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EXPLORING DOCTORAL WRITING SELF-EFFICACY AND APPREHENSION IN A DISSERTATION WRITING COURSE

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ABSTRACT

Aim/Purpose	This study explored changes in writing self-efficacy and writing apprehension among online doctoral students throughout their first dissertation writing course. By examining the facilitators and obstacles to online doctoral student writing success, we concluded that receiving specific, concrete, and iterative feedback is instrumental for the growth of doctoral students' confidence during the early stages of the dissertation process.
Background	Previous scholarship has recognized that the dissertation writing process is a key contributor to attrition rates in doctoral programs. However, there is limited research on how online doctoral students experience writing apprehension and self-efficacy during this crucial stage. Drawing upon self-efficacy theory as a framework, our study sought to fill this gap by investigating changes in these constructs among 53 participants as they composed their first two chapters.
Methodology	This convergent mixed methods study employed both quantitative surveys and qualitative reflections collected before and after the completion of a one-term dissertation writing course intervention. We examined participants' self-perceptions of their mechanics skills, essentials efficacy (overcoming

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	difficulties), relational-reflective efficacy (connecting with others), and relationship building.
Contribution	This study contributes to existing research on online doctoral student dissertation writing experiences by revealing the importance of specific, concrete, and iterative feedback in fostering students' writing confidence.
Findings	Our findings revealed small effect sizes in participants' overall confidence levels related to their academic writing self-efficacy but no statistically significant changes. Nonetheless, qualitative data indicated positive experiences of growth in terms of scholarly proficiency development, which contributes to existing literature gaps.
Recommendations for Practitioners	Faculty working with online doctoral students who are writing their dissertations should provide specific, concrete, and iterative feedback to support the growth of students' writing confidence during the early stages of the dissertation process.
Recommendations for Researchers	Future researchers on this topic should expand the scope of their focus beyond just the first term or course and conduct longitudinal studies that encompass different phases of dissertation work in order to gain a more comprehensive understanding of changes in writing self-efficacy and apprehension among online doctoral students.
Impact on Society	By providing specific, concrete, and iterative feedback to doctoral students during the dissertation writing process, faculty can empower them towards disciplinary mastery and expertise, enabling successful completion of the program and equipping them with expert knowledge to make a meaningful impact in their respective fields and industries.
Future Research	Future research should expand the scope of the focus on doctoral student writing apprehension, anxiety, and self-efficacy to include other stages of the dissertation research and writing process, perhaps also examining these writing constructs and how they vary given student characteristics.
Keywords	writing self-efficacy, writing apprehension, writing anxiety, dissertation writing, graduate writing

INTRODUCTION

Despite the changes in doctoral education over the last three decades (e.g., the rise of online and professional degree programs), one consistent aspect of graduate education research remains the often-cited 40%–50% attrition rate that plagues academia (e.g., Council of Graduate Schools, 2008; Kennedy et al., 2015; Locke & Boyle, 2016). While these rates vary across disciplines and modalities, Kennedy et al. (2015) suggested that online doctoral programs experience higher attrition rates than on-the-ground programs. While many factors contribute to these statistics, several researchers identify the dissertation-writing process as a key contributor to doctoral program attrition (Burns & Gillespie, 2018; Locke & Boyle, 2016; Santicola, 2013).

Because of the importance of dissertation writing for doctoral program completion, the study of writing self-efficacy has emerged as a logical focus for researchers exploring how best to maximize doctoral completion rates (e.g., Dupont et al., 2013; Varney, 2010). Building upon the correlation between academic self-efficacy and positive academic outcomes (Fokkens-Bruinsma et al., 2021; McBrayer et al., 2018; Schunk & DiBenedetto, 2016), scholars of writing instruction have explored self-efficacy theory in the writing development process. Even as writing-assistance technologies have

