also supported the argument that alternative dissertation formats could lead to more publication and dissemination. For example, a higher percentage of alumni who completed alternative dissertation formats reported publishing their dissertation; with 60% of alumni who completed alternative dissertation formats reporting publications, compared to the 37% of alumni who completed traditional dissertations. However, further research is needed on this statistic because of relatively small sample sizes.

When asked to list citations of both their original dissertations and articles from their dissertations, 80% of alumni in 2010 and 57% in 2014 did not list any publications (for more details, see Table 1). Of alumni who did list publications in 2014, the number of citations from alternative dissertations outweighed the number of citations from traditional dissertations, with traditional dissertations having an average of 2.63 citations, and alternative dissertations an

average of 6.33 citations. This indicates that articles from alternative dissertation formats create more impact than traditional dissertations that are not published into articles. Considering the majority of alumni surveyed did not publish their dissertation, alternative dissertation formats have the potential to increase research impact in the field.

Authenticity of experience. Students and alumni agreed that alternative dissertation formats can provide students with authentic experiences that prepare students for work beyond graduate education. In particular, students and alumni thought that alternative dissertation formats lead to authentic experiences in writing process, collaboration, and career preparation.

Writing process. A major theme for students and alumni was the perception that alternative dissertation formats provide students with authentic experience in writing for academic journals. This benefit was seen as particularly useful for students who plan to go into academia, with some respondents recommending alternative dissertation formats for academics, and traditional dissertations for practitioners. Participants suggested that writing articles as part of the dissertation can teach students the entire process of academic publication, from the writing style to the process of journal submission and review. Alumni especially noted that articles require a different writing style than traditional dissertations, and that writing for journals is a skill that requires development. As one alumni put it,

The dissertation allows you to really get into and wrap your head around the data, and allows your committee to see the thought process. However, nowhere else in the scholarly community do we write like this. And what is a PhD's purpose but to write and teach others through their writing? Clarity and brevity are essential. Just because you can write a dissertation does NOT mean you can write and get published.

Many alumni who spoke about writing process emphasized that they had never needed to write in a style similar to traditional dissertation formats since they had graduated. However, they had written many academic articles. Overall, this was a major theme, as 35 alumni asserted that the most authentic way to prepare a student for a publish-or-perish world is practice in writing publishable manuscripts.

Collaboration. Participants noted that writing articles can give students additional opportunities to collaborate with advisors and committee members. While most alumni in 2014 who completed alternative dissertations reported that they received the same amount of mentoring from their advisors as they would have doing a traditional dissertation (66%), the alumni who reported that they received more mentoring (33%) sensed that their advisors were more invested in mentoring their dissertations because they knew they would be published. Authorship was also mentioned; some students felt that committee members took more ownership of their dissertations if they were authors on the papers. Along these lines, one current student said,

The format has also allowed me to partner very closely with several of my committee members—I feel they are more vested in my dissertation as a whole because they are participatory members of the components of it.

Students and alumni also added that completing alternative dissertations led to collaboration with committee members after the defense. Comments of this nature ranged from advisors mentoring students as they published their manuscripts to additional research being conducted with committee members after students graduated. While this collaboration could occur regardless of dissertation format, students attributed the authenticity of alternative dissertations to the increased collaboration they experienced with their committee members.

Preparation for a career. In addition to authenticity in writing process and collaboration, students communicated the idea that alternative dissertation formats could prepare them for future careers. Specifically, students felt that having publications could assist them in obtaining jobs in academia, starting research agendas, and hastening their tenure process. While students saw the value in the traditional dissertation, they saw alternative dissertation formats as a more efficient way to learn how to do research while strengthening their curriculum vitae. Alumni highlighted the importance of publication in the academic world. To illustrate this, one department representative related,

Most doctoral students will, in my experience, end up teaching in higher ed[ucation].

Therefore they are in a publish or perish world. So if they can get a couple of articles out of their dissertations, they have a leg up for promotion and tenure. We did not have that option years ago. I wish I had.

