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A THEMATIC ANALYSIS OF THE STRUCTURE OF DELIMITATIONS IN THE DISSERTATION

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ABSTRACT

Aim/Purpose

The purpose of the research was to examine the function and application of delimitations—what the researcher includes and excludes in a study—in the dissertation process. The aim was to map the delimitations process to improve research, rigor and relevance of findings, and doctoral completion rates using a formalized and standardized approach applied flexibly.

Background

All research is bounded whether formally defined or not. Unlike limitations, which are issues which the researcher addressed after the completion of a study and cannot control, delimitations are what a researcher includes and excludes to make a project manageable and focused on the research question. Yet, there was no research identified which specifically discussed delimitations. Researching the structure and utility of delimitations in educational administration dissertations provided a systematic analysis of the formation of the scope and boundary of research in doctoral studies.

Methodology

The structure of delimitations in dissertations were examined using descriptive quantitative statistics and a qualitative thematic analysis from 28 universities. The first stage included delimitations from 30 dissertations. Triangulation was conducted using the findings with a training set of delimitations in 15 dissertations with a rubric generated from the primary sample.

Contribution

The thematic analysis presented a description and interpretation of the nature of delimitations and a systematic framework to improve the research process in dissertations. Mapping the delimitations process gave a detailed portrait of internal and external characteristics which could aid doctoral students in completing the dissertation. Doctoral attrition rates, poorly completed dissertations, and lack of relevance or applicability of results need remedied. Furthermore, the delimitations rubric provided a systematic method to focus communities of learners around a common goal.

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Findings Findings suggested doctoral students used delimitations haphazardly and lacked

a systematic application to research. Three major themes emerged from the delimitations sections: rituals, equifinality, and pragmatism. Topics within delimitations sections centered around two axes: the internal topics of sampling procedures and factors/variables and external topics of research design and concep-

tual/theoretical framework.

Recommendations Poorly understood and developed delimitations negatively impacted findings in dissertations, completion rates, and future research skills of doctoral students.

By applying delimitations to a design of research framework in a community of learners, doctoral students and dissertation chairs could improve the dissertation completion process and improve research results using a *Delimitations Evalu-*

ation Rubric.

Recommendations Developing a rules-based process with a formalized and standardized process could give researchers a way to evaluate and plan the dissertation process. De-

could give researchers a way to evaluate and plan the dissertation process. Developing and applying rubrics to delimitations could serve as a conduit to effect

tive mentoring, feedback, and empowerment.

Impact on Society
Improving doctoral completion rates in a timely manner would be beneficial to

students' long-term and personal interests. A well-defined delimitations process could improve the dissertation, and strengthened dissertations could add to the

research base.

Future Research Delimitations are listed in one section, but the scope and boundaries are often

fragmented and disjointed throughout a dissertation. By examining complete dissertations for delimitations, there could be further insight. Expanding rubrics as a tool to build a community of learners could develop a holistic approach to

doctoral education.

Keywords delimitations, dissertation, education research, thematic analysis, doctoral educa-

tion

INTRODUCTION

In most doctorate programs the dissertation is a requirement. The dissertation process, from start to finish, requires a great deal of motivation and self-regulation (Kelley & Salisbury-Glennon, 2016). There are many books which offer advice on how to construct a dissertation (e.g., Borden, 2005; Butin, 2009; C. M. Roberts, 2010, and many more, etc.) as well as the research process (e.g., Cohen et al., 2002; Creswell, 2002, etc.). Advice abounds, from articles and books to dissertation chairs and committees, offering direction and criticism (e.g., Smith et al., 1993). The process is daunting and requires the right attitude, a network of support, and the ability to manage a complex problem which results in approximately 40-70% of students not completing the dissertation (Breitenbach, 2019; Davis et al., 2017; Locke & Boyle, 2016; Monaghan, 1989). There are many services and consultants ready for hire, especially with the proliferation of online access.

Possessing proficient research skills and being intelligent were not the only variables which explained success in a doctoral program (Skakni, 2018). Doctoral students often lacked positive socialization opportunities while trying to manage a personal life with doctoral studies, and many students felt they received little support or guidance from supervisors and dissertation chairs (Castelló et al., 2017; Virtanen et al., 2017). Supervisors who were controlling, demanding, and did not give meaningful feedback caused stress and poor retention (Löfström & Pyhältö, 2020). Connections with other scholars, assistance in research design and methodologies, and an opportunity to present findings ameliorated concerns of isolation and feeling overwhelmed (Corcelles et al., 2019).