changed (i.e., word processing, the internet, and now generative AI), the focus on writing self-efficacy and apprehension has remained a consistent, foundational mediating factor of concern to researchers (e.g., Wilson et al., 2021). While such inquiries have yielded implications for writing development scholarship, they tend to focus on students early in their writing journeys (e.g., Prat-Sala & Redford, 2012; Woodrow, 2011) or students writing in a second language (Arroyo González et al., 2021; Lee & Evans, 2019; Ruegg, 2018; Sun et al., 2021; Tsao, 2021; Zhang et al., 2023). Comparatively, few studies focus on writing self-efficacy among on-the-ground doctoral students (Dupont et al., 2013; Varney, 2010), leaving the study of writing self-efficacy among online doctoral students as an under-researched area of inquiry. To fill this gap, this convergent mixed methods study explored changes in writing self-efficacy and writing apprehension among 53 online doctoral students throughout their first term of a dissertation writing course intervention while they wrote the first two chapters of their dissertation. This study answered the following three research questions (RQ):

> **RQ1 (Quantitative RQ):** What are the effects of online doctoral students' writing apprehension and academic writing self-efficacy after taking a 1-term dissertation writing course intervention?
>
> **RQ2 (Qualitative RQ):** In what ways have online doctoral students' perceptions of their writing abilities changed after they took a course intervention to write their literature review and methodology chapters?
>
> **RQ3 (Mixed methods RQ):** To what extent do online doctoral students' written reflection data converge or diverge with their changes in writing apprehension and academic writing self-efficacy scores after taking a 1-term dissertation writing course intervention?

We collected data for this study in 2021, before the rise of popular-use generative AI that can now complement the writing process (Cowling et al., 2023). Despite advancements in technology that aid writing, self-efficacy, and apprehension continue to play a crucial role in shaping writing outcomes (Wilson et al., 2021). Therefore, this research on how online doctoral students experience writing self-efficacy and apprehension in the dissertation process remains relevant even as the supporting technology evolves.

LITERATURE REVIEW

The rapid development of online doctoral programs introduced a distinctive focus on the unique experiences of online doctoral writers (Jiang et al., 2021; Werse, 2021; Werse et al., 2022). While online and on-the-ground doctoral writers encounter similar writing-development obstacles, the online environment introduces additional barriers to writing success (Melián et al., 2023). In the following literature review, we examine scholarship on the three focal topics of this study – barriers to writing success in online doctoral programs, writing self-efficacy, and writing apprehension – to argue that the study of writing self-efficacy among online doctoral students is a promising yet under-researched area of study.

ONLINE DOCTORAL PROGRAMS

Scholarship recognizes the unique writing experiences, stressors, and needs of doctoral students throughout the dissertation process (Badenhorst & Guerin, 2015; Calle-Arango & Ávila Reyes, 2023; Simpson et al., 2016). In contrast to undergraduate writing, graduate students write in more technical disciplinary discourse that facilitates their socialization into the academe's knowledge-production industry (Badenhorst & Guerin, 2015). The production of a dissertation involves a longer, more strenuous, and emotionally taxing writing experience than students have previously encountered (Guccione & Wellington, 2017). Many doctoral students begin the process having never written a dissertation of this nature before, and thus, they are often unsure about the skills, competencies, and strategies needed to succeed (Ondrusek, 2012; Spaulding & Rockinson-Szapkiw, 2012). As a result, numerous scholars speak to the unique needs of doctoral students as writers as well as ways to

support them (Badenhorst & Guerin, 2015; Calle-Arango & Ávila Reyes, 2023; Simpson et al., 2016). The scholarship on graduate student writing development repeatedly emphasizes the importance of trusted relationships with advisors, peer support, and clear and timely mentor feedback (Caffarella & Barnett, 2000; Pritchard, 2018; Zhang et al., 2023).