Overall, students and alumni agreed that having articles could give a good start to their careers by building students' resumes and providing students a base for research agendas.

Psychological benefits. In synchronicity with the literature, respondents identified several psychological benefits of alternative dissertation formats. Department representatives observed that students experience an increased level of excitement at the thought of getting published, and that this excitement motivates them as they progress. In conjunction with this, one student completing a traditional dissertation perceived that alternative dissertation formats may lead to faster progress, and stated,

In watching a colleague going through the alternative process at the University of Idaho I have a high degree of envy that he seems to be making much faster progress as he is taking on the entire process in a more modular or incremental fashion.

Similarly, students completing the multiple article format appreciated its incremental fashion, and suggested that it has made the dissertation more manageable.

Perceived Disadvantages of Alternative Dissertation Formats

Along with benefits, students and alumni also identified perceived disadvantages of alternative dissertation formats, most of which fall under the following themes: quality, acceptance, and time.

Quality. Participants from all demographic groups worried that the quality of alternative dissertations may be lower than traditional dissertations. Specifically, respondents commented on rigor and ambiguity of requirements.

Rigor. A common concern among students and alumni who preferred the traditional dissertation format was a perceived lack of rigor involved in alternative dissertations. While some respondents felt that length requirements for articles inhibit thorough explanation of literature reviews and methods sections, others identified concerns that additional appendices could not easily fix. Alumni especially noted that the structure of the multiple article format broadens the scope of a student's dissertation research. They argued that if students are completing multiple studies, then they will not develop enough focus on one topic to experience the level of depth that the traditional dissertation format leads to. This led to concerns that alternative dissertation formats, and the multiple article format in particular, may lead to a more shallow understanding of the research process.

While the majority of participants perceived traditional and alternative dissertation formats to be of relatively equal difficulty, some respondents perceived one format to be "easier" than another. For example, two current students said that they preferred the traditional dissertation because they felt it would be easier to complete without the pressure of publication.

However, several faculty members and students commented that they perceived alternative dissertation formats to be “easy” in comparison to traditional dissertation formats. These respondents saw article writing to be in a different league than dissertation writing, and judging from the tone of their comments, they seemed frustrated that some academics see alternative formats to be comparable to traditional formats. For example, one department representative said,

Writing an article is very easy and less rigorous than a dissertation, and “anyone” can do it. I have 2nd year students in the DBA program that get published in academic journals—that doesn't mean they can create a scholarly piece of original research.

While most responses didn't come on as strong as this professor's comment did, several students that were in the process of completing traditional dissertations felt that they would not get into the same level of depth if they were writing articles. Interestingly, depth was not a common theme or concern for respondents who preferred alternative dissertation formats.

Ambiguity of requirements. Responses of department representatives were most telling as to the ambiguity of judging alternative dissertation formats. Of the institutions surveyed in 2014 that offer alternative dissertation formats, the majority (83%) said that they had no defined expectation of quality for the articles written. This could be why several students completing alternative dissertations felt unsure as to what was expected of them. When talking about alternative dissertation formats at their institution, one student said, “It has a lack of exemplars; unclear or poorly articulated expectations for quality.” On the other hand, it seems that some institutions have quality examples of alternative dissertation formats, as one department representative stated the reason that their institution has continued to offer alternative formats is because of “high quality examples that have made it (alternative formats) stick as an option.”

While it could be that some institutions are working on defining expectations, the quality of current alternative dissertations being completed at most (83%) institutions is unclear.

Acceptance. Participants in all demographic groups perceived a lack of acceptance of alternative dissertation formats. It is interesting to note that while a few participants said they themselves had experienced this lack of acceptance, most respondents simply said they'd heard of this lack of acceptance. For example, one current student said, "I have heard that some people don't look at alternative-format dissertations as being as credible or in-depth as traditional."