Despite all the advice and books, the nature and structure of delimitations remain poorly defined within the literature; the gap was no identifiable research directly investigated delimitations. Novice researchers and experienced ones alike possessed little experience with delimitations within research. The research question was both exploratory and explanatory, with a focus on educational administration dissertations: What and how were delimitations constructed within dissertations in educational administration research? Descriptive statistics described the location, length, and readability. A thematic analysis with a training set examined the structure of delimitations and provided a potential use within design of experiments. The significance was the research could improve rigor and relevance of results in doctoral research and improve completion rates.

The article begins with a literature review which explores the history and application of delimitations within the dissertation. An examination of the quality of dissertations and doctoral chair support described problems in current practices. Then a methodology section follows, with results, triangulation using a training set, and a section on saturation. A discussion ensues, with recommendations on how to improve doctoral research.

LITERATURE REVIEW

Completing a doctorate requires a proposal, conducting research, writing the equivalent of a book, and defending the dissertation. Most components of the dissertation were heavily researched and reported in the literature. Names such as Creswell, Hair, Saldaña, and others appeared frequently in dissertations through their authoritative textbooks and treatises. Research methodologies remained the single most reported issue for the dissertation, with admonitions about the positive and negative aspects of experimental methods (Walker, 2005). Other issues, such as limitations (Price & Murnan, 2004), types and prevalence of topics (Ceballos et al., 2021; Isaac et al., 1989), the literature review (Beile et al., 2003; Randolph, 2009), and development of the problem statement (Ali & Pandya, 2021; Jacobs, 2013) were well researched in articles and books. What was elusive was one major topic, which could be a seismic shift in improving dissertations and the completion rate: delimitations.

Despite the proliferation of doctorate programs, the production and supervision of the completion of the dissertation remain inexorable and an enigma (Erichsen et al., 2014). The word delimitations was a relatively newcomer to English in 1852, derived from the Latin *delimitare* and meaning to "fix or define the limits" (Merriam-Webster, n.d.). Dissertations in the 1920s, 1930s, and 1940s routinely had delimitations or other iterations, such as scope, limitations, and boundaries. The best advice was delimitations should logically be developed from the internal structure of the field of study and clearly list which will and will not be studied (Broer & Mohr, 1973; Catlin, 1927; Chambers, 1960). By demarcating the topics included and excluded, researchers can improve validity and reliability by preventing the results post hoc from remodeling what was the intent and purpose of the research.

The dissertation might be the crowning achievement of the doctoral program, but review of the finished products suggested most dissertations lacked usable, relevant findings to the field of study. A template review of social work dissertations suggested epistemological problems with theory, paradigms, reflexivity, and power, which mirrored issues in peer reviewed articles (Barusch et al., 2011; Gringeri et al., 2013). Nursing dissertations reported research design flaws and shortcomings for decades, with a recommendation of a collaborative, productive dissertation chair and student relationship (Meleis et al., 1980; Roush & Tesoro, 2018). Public relations, mathematics educational technology, and educational administration suffered from similar problems in other fields, with dissertations lacking rigor and relevance (Hallinger, 2011; Ronau et al., 2014; Xifra & Castillo, 2006).

All research is bounded, where the researcher makes decisions about inclusionary and exclusionary criteria which require careful, deliberate planning (Harrison et al., 2017) whether one knows it or not. Delimitations provide a researcher-controlled map of the research process:

The delimitations of a study are those characteristics that arise from the limitations in the scope of the study (defining the boundaries) and by the conscious exclusionary and inclusionary decisions made during the development of the study plan. . . . delimitations result from specific choices by the researcher. (Simon & Goes, 2013, p. 3)

Though some books, like Simon and Goes (2011), discuss the need to delimit a study by the problem, participants, and theoretical or conceptual framework, little specificity exists. A key nature of delimitations is the researcher controls the boundaries imposed (Ross & Zaidi, 2019). There were several takeaways from the scant literature on delimitations.

Dissertation chairs matter, but who one gets rested mostly on luck and required verbal and communicative skills beyond being a good researcher (Allan & Dory, 2001; Hamilton et al., 2010; LaFrance et al., 2020). A pervasive dissatisfaction permeated much of the literature, with females often less satisfied than their male colleagues (Gill & Burnard, 2008; Javaid & Hussain, 2018). Several recommendations have been proffered to improve the relationship: clarity in the dissertation process from start to finish in a culturally sensitive manner, special emphasis on conceptual and theoretical issues as well as the methodology, and a focus on timely feedback to keep students progressing (Ehrenberg et al., 2007; Holdaway et al., 1995; Parker-Jenkins, 2018; Stracke & Kumar, 2010; Wang & Li, 2011; Wright, 2017).