The recent rise of online doctoral programs, however, has introduced new complexities to student dissertation writing experiences. While online doctoral students commonly report numerous challenges to degree completion, one of the most common themes emerging from the literature is the amplified sense of isolation (Graham et al., 2023; Melián et al., 2023). Online doctoral programs introduce a new level of "transactional distance" between the student writers and their mentors (Werse et al., 2022, pp. 52–53). Naturally, this distance complicates the creation of trusted advisor relationships, community peer support, and timely mentor feedback that the scholarship identifies as important for doctoral student writing success. This recognized value of communal support and timely feedback from trusted mentors holds striking parallels with the broader application of self-efficacy theory to writing development (Fong et al., 2021; Pritchard, 2018; Ruegg, 2018). As a result, writing self-efficacy theory supplies a promising framework to examine the facilitators and obstacles to online doctoral student writing success.

Writing Self-Efficacy

Interest in writing self-efficacy emerged as one of many disciplinary-specific applications of self-efficacy theory since Bandura's (1977) development of the framework. Despite the debates concerning how best to measure self-efficacy (Klassen et al., 2011; Morris et al., 2017), studies report a correlation between academic self-efficacy and motivation, perseverance, self-regulation, and academic outcomes (Fokkens-Bruinsma et al., 2021; Kryshko et al., 2022; Schunk & DiBenedetto, 2016). Inversely, low academic self-efficacy correlates with academic anxiety, apprehension, and procrastination (Klassen et al., 2008; Spada et al., 2006). When applied to writing development, higher writing self-efficacy tends to correlate with positive writing outcomes (Prat-Sala & Redford, 2012; Pritchard, 2018; Woodrow, 2011) just as low writing self-efficacy correlates with higher levels of writing apprehension, writing task avoidance, and adverse writing outcomes (Pritchard, 2018; Singh & Rajalingam, 2012).

Writing outcomes depend upon a complex intersection of internal and external factors, which contextualizes why many scholars identify writing self-efficacy as a "mediating" factor rather than a predictor of writing outcomes (Dupont et al., 2013; Varney, 2010). The relationship between writing self-efficacy and writing outcomes is complicated by the tendency among novice writers to overestimate their writing proficiency (Helsel & Greenberg, 2007). However, one's perceived capability is impacted by several factors, such as perceived social support (Dupont et al., 2013) and preexisting mental health (Spada et al., 2006). These complexities contextualize studies that observe that increases in writing self-efficacy do not always correlate with improved writing outcomes (Duijnhouwer et al., 2010; Frank Webb et al., 2016). For this reason, rather than speaking of writing self-efficacy as a predictive factor for writing outcomes, several scholars more precisely discuss it as a factor that "mediates" the impact of other stressors, anxieties, and obstacles (e.g., Dupont et al., 2013; Pajares & Johnson, 1994; Varney, 2010).

Writing Apprehension

Numerous studies have identified an inverse correlation between writing apprehension and writing self-efficacy (Crumbo, 1999; Pajares & Johnson, 1994; Singh & Rajalingam, 2012). Scholarship has linked writing apprehension (sometimes referred to as "writing anxiety") with a fear of failure (Onwuegbuzie & Collins, 2001), which results in task avoidance and negative writing outcomes (Daly, 1985; Onwuegbuzie, 1999; Riffe & Stacks, 1992). Higher levels of academic apprehension tend to correlate with lower academic self-efficacy and more procrastination (Schouwenburg, 1992; Seo, 2008; Spada et al., 2006).

These findings on writing apprehension have led to discussions about strategies to reduce apprehension and encourage engagement with the writing process (Bayat, 2014; Elbow & Sorcinelli, 2005). Most of these strategies involve creating an environment in which feedback flows through interpersonal relationships, reducing the communicative distance between the writer and the reviewer. Others suggest constructing a non-judgmental and shame-free learning environment for writers (Fox, 1980; Krause, 2001). While embracing the relational side of feedback remains a valuable pedagogical practice, as with writing self-efficacy, writing apprehension and its outcomes often result from a complex set of interrelated factors that extend beyond the boundaries of the writing process (Rechtien & Dizinno, 1997; Reeves, 1997). As a result, no single approach or practice can alleviate writing anxiety for all authors.