Along these lines, the most common concern of students was the idea that employers look down on alternative dissertation formats. While some department representatives voiced this view, most perceived a lack of acceptance among other professors. Some institutions that did not offer alternative dissertation formats in 2014, but had considered it, said that voices of opposition from both within their departments and within other areas of their institutions prevented alternative dissertations from being implemented. While this supports the idea that alternative dissertation formats are not completely accepted in academia, no support was given for the perception that employers in other professional areas reject alternative dissertations.

Time. When asked about the challenges of alternative dissertation formats, students and alumni perceived them to be more time-consuming than traditional dissertation formats. This perception was supported by quantitative data (see Table 1). In 2010, 56% of alumni who had completed alternative dissertation formats reported that doing so delayed their graduation. When asked the duration of the delay, the majority (66%) said that they were only delayed about one semester. However, data collected in 2014 imply that delays are improving, with 69% of respondents saying that doing an alternative dissertation format took the same amount of time as a traditional format, with only 23% claiming that their graduation was delayed.

Alumni perceptions of workload in 2014 skew toward alternative dissertation formats being more work (see Table 1), with 16% seeing traditional dissertations as more work, 48% seeing the workload to be equal for both dissertation formats, and 36% seeing alternative dissertation formats as more work.

In conjunction with alumni perceptions, 40% of department representatives in 2014 reported that students tend to take longer completing alternative dissertation formats. However, the other 60% didn't see any difference in the time required to complete alternative and traditional dissertations. Overall, perceptions of time lean slightly toward alternative formats taking more time, with the majority of participants seeing no difference in time between traditional and alternative dissertation formats.

Current Practices

Of the institutions surveyed in 2014, 100% currently offered traditional dissertation formats, and 42% offered alternative formats. All institutions that offered alternative formats offered the multiple article format, and 60% of them also offered a hybrid format (see Table 1). Of the 58% of institutions that only offered traditional dissertation formats, 43% reported that they had discussed alternative dissertation formats, while 57% had not. These data indicate that the field of Instructional Technology is moving in the direction of offering alternative dissertation formats.

As alternative dissertations become more prevalent in Instructional Technology, current practices will become more valuable to institutions still considering this transition. In 2014, leaders of institutions who offered alternative dissertation formats identified the following current practices for implementation of alternative dissertation formats.

Structure. While institutions varied in the number of required articles for the multiple-

article format, 60% reported that they required three journal-ready articles. In addition, the institutions that had specific requirements for the dissertation's structure required PhD candidates to include a summary of all their articles at the end of the dissertation. This requires PhD candidates to connect their articles in a way that more closely resembles the traditional dissertation.

Authorship. The majority (60%) of institutions allowed articles in multiple article format dissertations to include co-authors, as long as the PhD candidate is the first author in all the studies. No institutions indicated that they do not allow faculty co-authorship on articles. However, only 20% said that they would allow student co-authors as part of a student's dissertation.

Role of the committee and defense. Several institutions (40%) admitted that their institution is still working on defining the role of the committee and defense if articles have been accepted for publication. However, one institution claimed that it is best to not let publication acceptance interfere with the defense. They said, "The institution does not accept the decision of an editorial review board for its decision about conferring a degree. If the article 'misses the mark,' the committee will ask for and expect revisions to satisfy institutional and committee requirements."

Quality. As mentioned earlier, the majority (83%) of institutions have not set concrete expectations for quality of articles in alternative dissertations. Additionally, 80% of institutions did not require dissertation articles to be published in a certain tier of journal. More research is needed to know if there are current practices concerning quality assessment in alternative dissertations.

Moving Forward

As more institutions adopt alternative dissertation formats, 11 department representatives recommended that dissertation formats be tailored to students' goals. For example, some recommended a multiple article format for students going into academia, but recommended a traditional or hybrid approach for pre-practitioners. One department representative said, "For students intending to pursue a career in academia, I would highly encourage writing the manuscripts option. For students intending to pursue applied employment (not related to research or the need for publications), I would encourage the traditional approach." Similarly, two representatives saw a hybrid approach as "a great middle ground" between the traditional format and multiple-article format. As current practices for alternative dissertations are discussed and considered, department representatives recommended student goals remain in the forefront of the conversation.