Dissertation chairs, committee members, and the advisor-advisee relationships shape and determine much of the success of the doctoral journey (Liechty et al., 2009). As Chiang (2009) found, the entire experience takes on a multitude of challenges, depends on the exercise of power of the dissertation chair, and can be adversarial. Being a dissertation chair requires trust and the ability to critically evaluate and assess students in an inviting, disarming manner (Li & Seale, 2007; Rademaker et al., 2016), yet the function is built off little experience and formal guidance (most chairs completed one dissertation) despite recommendations to improve communication and empower doctoral students (Glazek et al., 2018).

Researchers state delimitations should be a conscious, deliberate choice about what will and will not be researched (Newman et al., 1997; Theofanidis & Fountouki, 2019), but they offered little guidance and no research on the hows and whats. Dissertation chairs, committee members, and fellow professors have little experience with delimitations—a central aspect of developing a systematic and rigorous research regimen. The esoteric, mysterious, and hidden nature of delimitations (or other iterations, such as scope, boundaries, and limitations imposed by the researcher) shroud in secrecy the epistemology of the intended project. Delimitations should make visible both what will (and will not) be researched as well as a conscious, rational choice to make the proposed research project manageable.

METHODOLOGY

Thematic analysis was used to analyze the structure and nature of delimitations in dissertations in educational leadership programs. Ryan and Bernard (2003) stated themes should be derived from the data and received meaning from connections to expressions within the sample. The steps of Braun and Clarke (2006) were modified for use within the analysis. An inductive process was used to analyze and code the data. The sample and population had to be defined.

Two samples were drawn. The first one included 30 dissertations, and the second one was a training set of 15. Totaling 45 dissertations, the sample was large enough to be representative of the population. There were several inclusionary criteria for the sample. First, only dissertations dealing with the topic of educational administration were included. Secondly, classical dissertations were chosen; capstones, publications, and team projects were not included. Thirdly, dissertations were chosen from both Ed.D. and Ph.D. programs in the US and Canada. Though there was no time limit, most dissertations

tations were from 2000-2020. Finally, no more than two dissertations were chosen from the same institution. Any dissertation which did not have a formal delimitations section (or other iteration) was excluded.

After collecting the two samples, all relevant citations were generated, and the delimitations sections were downloaded into Microsoft Word. All delimitations were initially read, with notes and annotations applied. All data analysis was conducted with the use of Microsoft Excel and JASP. Quantitative data were generated: year published, word count, number of paragraphs, number of sentences, location in the dissertation, number of references, and research type (qualitative, quantitative, or mixed methods). A coding schema was selected line by line: in vivo, descriptive, focused, axial, memos, constant comparison memos, and an Aha! section. All codes received a geocode to root the data for further manipulation. After every 3-5 samples were coded, intermittent thematic formation (ITF) was applied in an evolutionary-devolutionary format: The codebook was developed and, or refined, and themes and topics were generated by sorting all data using repetitions, opposites, absences, and degrees (Coker, 2021).

Validity and reliability were checked throughout the intermittent thematic formation. If any theme, topic, or nuance was introduced, the entire sample up to that point was reexamined to see if any previous iterations were missed. With ITF, the previous work was reviewed, modified, and clarified as well as generating new questions and concerns. A novel data saturation method was introduced. With the completion of ITF after the first six sources in the sample, each further ITF used a be on the lookout (BOLO) for new themes, topics, and nuances (nuances were defined as new elements or dimensions to topics and themes).

Triangulation using a different methodology and data set was applied to a training set of 15 dissertations. A primarily deductive approach was used. All quantitative data were collected, as in the primary set, and two t-tests were conducted to see if the training set varied from the primary set. Unlike the primary thematic analysis, a rubric developed from the primary analysis was used to analyze and rate the 15 delimitations sections. There was a formal process to BOLO for any new dimensions or elements not developed from the primary research.

Reflexivity was purposely identified and incorporated into the research and the results. Using my knowledge and experience both as a person who successfully completed a dissertation and as a researcher and frequent peer reviewer, compositing and ghosting made use of all available data (Coker, 2020a). The broader implications can only be understood by a member of the group who completed a classical dissertation. All data were data, making use of all information and analysis (Glaser & Strauss, 2017).

SAMPLE

Thirty dissertations were selected for primary analysis and 15 for the training analysis. All dissertations were from accredited universities in the US or Canada. A total of 28 universities were represented in the two samples, with no crossover of universities between the two samples. As shown in Table 1, the two samples were similar. Besides six delimitations, all sections were in chapter 1. The primary sample had 13 quantitative, 2 mixed methods, and 15 qualitative; the training set had 3 quantitative and 12 qualitative dissertations.