Assessment: The Need to Study Writing Self-Efficacy and Apprehension Among Online Doctoral Student Writers

Most writing self-efficacy studies focus on students earlier in their writing development who are at the primary, secondary, and college levels (Sanders-Reio et al., 2014; Woodrow, 2011) or students writing in a second language (Arroyo González et al., 2021; Lee & Evans, 2019; Ruegg, 2018; Sun et al., 2021; Tsao, 2021; Zhang et al., 2023). Omitting the specific focus on self-efficacy as a mediating factor for graduate students writing a second language, studies of graduate students at the master's level have confirmed that higher writing self-efficacy (and the related metrics of self-regulation) tend to correlate with positive writing outcomes on term papers and theses (Onwuegbuzie & Collins, 2001; Pritchard, 2018; Wagener, 2018). Similarly, Stadtlander et al. (2020) studied 22 doctoral students throughout a 6-month internship designed to help them develop the needed skills to engage in the publication process, finding that their writing and research self-efficacy rose throughout the internship. However, Stadtlander et al. (2020) did not focus specifically on the dissertation writing process. Collectively, these studies reaffirm the value of social support, iterative feedback from trusted mentors, and self-efficacy throughout the writing development process.

Of the studies on graduate student writing self-efficacy, two focused on doctoral students during the dissertation process. Varney (2010) studied 60 scholarly practitioner doctoral students in the field of education, finding that writing self-efficacy correlated with thesis completion. Dupont et al. (2013) surveyed 341 doctoral students just before they defended their dissertations to identify potential factors that could predict the postponement of thesis completion. They identified several forms of social support mediated by self-efficacy as instrumental in students' successes. Both of these studies focused on traditional on-the-ground doctoral students, leaving the study of writing self-efficacy among online doctoral students during the dissertation process unaddressed. To address this gap in the literature, we designed this convergent mixed methods study to extend the study of writing self-efficacy to online doctoral students.

Research Methods

This mixed methods study explored changes in writing self-efficacy and writing apprehension among 53 doctoral students throughout their first term of a dissertation writing course intervention featuring significant feedback on their writing. After receiving an exempt determination from our institution's Office of Research Compliance, we collected and analyzed the quantitative and qualitative data independently before integrating the data (Creswell & Plano Clark, 2018).

Participants

The participants for this study consisted of 53 students from one cohort of an online EdD in Learning and Organizational Change at an R1 private university in central Texas. These students enrolled in a dissertation writing course intervention in the Fall of 2021 (see Table 1). Most students remained on track with their original cohort course sequence (81%, $n = 43$) and are females (70%, $n = 37$). Stu-

dents identified as White (53%, *n* = 28), Hispanic or Latino (23%, *n* = 12), Black or African American (21%, *n* = 11), Asian or Pacific Islander (2%, *n* = 1), or Multiracial (2%, *n* = 1). All participants completed a master's degree within the past one to 30 years (*M* = 8, *SD* = 6.6), and 26% (*n* = 14) wrote and defended a master's thesis. Participants (98%) held full-time professional employment in the following sectors: K–12 education, higher education, business, armed forces, and corporate training. More than half of the students (57%, *n* = 30) supervised other employees (*M* = 21, *SD* = 24, *Mdn* = 10) in their workplace.

Table 1. Participant demographics

Demographic characteristic	*n*	% of *N* = 53
Gender		
Male	15	28%
Female	37	70%
Non-binary/other	1	2%
Racial Identity		
Asian or Pacific Islander	1	2%
Black or African American	11	21%
Hispanic or Latino	12	23%
White or Caucasian	28	53%
Multiracial or biracial	1	2%
English as a Second Language (ESL)		
Yes/Maybe	5	9%
No	48	91%
Parents Learn ESL		
Yes/Maybe	12	23%
No	40	75%
Supervise other employees		
Yes	30	57%
No	23	43%
5th consecutive trimester		
Yes	43	81%
No	9	17%