Discussion

The results of this study have the potential to influence Instructional Technology as a field, as well as future research regarding alternative dissertation formats.

Implications for Instructional Technology

Many of our findings were consistent with the literature on the benefits and challenges of alternative dissertation formats. The following are areas in which our findings support and add to the current literature on alternative dissertation formats, with a specific focus in the discipline of Instructional Technology.

Publication and dissemination. Research has suggested that most dissertations never get published (De Jong et al., 2005; McPhie, 1960; Robinson & Dracup, 2008), and that completing alternative dissertation formats can lead to increased publication and impact.

However, prior to this study, no data were taken regarding the field of Instructional Technology in particular. In congruence with the literature, our findings showed that most Instructional Technology dissertations never get published (57% in 2014), and that completing a multiple article format or hybrid approach can increase the likelihood of publication, and therefore increase the dissemination and impact, of dissertation research. These quantitative data validate the claim that alternative dissertation formats can increase the impact of dissertations in the field.

Authenticity. In general, the literature supported the assertion that alternative dissertation formats can give students authentic experience in writing for journals outside the institution (Duke & Beck, 1999; Hartley & Betts, 2009; Hill et al., 2011; McPhie, 1960; Morris & Tipples, 1998; Robinson & Dracup, 2008; Walkington, 2008) and in the publication process (Robinson & Dracup, 2008; Walkington & Jenkins, 2008). Additionally, literature outside of Instructional Technology suggested that having publications could increase employment options (De Jong et al., 2005; Hartley & Betts, 2009; McPhie, 1960; Robinson & Dracup, 2008; Walkington, 2008) and jump-start a research agenda (De Jong et al., 2005; Morris & Tipples, 1998). Our research was congruent with these findings, with one exception. While many students and alumni thought that publishing during graduate school could help them obtain jobs in academia, others worried that potential employers might look down on alternative dissertation formats. This discrepancy shows that students and alumni in Instructional Technology value the experience and practice of writing journal articles, but perceive a lack of acceptance that to some may override the benefits to authenticity that alternative dissertations can provide.

Rigor. Even though respondents generally perceived alternative dissertation formats to be more work, a common perception among alumni was that alternative dissertation formats

lessen the rigor involved in the dissertation. They argued that the nature of the multiple article format broadens the scope of inquiry, which leads to a loss in depth. This perception could be why Instructional Technology has had a hard time fully accepting the format as a field.

If Instructional Technology is to continue to offer and implement alternative dissertation formats, the perception that alternative dissertations lack rigor needs to be resolved. Since the majority (83%) of institutions surveyed didn't have specific expectations for quality of alternative dissertation formats, there is opportunity to improve the quality of alternative dissertations while resolving the perception that alternative dissertations lack rigor and depth. If institutions establish specific criteria for alternative dissertations, such as guidelines for how the articles should relate and form a coherent research agenda, and specific ways that candidates can demonstrate depth of understanding, then those in the field might perceive alternative dissertations to be more rigorous. Additionally, we propose that organizations like the Association for Educational Communications and Technology (AECT) consider adopting alternative dissertation formats, in order to propel the rigor of such dissertations forward. Similar to how AECT has created an official document about expectations for tenure and promotion (AECT, 2014), an organization could create official policy positions concerning the completion and mentoring of alternative dissertation formats. These policies could inform students and advisors completing alternative dissertation formats, as well as provide a clear guide for quality and rigor.

Implications for Research

Although this research identified many perceptions of alternative dissertation formats, it also identified gaps that call for further research on the topic. The following are areas that future

research needs to address in order to fully understand the benefits, challenges, and current practices of alternative dissertation formats in Instructional Technology.