The two samples, as shown in Table 1, were structurally similar. Most delimitations sections were one paragraph, five sentences, and located in the first chapter. Readability was calculated using https://readabilityformulas.com, and the differences were not pronounced. Two t tests were conducted for word count and Flesch-Kincaid reading level to compare the primary and training set. The word count (t(31) = -0.316, p = .754) and Flesch-Kincaid reading level (t(30) = -1.982, p = .056) were not statistically significant (JASP Team (2021). JASP (Version 0.16) [Computer software]). The only difference was there were far fewer quantitative dissertations in the training sample compared to the primary sample.

Sample	Word Count	Sentences	Paragraphs	Flesch-Kincaid Reading Level	Year
Primary	M = 138.83	M = 5.43	M = 1.50	M = 14.99	M = 2014.7
	Med = 88.00	Med = 4.50	Med = 1.00	Med = 14.65	Med = 2020
	(28-470)	(2-14)	(1-7)	(8.4-22.1)	(1971-2020)
Training	M = 152.13	M = 6.87	M = 1.27	M = 12.95	M = 2014.1
	Med = 111.00	Med = 5.00	Med = 1.00	Med = 12.20	Med = 2016
	(34-540)	(2-21)	(1-2)	(8.3-18.0)	(2008-2020)
Total:	M = 142.27	M = 5.91	M = 1.42	M = 14.31	M = 2014.5
	Med = 93.00	Med = 5.00	Med = 1.00	Med = 14.10	Med = 2019

Table 1: The structure of delimitations in the dissertation

Note. Range listed in parentheses. Flesch-Kincaid measured by grade equivalency.

RESULTS

Unlike traditional thematic analysis, the results were bifurcated between themes and topics. Without the inclusion of reflexivity in the data, there was little doubt such results would be possible. Whereas thematic analysis generally includes quotes and snippets of the original (Tong et al., 2007), there was a conscious choice to not include much of the original language. There were two rationales. First, the themes were latent themes, generated only by considering the sample in light of the direct and vicarious experiences of writing delimitations. All themes were tied together by the butterfly effect. Secondly, the topics where of a frequentist approach, broken down by an internal and external framework, and the topics better approximated the results than a plethora of quotes. There were three themes, as depicted in Figure 1.

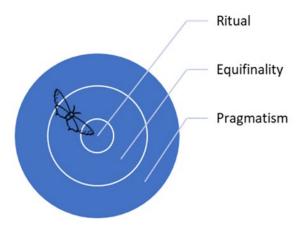


Figure 1: Model of the delimitations process.

THEMES

Bell's (1997) framework informed the understanding of rituals in three ways. First, there was little understanding of the meaning of delimitations and the impact on research design. Secondly, the actors played a defined role, and the performance was central as completion was what mattered. Third, there was a highly restricted code which produced much less variation than in probably any other part of the dissertation. Finally, rituals were at the heart of all themes and defined and determined the other two subordinate themes of equifinality and pragmatism.

Rituals included three primary dimensions: solidarity, drama, and liminality (Turner & Abrahams, 2017; Woosnam & Norman, 2010). Rituals were tribalistic, with the first component consisting of the inclusion of solidarity. Delimitations were neither systematic nor primary. The redundancy was common in most dissertations. Instead of providing necessary information, most of the information was repeated in other sections (sometimes twice in the same section) and offered little effort of systematization. By detailing not-so-common sections, students joined in the ruse of possessing a highly esoteric idea which separated them from the common masses.

The drama defined the next stage. Delimitations sounded mystic and esoteric; common words such as scope and boundary would greatly simplify the entire process. Instead of an easily defined, *a priori* set, delimitations included mystery, fear, and intrigue. What precisely was a delimitation? A complex research map was incapable of being easily mapped—if it could, students could accomplish the tasks as undergraduates. Most dissertation chairs lacked the foresight and experience to assist students in a very important task which would have the potential to improve the validity and reliability of research.

How to establish liminality and cross over? The entire delimitations process remained mysterious and incomplete for doctoral students. With little experience or models, students and dissertation chairs had little to go on beyond a topic or two (two topics were an extreme for most delimitations). There was strong evidence delimitations were nothing more than a business-as-usual approach, offering little facial value but providing strong symbolic value in understanding a subject with a singular attachment to dissertations. While there was a pretense of an *a priori* development, the line between a successful and unsuccessful dissertation—let alone a reliable and valid one—was illusory. Delimitations devolved into a restatement of sampling procedures for most all delimitations researched to satisfy a requirement and not any real utilitarian value throughout the research process.