INTERVENTION

In term five of a 3-year EdD online program, students took a six-credit course to facilitate the writing of Chapter One (Literature Review) and Chapter Two (Methodology) problem of practice dissertation (influenced by Archbald, 2008; Belzer et al., 2016; Buss & Zambo, 2014). Students also received a faculty advisor to mentor their writing and research who provides robust and detailed, iterative feedback on the students' writing throughout the course. Students completed asynchronous assignments and watched pre-recorded lectures to prepare for 90-minute synchronous, discussion-based live sessions. The faculty advisors for each cohort taught the course, which met virtually eight times (see Table 2). In the weeks that students did not have class, they had dedicated writing time, meetings with their faculty advisor, and peer working meetings. Students created their own peer working groups (PWG) of about four members and facilitated PWG meeting times and their own

systems for providing peer feedback. Students could schedule 30-minute appointments with a consultant from our program-specific Research and Writing Development Center (RWDC) up to one time per month, subject to availability, where they also received iterative feedback on their writing.

Table 2. Dissertation course intervention overview

Week(s)	Synchronous live session topic	Asynchronous content
1	Research Design and Peer Feedback	Problem of Practice Overview
2	Research Questions and Problem and Purpose Statements	Problem and Purpose Research Design Components
3	No Live Session, Focused Writing Time	Developing a Literature Review and Finding Relevant Literature
4[1]	Organizing and Writing a Literature Review	Organizing and Writing a Literature Review and Individual Appointment with Faculty Advisor
5	Theoretical Framework	Frameworks and Researcher Perspective
6	Writing the Literature Review Introduction	Focused Writing Time
7 & 8	No Live Session, Focused Writing Time	
9	Sampling and Data Collection	Sampling and Data Collection
10[1]	Theoretical Framework Alignment, Data Analysis, Ethical Considerations, and Limitations	Data Analysis and Ethical Considerations
11–14[1,2]	No Live Sessions, Focused Writing Time	Focused Writing Time
15	IRB Information, Celebration of Chapters One and Two	None

Notes. [1]At minimum, students meet with their faculty advisor for an individual consultation during or near week 4, week 10, and week 12. [2]The first draft of Chapter One is due before Week 8. The first draft of Chapter Two is due before Week 11. Revisions to both Chapters are due before Week 15.

Course content centered around the requirements for these dissertation chapters. Creswell and Creswell (2018) was the primary text for the course. Students received a composition resource guide, which was authored by faculty and RWDC graduate writing coordinators, containing the expectations for each chapter along with guidance about tense, voice, and required university formatting. They also received a faculty-created rubric delineating the standards needed to achieve doctoral candidacy to support their dissertation progress.

Throughout the intervention, students submitted multiple drafts of these chapters to receive iterative feedback as they worked toward achieving doctoral candidacy. Faculty advisors and RWDC graduate writing coordinators worked together to review each student's draft and provide collaborative feedback. An RWDC coordinator reviewed the draft first, providing feedback related to writing development, such as clarity and conciseness. Then, the faculty advisor reviewed the draft for its content and methodological soundness. For this study, we collected quantitative and qualitative data throughout

students' engagement in this process to examine the changes in their writing apprehension and self-efficacy.

Data Collection

We collected quantitative and qualitative data from students before and after completing their 14-week dissertation course intervention. For the first data collection source, the pre-intervention quantitative survey collected students' demographic data, perceived writing efficacy, and writing apprehension information using four validated scales combined into one survey instrument via Qualtrics. The pre- and post-intervention survey instruments were identical, except demographic information and participation consent appeared only in the pre-intervention version.

Four validated scales comprised the pre- and post-intervention survey instrument. First, we used Daly and Miller's (1975, 2013) 20-item instrument, developed in 2013 as an abbreviated form of their earlier 26-item Writing Apprehension Test (WAT). The scale questions include positively (e.g., "It is easy for me to write good compositions") and negatively worded questions (e.g., "I avoid writing") on a 5-point Likert scale from strongly agree (1) to strongly disagree (5). Researchers add the individual item scores to produce the factor score, ranging from 20 to 100. Higher scores reveal greater writing confidence, and lower scores show increased writing apprehension. Daly and Miller (1975) reported a high internal consistency of .92, and their factor analysis (with factor loadings > .60) supported a valid unidimensional construct.