Collaboration. Alumni who completed alternative dissertations reported that their dissertations led to collaboration with advisors and committee members after the defense. However, further research is needed to understand the extent and circumstances of this collaboration. Additionally, research is needed to see if alternative dissertation formats can increase collaboration with others besides the committee, such as peers and faculty outside of the student's institution.

Acceptance. Our research found that students, alumni, and department representatives perceived a lack of acceptance surrounding alternative dissertation formats. In particular, students and alumni worried that employers might look down on alternative dissertation formats, and some department representatives found that some of their colleagues were opposed to implementing alternative formats. While the literature suggests that some professionals may be opposed to the change for the sake of tradition (Tronsgard, 1963), other concerns of alternative dissertations were cited, such as an ambiguity of requirements and an unclear view of the role of the committee and defense. These uncertainties in quality may contribute to a perceived lack of rigor surrounding alternative dissertation formats. Further research is needed to see if an improved definition of quality and practice for alternative dissertations could increase acceptance of alternative formats in Instructional Technology.

Preparation. Students and alumni perceived that writing articles during graduate school could prepare PhDs for a career in academia. Specifically, respondents felt that having publications could help graduates obtain employment, and jump-start their careers. However, further research could look at the effects of alternative dissertation formats, and follow students'

job searches and career paths, in order to look more specifically at the long-term benefits and challenges of alternative dissertation formats.

Mentoring. Further research is needed to understand current practices in mentoring alternative dissertation formats. Since department representatives recommended that alternative dissertation formats be tailored to students' goals, strategies for mentoring alternative dissertations may differ from strategies for mentoring traditional formats. Additionally, the amount of mentoring required for alternative dissertations could be studied further. Even though the majority (66%) of the participants in our study felt that they received the same amount of mentoring completing an alternative dissertation as they would have doing a traditional format, our research did not look into the perceptions of advisors of alternative dissertation formats. Further research could delve into the experience of alternative dissertations from a mentor's viewpoint, and get at the struggles of mentoring alternative dissertations, the time involved, and current practices.

Conclusion

As the culminating experience that determines whether or not a doctorate degree is awarded, a dissertation should reflect a student's interests and goals in a way that can prepare a PhD for a lifetime of discovery and scientific writing. Relevant and rigorous, a dissertation of quality can transform a student into a scholar while advancing understanding in the field. For some, alternative dissertation formats may increase both the authenticity and influence of the dissertation experience.

In this study, we investigated perceptions and current practices of alternative dissertation formats through qualitative methods, descriptive statistics, and inferential statistics. We found that alternative dissertation formats increased the academic impact of dissertations, and are

perceived to be more authentic in regards to writing process, collaborative work, and preparation for an academic career. In addition, we found a perceived lack of acceptance and rigor regarding alternative dissertations, possibly because most institutions lack clearly defined expectations for quality and practice. As current practices develop and emerge, alternative dissertation formats could become an effective way to help students become engaged in authentic scholarship practices that can benefit them and further knowledge in the field.

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Appendix A

Current Student Survey Items

<p>What format(s) does your institution currently support for granting doctoral dissertation(s)? (check all that apply)</p>	<p>A. Traditional 5 Chapter Dissertation B. Journal-ready manuscript(s) C. Hybrid of A & B D. Other (please explain)</p>
<p>If you had to choose today, which dissertation format would you complete?</p>	<p>A. Traditional 5 Chapter Dissertation B. Journal-ready manuscript(s) C. Hybrid of A & B D. Other (please explain)</p>
<p>What is your rationale for that decision?</p>	
<p>What CHALLENGES have you experienced, or have you heard existed (from other students and alumni), from completing an alternative-format dissertation?</p>	
<p>What BENEFITS have you experienced, or have you heard existed (from other students and alumni) for completing an alternative-format dissertation?</p>	