The ritual segued into equifinality: Every action in research resulted in a claim of a valid and reliable dissertation. No matter what the decision, there was no impact on the end results except a positive outcome. Seemingly, every decision suffered from the cliché "All roads lead to Rome." One might argue dissertations rejected or incomplete lacked merit in some way. Yet, one would think there would be not only standardization, but there would be failures along the way which threatened the legitimacy of the dissertation. An unfortunate aperture into delimitations and the dissertation process writ large was if someone did something, it must be good. With the self-reported lack of problems, one knows dissertations suffered from a problem perpetuated within publications: a publication bias, especially for positive findings. The lack of failure or design problems stated *post hoc* should give pause to any astute reviewer.

If every action ended with the same result, a surprise in probability, then how one picked delimitations was an absent proposition in equifinality. Pragmatism defined choices, as opposed to informed decision making. Most all choices, from the sample to the methodologies (Creswell & Miller, 1997) and beyond revolved around the availability heuristic. "Fortuitous," "teacher availability," and "one location" were some of the ways authors stated how and where the studies occurred. A supermajority of dissertations used readily available samples from one location; the lack of ability to generalize should be noted, even if one claimed otherwise. Since alternatives were rare as well, the choices seemed to be focused on inclusionary criteria.

When there were exclusions, the comments were banal and self-evident. For example, "only selected from one time period" was a statement which added nothing. Other statements of triviality were common: a.) "only included students who participated" (how would one include students who did not participate?), b.) since 8th graders were chosen, "7th graders were excluded" (how could an 8th grader not be a 7th grader), and c.) a student intervention was "delimited to students" (who else could be an alternative?).

Rituals, equifinality, and pragmatism appeared as themes which bound the underlying structure together. There was a dimension which appeared across all themes: the butterfly effect. The butterfly

effect from meteorology was used as it pertained to local and seemingly inconsequential causes producing larger effects. The movement of the butterfly effect was not one way. All decisions were positive and resulted in claims which greatly strengthened the dissertation outcome, with the absence of any small decision causing a ripple which produced harm. Hormesis was also common, with even negatives, such as attrition and an inability to complete the study as designed, still producing a positive effect. Most actions flowed from what was available, both from the sample and the researchers' skills, and the ritual was a rite of passage into a new world. Everything added to claims of making the final results better, and the lack of development did not prevent success. The butterfly effect was always present. Every flutter, every time, created and perpetuated optimal conditions.

There were rare amendments or reports on how the theoretical delimitations, defined beforehand, changed as plans were put into place. There was little creativity or individualization of what should be a creative, shared process (Bargar & Duncan, 1982). Lack of rationales, alternatives, and cohesiveness were the norms. There was little systematic thinking which produced choices and decisions. The delimitations process was *pro forma*, with needless repetition.

TOPICS

Beyond the rituals, equifinality, and pragmatism, delimitations had topics which could be analyzed, coded, and categorized. Four key topics dominated as two axes of delimitations: external and internal. External topics were sampling design and factors or variables. Internal topics were research design and the theoretical or conceptual framework. Two stubs were identified: the literature review and reliability and validity issues. The topics of delimitations were largely unidimensional and externalized. There was little evidence of a 360-degree application of delimitations to the research design framework.

Of all the topics identified, sample was the primary concern which appeared in every delimitations section except one. The iteration was haphazard and often poorly developed. Sampling issues were broken down into the following elements: location, groups, characteristics, size, selection criteria, time frame, exclusion, and availability. Some elements were implicit within the description, and most delimitations sections had only two to four elements. For most delimitations sections, sample was the only issue.

Availability was most prevalent: selected a sample at one's work, selected a principal who was a friend, or one's classroom, etc. Samples were small, readily available, and easily accessed. The lack of representation was downplayed as nevertheless generalizable and transferable. The availability heuristic, not the research questions, seemed to matter most.

The other external delimitation, factors or variables, were absent from most delimitations sections. Elements defining factors or variables were the following: macro and micro variables, demographics, and outcomes. The identification and utility of confounding variables were largely absent, as well as latent variables, moderators, and mediators. While much of these factors might not be known until later in the research process, especially for novice researchers, the issue reveals the doppelgänger of delimitations which rarely cropped up: limitations. All delimitations can work to reduce and, or minimize possible limitations.

There were two internal topics: the research design and the framework using a theoretical or conceptual basis. Both internal topics were infrequent within delimitations, with little development. Eight elements comprised the research design topic: the researcher's position, research paradigm, methodology, methods, researcher skills, researcher's conflicts, data collection, and temporal matters. The framework examined the researcher's positionality and inclusionary and exclusionary criteria based on a theoretical guide. Positionality, casting oneself as the hero, was portrayed as a self-enlightenment greater than most people within a sample and served as confirmation of one's views. There was a righteousness heuristic; methodologies and choices were not predicated upon need or optimization but applied based on one's experiences and competencies.