Second, Shell et al.'s (1989) 8-item Writing Self-Efficacy Instrument (WSEI) component skill subscale measured students' perceived punctuation, grammar, sentence, paragraph, and overall organizational skills. Students rated their percent confidence on items such as "correctly use parts of speech (i.e., nouns, verbs, adjectives, etc." and "Organize sentences into a paragraph to as to clearly express a theme" (p. 99). The average of the items (0–100) revealed the overall factor score. The Cronbach's alpha ($\alpha = .95$) indicated strong internal consistency. Factor loadings for all items on the scale exceeded .62 (Shell et al., 1989).

Finally, we used two of the three subscales from Mitchell et al.'s (2021) Situated Academic Writing Self-Efficacy Scale. The 3-item writing essentials subscale measured students' perceived ability to "find ways to overcome writing difficulties," "successfully use scholarly academic words and phrases," and "combine or synthesize multiple sources I've read to create an original product or text" (p. 8). The relational-reflective writing self-efficacy 8-item subscale measures self-efficacy related to understanding how relevant research connects to the writing, keeping the audience in mind, and utilizing reflection and feedback to improve writing. Item examples include "When I reflect on my writing, I can make it better" and "When I receive feedback on my writing, no matter how it makes me feel, I can use that feedback to improve my writing" (p. 8). Mitchell et al.'s (2021) study validated a three-factor model and demonstrated the reliability of the writing essentials subscale ($\alpha = .79–.81$) and the relational-reflective writing self-efficacy subscale ($\alpha = .88–.91$) across three different samples. Factor scores for both subscales result from averaging the items, ranging from 0 (completely sure I cannot) to 100 (completely sure I can).

For the second data collection source, during the introductory synchronous meeting, we gathered students' short-answer written reflections ($n = 45$) to collect qualitative data via a shared Google document. The pre- and post-written reflections were responses to two open-ended questions. The first prompt, "How would you describe your writing abilities at this point in the doctoral program?" also asked students to focus specifically on their self-efficacy for writing mechanics, writing essentials, writing reflection, and relationship building. Students answered, "How have these abilities changed over time since you began the online EdD/LOC program?" In the final synchronous meeting, we collected post-intervention short-answer written reflections.

Data Analysis

Analyzing data within a mixed methods convergent design consists of collecting and analyzing the quantitative and qualitative data separately, ensuring that one phase of a study does not inform the other (Creswell & Plano Clark, 2018; Creswell & Poth, 2018). It is only after these separate analyses that we compared the results to develop a complete understanding of the research questions.

We began by analyzing the quantitative data using IBM® SPSS® Statistics (v. 28) to generate descriptive statistics. For paired-sample data that met the parametric assumptions, we used a dependent samples *t*-test to examine differences between the graduate students' pre- and post-writing efficacy. We used a Wilcoxon signed-rank nonparametric test of differences for the writing mechanics self-efficacy scale, which did not meet the assumption of normality of differences, per the Kolmogorov-Smirnov test of normality results (KS = .16, p = .016), QQ plot, and histogram.

In the qualitative analysis phase, we used the data analysis spiral process to analyze written reflections gathered from cohort members: preparing data for analysis, exploring data, analyzing data, representing data, and interpreting results (Creswell & Poth, 2018). First, we prepared spreadsheets containing the written pre- and post-reflection student responses. Two members of our research team explored the data by reading over each response to the pre- and post-written reflections. Next, the two researchers independently highlighted keywords and phrases to develop preliminary codes. To establish intercoder agreement, the researchers met and discussed the beginning codes and agreed on likely indicators of these codes (Creswell & Poth, 2018). Researchers accomplished this process by first making columns for each of the questions addressed in the survey; then, they coded students' responses together. Those codes were grouped into categories, and eventually, the categories into themes. After 100% agreement on the codes, they divided the remaining student responses, and each researcher coded the remaining data.