Appendix B

Alumni Survey Items

What dissertation format did you complete?	A. Traditional 5 Chapter Dissertation B. Journal-ready manuscript(s) C. Hybrid of A & B D. Other (please explain)
Were you able to choose any other format?	A. Yes B. No
If you published article(s) from your dissertation, please list the JOURNALS in the space below, including the tier at which you would rate each publication:	
IF Alumni published articles from their dissertation:	
According to Google Scholar, how many citations have your articles received from your dissertation?	
Follow up: How much work did it require for you to prepare your dissertation for publication?	1. None. My articles were ready for publication. 2. – 3. My dissertation needed an average amount of editing. 4. – 5. Substantial. I had to completely overhaul my dissertation.
What dissertation format would you recommend that other students complete?	A. Traditional 5 Chapter Dissertation B. Journal-ready manuscript(s) C. Hybrid of A & B D. Other (please explain)
Follow up: What is your rationale for this recommendation?	
IF Alumni completed a traditional dissertation:	
According to Google Scholar, how many citations has your original dissertation (not including articles published from your dissertation) received?	
IF Alumni completed an alternative dissertation:	
According to Google Scholar, how many citations has your dissertation (all articles combined) received?	

Follow up: Do you feel that completing an alternative-format dissertation delayed or expedited your graduation?	A. Delayed B. Expedited. C. Neither, it was about the same time.
Follow up: By how long?	
Follow up: For what reason(s)?	
Do you feel that you received more, less, or the same level of mentoring from your committee members in completing an alternative dissertation? Please explain.	
Which dissertation format do you believe requires more work to complete?	1. Traditional is more work 2. – 3. They're about the same 4. – 5. Alternative is more work
What CHALLENGES have you experienced, or have you heard existed (from other students and alumni), from completing an alternative-format dissertation?	
What BENEFITS have you experienced, or have you heard existed (from other students and alumni) for completing an alternative-format dissertation?	

Appendix C

Department Representative Survey Items

Which format(s) does your program currently support for granting doctoral dissertation(s)? (check all that apply)	A. Traditional 5 Chapter Dissertation B. Journal-ready manuscript(s) C. Hybrid of A & B D. Other (please explain)
If only A was selected: Since your program does not currently offer an alternative dissertation format, has it been considered/discussed?	A. Yes B. No
If No was selected: Since your department does not allow multiple-article format dissertations, what are the reasons? What is your personal opinion about a multiple-article dissertation and the pros/cons of such an approach?	
If Yes was selected: What were the arguments IN FAVOR of alternative dissertation format(s)?	
If Yes was selected: What were the arguments AGAINST alternative dissertation format(s)?	
How strong was support for or against an alternative format dissertation?	1. Strongly in favor 2. Leaning favorably 3. Neutral 4. Leaning against 5. Strongly against
If they offered alternative dissertations:	
How long have you offered an alternative dissertation format as a viable dissertation option?	
What was the rationale for accepting an alternative dissertation format?	
Do you plan to continue to offer this option?	A. Yes B. No
What percent of graduates opt to complete an alternative-format dissertation?	
In your observation, does an alternative format dissertation take longer or shorter to complete than traditional dissertation formats?	A. Longer B. Shorter C. No difference
If longer is selected: How much longer do you estimate a typical student takes to complete an alternative format dissertation?	A. 1-3 months B. 4-6 months C. 6-12 months

	D. 13-24 months E. 25+ months
How many articles are required for your manuscript-format dissertation?	A. 1 B. 2 C. 3 D. 4 or more
How must your program's alternative dissertations be structured? (e.g., a short introductory chapter, several articles, concluding findings spanning all of the articles, etc.)	
Describe any challenges faced in implementing or considering an alternative format dissertation (e.g., institutional challenges, student challenges, faculty/committee challenges, external challenges, etc.).	
Follow up: How have you handled these challenges?	
How (if at all) have faculty or your department benefited from this alternative format?	
How (if at all) have students benefited from this alternative format?	
What are the guidelines for your program's alternative dissertations regarding:	
...the number of PUBLISHED or ACCEPTED articles?	A. 1 B. 2 C. 3 D. 4 E. None, article-format dissertations may be passed without journal acceptance/publication.
...the QUALITY of target journals for the articles?	A. at least ONE article in a journal of high quality B. at least TWO article in a journal of high quality C. at least THREE article in a journal of high quality D. at least FOUR article in a journal of high quality E. There are no expectations defined for journal quality.
...CO-AUTHORSHIP with faculty?	A. No articles are ALLOWED to be co-authored with faculty. B. No articles are REQUIRED to be co-authored with faculty.