Norris (1997) stated researchers need to question the research design to improve validity and reduce bias. Variables were generally proxies measuring intangible constructs, offering varying degrees of reliability, validity, and usability (Bannigan & Watson, 2009). Delimitations were essentially a qualitative endeavor, which should take account of reactivity and researcher bias and search for obstacles, problems, and unforeseen issues to improve the reliability and validity of a study. Yet, there was a lack of systematization within the whole process, and optimism bias permeated most sections which should offer choices and alternatives which led to inclusion and exclusion of components of the research design. Delimitations were stolid, simple, and projected little value, when the decisions should be robust, iterative, and more artistic than automatic.

TRIANGULATION

Triangulation can improve validity and reliability of a study, with a common method using two different data sets (Heale & Forbes, 2013). The purpose was not only to confirm findings but also to further define and explore the research questions (Patton, 1999) by examining other universities and researchers within the same era. In the training set were 15 dissertations, which ended up being structurally similar to the primary set. To examine the training set, a rubric was developed and applied to the secondary set after piloting with the primary set. As shown in Table 2, the *Delimitations Evaluation Rubric* scored the training set and was used to compare findings with the thematic analysis of the primary set.

Table 2: Delimitations Evaluation Rubric

	Delimitations Evaluation Rubric						
	Do the research design's delimitations create a satisfactory answer to the research question? An unclear answer overrides any further analysis. Consider all questions and units from the perspective of optimal versus pragmatic.						
	1.	Sample	1-2-3-4-5-6-7-8-9-10				
		The population and sample are derived from the research question and provide units of analysis.	Rationale?				
		Units: 1.1-Population/Sample Frame. 1.2-Sample Size. 1.3-Loca-	Alternatives?				
External		tion. 1.4-Characteristics/Groups. 1.5-Time frame. 1.6-Availability. 1.7-Selection Method.	Exclusions?				
Ext	2.	Factors	1-2-3-4-5-6-7-8-9-10				
		The factors are the variables used to represent constructs included in the study.	Rationale?				
		Units: 2.1-Demographics. 2.2-Outcome Variables. 2.3-Confound-	Alternatives?				
		ing Variables.	Exclusions?				
	3.	Design	1-2-3-4-5-6-7-8-9-10				
		The design includes the paradigm and the methodology and methods.	Rationale?				
		Units: 3.1-Paradigm. 3.2-Methodolgy/Methods. 3.3-Researcher's	Alternatives?				
nal		Skills. 3.4-Data Collection.	Exclusions?				
Internal	4.	Framework	1-2-3-4-5-6-7-8-9-10				
		The framework provides either a conceptual or theoretical way to approach and understand the research.	Rationale?				
		Units: 4.1-Conceptual Framework/Theoretical Framework. 4.2-	Alternatives?				
		Researcher Positionality.	Exclusions?				

Do the delimitations anticipate limitations? Can limitations be minimized?	Analysis?
Four issues need considered: Research Execution, Literature Review, Reliability and Validity, and Optimizing Research Question Results.	Analysis?

Rating: On a scale of 1-10, 1 is poor to 5 is fair to 10 is excellent. A recommendation is to first rank three to five delimitations sections and then apply the rubric to develop consistency in rating. Results can be used to improve and strengthen the research process. A timeline should be established. The rubric should be adapted to the research study.

The findings mirrored the primary sample in many ways, as shown in Table 3. Sample was, by a wide margin, the most discussed concern (location, group, time frame, and selection criteria were the most important, with other elements infrequent). Unlike the primary sample, outcome variables were in 13 delimitations sections in the training set. The design and framework were found in 6 delimitations, with few elements in each.

Topic	Total Count	Average	Rating (1-10)
Sample	41 (range: 1-5)	2.73	4.67
Factors	15 (range: 0-2)	1.00	3.60
Design	6 (range: 0-2)	0.40	1.80
Framework	6 (range: 0-1)	0.40	2.33

Table 3: Rubric results in the training set.

Besides the inclusion of outcome variables, the results were similar to the primary set and suggested the thematic analysis produced valid and reliable results. All delimitations sections in the training set included external topics, such as the sample and outcomes. If each rating was weighted equally, the highest score was 47.5% (range of 20%-47.5%, with an average of 31%). Many delimitations sections were repetitive, and there was an explicit search for stubs or new topics and elements; none was found. Most delimitations sections were poorly developed and articulated.