	<p>C. No more than ONE article may be co-authored.</p> <p>D. No more than TWO article may be co-authored.</p> <p>E. Co-authorship is irrelevant, as long as the student is 1st author on all articles.</p> <p>F. Other (please describe).</p>
How do committees determine which journals are of sufficient quality for dissertation articles?	
What is the role of the committee, particularly if an article has been accepted for publication?	
What is the role of the prospectus and dissertation oral defense, particularly if an article has been accepted for publication?	
Length requirements for journals do not always leave room for thorough literature reviews, methods sections, etc. How does your program handle this?	
When publishing multiple-article format dissertations in the open access section of the library, how do you avoid copyright issues (if articles have been published in journals)?	
How does your program handle issues of authorship in multiple-article format dissertations? For example, is every committee member listed as an author?	
How does your program avoid self-plagiarizing between articles in multiple-article format dissertations?	
Does your department require articles in multiple-article dissertations to be of a certain tier? For example, candidates for a Tier 1 or Tier 2 journal? If you do, what are your expectations and how do you determine if the articles meet them?	
Does your department allow previously written or even published articles by the student to be included in a dissertation? Under what conditions?	
Does your department allow co-authored publications with multiple student co-authors to count towards one student's dissertation? Under what conditions, and what are the positive and negative repercussions that you have seen from this?	

Appendix D

Additional Analyses

At the request of my committee, I conducted a Chi-square test of Independence to see if completing alternative dissertations increases the likelihood of dissemination. Alumni showed no significant difference in dissemination based on dissertation format completed (traditional vs. alternative), $\chi^2 (1, n = 40) = 1.671, p = .196$. However, I think that it is important to note that the group who completed alternative dissertation formats had a higher percentage of reported publications. While 37% (11/30) of respondents who completed traditional dissertations reported publications, 60% (6/10) of respondents who completed alternative dissertations reported publications. This indicates that there may be practical significance, even if there isn't statistical significance.

Table 1

Descriptive Statistics

Alumni	2010 Survey (61 Alumni Participated)	2014 Survey (43 Alumni Participated)
What dissertation format would you recommend to another student?	30% Traditional format 70% Alternative format 30% Multiple article format 26% Hybrid 14% Other	19% Traditional format 81% Alternative format 36% Multiple article format 24% Hybrid 21% Other
If you completed an alternative format, did doing an alternative format delay or expedite your graduation?	56% Delayed 22% Expedited 22% No difference (same)	23% Delayed 8% Expedited 69% No difference (same)
What dissertation format do you believe requires more work?	42% Traditional format is more work 37% Both formats are the same amount of work 21% Alternative format is more work	16% Traditional format is more work 48% Both formats are the same amount of work 36% Alternative format is more work
If any, how many articles have been published from your dissertation?*	80% No publications 12% One publication 5% Two publications 3% One publication	57% No publications 30% One publication 5% Three publications 5% Four publications 2% Five publications
Department Representatives	2014 (12 Institutions Participated)	
Which format(s) does your program currently support for granting doctoral dissertations?	100% Traditional format 42% Alternative format 42% Multiple article format 25% Hybrid	

*The majority of our participants in 2010 were recent graduates (within 4 years), so it is possible that more articles were published after administration of this survey.

Figure 1

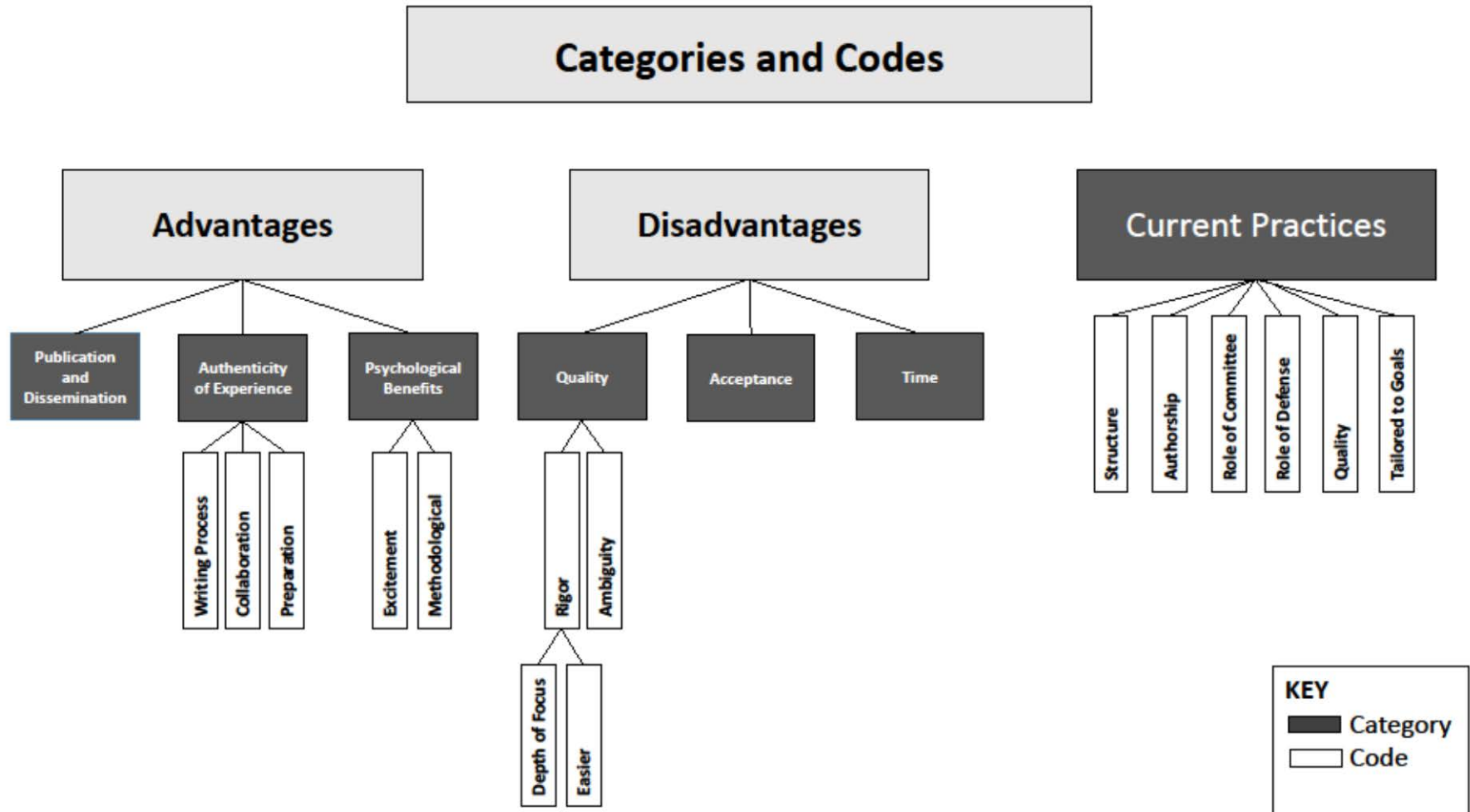


Figure 1: Coding tree for final categories and codes. The dark grey boxes contain the seven overall categories, while the white boxes contain the 15 codes below them.