SATURATION

Data saturation within qualitative research means a phenomena has been extensively studied, no further information can be obtained from further analysis, and the study is replicable (Fusch & Ness, 2015; O'Reilly & Parker, 2013; Saunders et al., 2018). Guest et al. (2006) suggested saturation can occur with as few as six interviews, and though nuances and stubs can appear, saturation generally occurs within the first 12. Creswell found a sample of four or five was sufficient for saturation, though researchers have to be cautious inclusionary and exclusionary criteria did not lead to confirmation bias (Onwuegbuzie et al., 2016). For purposes of this study, data saturation meant no theme or elements were possible in new data, and one could reproduce the results.

Coker (2021) applied a novel method to make monitoring saturation systematic: intermittent thematic formation (ITF). Using ITF within the broader evolutionary-devolutionary framework, after every three to four delimitations sections were coded, themes were developed and then refined. Formally, there was an examination if any new theme or iteration appeared, and if the finding had been previously overlooked using a BOLO. The BOLO also looked for divergences and nuances to try to short circuit confirmation bias and tunnel vision. Another advantage was ITF created an auditable trail of choices about themes and topics.

The findings suggested one new item and two nuances after number 12. In the 21-24 data set using ITF, a stub (literature review) was identified. The findings of Guest et al. (2006) were applicable in

the current study, and the stub added further validity and reliability by being open to any divergence; stubs and divergences, as well as nuances, should be commonplace in most qualitative studies at any time. ITF was also explicitly used in the training set to formally hunt for new themes, topics, elements, and dimensions, and no nuances or divergences were found. The conclusion was the results mapped delimitations thoroughly, and the findings were valid and reliable.

DISCUSSION

"Addressing and achieving an appropriate balance between both the scope and apparent incongruity of the proposed topic can provide a clear path for the doctoral student in their journey of executing rigorous research" (Peterman et al., 2020, p. 98). Delimitations were commonly found in many dissertations, but the utility beyond a ritual which placed more importance upon completion than substance remained doubtful. Recasting delimitations in research could significantly improve the dissertation process, improve the dissertation chair and committee member mentoring, and guide doctoral students with a process. Four key points improve the utility of delimitations: design of research, sampling frame, negotiations with the dissertation chair and committee, and the merger of the artistic with the formulaic.

Delimitations should provide a road map for the entire research process with a theoretical, a priori development and a reconciliation and report post hoc. Developing the most robust, valid research studies was paramount and required reflections and constant adjustments through the entire process (Benge et al., 2012). Thinking should involve a backwards design component (McCaslin & Scott, 2003) to improve preplanning and forecasting problems, obstacles, and limitations. The entire process is iterative, incomplete, and fractured by the fluidity of a myriad of research decisions which are all interrelated and produce possible deleterious results. The delimitations analysis must be a living, breathing movement which demands constant attention throughout the dissertation journey. Delimitations, like theories and paradigms within the research process, control the entire research process and offer a contextual view of how and what the researcher performed to carry out the dissertation. One's delimitations impacted most limitations, and the use of a 360-degree forecasting regimen with a near and far perspective to examine confounders, mediators, moderators, latent, and hidden variables could minimize and, or eliminate threats to validity and reliability. Comprehensive planning of all facets of research were rarely carried out, causing many decisions to be made in isolation and supported by self-deception and willful ignorance. The lack of associational and bidirectional thinking, especially with true alternatives, hampered the research process and could be remedied with a comprehensive planning process, such as the *Delimitations Evaluation Rubric*. Though many researchers believe in equifinality, there was little evidence or logic in its veracity.

A paradigm shift is needed in sampling strategies. No issue demonstrated more importance in delimitations than sampling. Shenton (2004) offered recommendations on sampling strategies and reporting, but Morse (2008) reminded authors to be succinct and relevant in descriptions. The current research suggested pragmatism and lack of comprehensive planning dominated many sampling strategies in research reported in dissertations, which has been found in research in general (Banyard & Hunt, 2000). Easy accessibility and availability often trumped all other research decisions, rendering transferability and generalizability difficult if not impossible (Kline et al., 2019), though large samples and p hacking were just as possible (Lin et al., 2013). Sampling should be representative of the population under study, and efficient and effective methods can and should be employed by looking beyond one's realm. For example, a case study at one school could be improved by adding interviews from surrounding schools to compare any divergences. Another issue was small samples could be formulated and selected with greater power and representativeness.

Design of research and sampling must process through and by consent of the dissertation chair, with a dependency on a fluid, productive relationship (Golde, 2000). The formation of a positive relationship between the dissertation chair and doctoral candidate influences how students perceive the pro-

cess (Pyhältö et al., 2015). There was little evidence dissertation chairs possessed the necessary competence to question and manage doctoral research except by application of prior experiences. Instead of possessing an intrinsic value, the dissertation chair-doctoral student relationship in the construction of delimitations was treated as a rite of passage, with a pronouncement of a laissez-faire attitude, but reality was markedly different: Little direction and meaningless feedback, as the doctoral student generally had no background knowledge to connect a fragmented process. What mattered to most doctoral students was completing a ritual which was examined post hoc and lacked little influence on decisions long since made and implemented. Problematization and complexity were valued over utility and informed decision making.

Rubrics, templates, and protocols have been suggested as ways to improve dissertation quality and improve completion rates (Amankwaa, 2016; Azikiwe, 2015; Lovitts, 2005), though few researchers or programs adopted this suggestion. A paradigm shift could improve rubrics: Develop and foster communities of researchers with robust support from supervisors and peers (Ciampa & Wolfe, 2020; Colombo, 2018; Kumar & Stracke, 2007; Lahenius, 2012; Lim et al., 2019; Sala-Bubaré & Castelló, 2017). Procedures from the start and post hoc analysis have the potential to improve reliability and validity, but the procedures are no guarantees (P. Roberts & Priest, 2006; Thurmond, 2001). Examining and planning research from the commencement to the end can make a rules-based approach improve logic and coherence of findings (LeCompte & Goetz, 1982). The findings and application of the *Delimitations Evaluation Rubric* hinge on applying the formulaic in a flexible, iterative fashion to an artistic endeavor.

Advice and self-help books offered doctoral students how to make the dissertation process simple and stress free, but there was no cookie-cutter approach or way to reduce all the requisite skills to a simple rule (Kamler & Thomson, 2008). Writing a dissertation involves difficult, unforeseen problems and should involve false starts, problems, and continuous rewrites as the process unfolds (Walton et al., 2020). Understanding and applying delimitations research could translate a problem statement into a comprehensive methodology which produces systematic research. Too many dissertations and research projects served no purpose other than to confirm what one wants to find and offered little influence in the field (a finding repeatedly found going back over 30 years in other fields as well, e.g., Geertz, 1984; White, 1986, etc.). Self-deception and ignorance became real problems within the confines of writing a dissertation, and using rubrics and mechanisms to question and doubt oneself allow the researcher to be deliberate and generative about a process which inherently lacks certitude.

LIMITATIONS

The nature of delimitations in the dissertation provided a limitation: Delimitations were scattered throughout most dissertations, from the sampling sections to the methodology section to the literature review. Reading entire dissertations for delimitations would provide a more complete picture of the complexity. How researchers used and constructed delimitations could be captured by interviewing doctoral students and reviewing notes and rough drafts throughout the research process.

The composition of doctoral students changed over the past several decades, with an increase in part-time and distant students who have significant life and work commitments becoming the majority over full-time students (Gittings, et al., 2018; Wilson & James, 2021). The stress of doctoral studies (uncertainty, self-doubt, and isolation, etc.) and the resultant mental health issues (depression, fatigue, and lack of meaningful relationships, etc.) impact students' well-being and continue to plague doctoral students (Byrom et al., 2020; Jackman et al., 2021; Schmidt & Hansson, 2018), which could be exacerbated by poor supervision and difficulty translating research methodologies into manageable projects. Since time immemorial, researchers struggled with understanding and gaining acceptance into the culture of research (Deem & Brehony, 2000). Future research should not only examine the use of rubrics and templates—attempts at standardization and formalization—but how to provide a holistic induction process from start to finish based upon the unique needs of each learner.

CONCLUSION

The delimitations process should be a guide to the systematic formulation of the research process, collection of data, and analysis. Reflections in research produce value if one has a problem with one's actions, finds a gap, and acts on what can produce improvements. Disruptive thinking, alternatives, and a fluid process are a necessity (Coker, 2020b). Writing a dissertation process was a daunting, exhausting process which often lacked appropriate supervision (De Clerq et al., 2021). Delimitations and the associated rubric should be negotiated and mediated by the research questions and methodologies from the commencement of research. An inside-out delimitations can challenge always producing positive findings with no identifiable threats to validity and reliability. All research has limitations, but in the pursuit of completion, null findings, poor execution, and anomalies often remained obscured.

Schwab and Starbuck (2017) found researchers and professors used questionable, sometimes unscrupulous methodologies because there was the expectation one should find significant results which supported one's theories. Doctoral studies should progress with a gradual release model of increasing competence and independence (Devos et al., 2017; Hill & Conceição, 2020). A delimitations rubric could serve to map out a research agenda before implementation and provide an auditable trail of decisions with rationales, but care must be taken to avoid codependent relationships (L. A. Roberts & Bandlow, 2018). Rubrics serve best when user adapted, visited repeatedly, and considered with multiple possibilities. Rethinking delimitations as a vehicle to make the research design visible and transparent could transform the entire dissertation process and guide all participants.

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