Integrating qualitative and quantitative results demonstrates confirmation, expansion, or discordance and is a hallmark of mixed methods research (Creswell & Plano Clark, 2018; Fetters et al., 2013). Additionally, by presenting both confirming and disconfirming evidence, we ensure that our data represent reality, enhancing the validity of our study (Creswell & Plano Clark, 2018). Ultimately, we provided a figure to represent the integration of the quantitative and qualitative data to comprehensively understand of participants' perceived writing efficacy.

Results

Quantitative Data Results

Although no statistically significant differences were found (see Table 3) for any scales, the changes demonstrated small effect sizes (d = 0.06, 0.12, 0.24, r = .17). We reported and interpreted effect sizes using Cohen's (1988) benchmarks even for non-significant results, as Field (2018) argued that if results are "not statistically significant [it] doesn't mean that the effect size is not important" (p. 343).

Doctoral student participants' mean writing apprehension slightly increased from their pre-test (M = 73.8, SD = 12) to their post-test (M = 74.4, SD = 12.2), resulting in a very small practical effect (d = 0.06). Participants reported the highest scores for grammatical and writing mechanics self-efficacy but only a 1-point mean increase (pre-test M = 86, SD = 9.5; post-test M = 87, SD = 9.8), representing a small effect (r = .17). On the Academic Writing Self-Efficacy scale, participants showed a small increase of 1.8 from the pre-test (M = 79.6, SD = 12.9) to the post-test (M = 81.4, SD = 18.3), which demonstrated a small practical effect (d = 0.12). Finally, the relational-reflective writing self-efficacy scores increased (pre-test M = 83.5, SD = 9.8; post-test M = 85.7, SD = 9.6), signifying a small effect (d = 0.24).

Table 3. Results from the dependent samples *t*-tests

Scales		Pre-test		Post-test		Mean Difference [95% CI]	Test Statistic *p*		Cohen's *d* effect size [95% CI]
	n	*M*	*SD*	*M*	*SD*				
Writing Apprehension Test (WAT)[1]	39	73.8	12.0	74.4	12.2	0.6 [-2.3, 3.4]	$t = 0.40$	.694	0.06 [-0.25, 0.38]
Writing Mechanics Self-Efficacy (WSEI)[2]	39	86.0	9.5	87.0	9.8	1.0 [-2.1, 4.2]	$z = 1.49$*	.137	$r = .17$
Academic Writing Essentials Self-Efficacy	42	79.6	12.9	81.4	18.3	1.8 [-3.0, 6.5]	$t = 0.75$	.458	0.12 [-0.19 .0.42]
Relational-Reflective Writing Self-Efficacy	41	83.5	9.8	85.7	9.6	2.2 [-0.7, 5.0]	$t = 1.55$	.130	0.24 [-0.7, 0.55]

Notes. All scales have a maximum score of 100. [1]A WAT increase represents higher confidence. [2]A Wilcoxon signed-rank test with an r effect size was used as WESI did not meet the assumption of normality of differences.

Qualitative Data Results

Results of the qualitative data analysis shed light on participants' ($n = 53$) perceptions of how their writing abilities changed after completing a course designed to guide them in writing their literature review and methodology chapters of their dissertation. Related to writing apprehension, participants shared that they felt much more confident in their writing ability after taking the course. Before the course began, only 11 participants (20.7%) expressed confidence in their ability to write a scholarly document. After the course, the percentage of qualitative participants' confidence increased (45.2%, $n = 24$). One participant explained, "I gained more confidence in my writing skills as the course progressed." Another offered, "I really felt I grew a lot this semester as a writer." The number of participants who shared that they felt more confident in their writing ability more than doubled after the course.

Students expressed that their writing mechanics self-efficacy in the dissertation writing process improved over the term despite a difficult adjustment to scholarly writing compared to their prior writing experience. One participant wrote, "I do feel like I have had to alter how I write for the PoP [Problem of Practice Dissertation] as compared to how I write at work. The mechanics are different." Examples of mechanics noted by students included using correct subject-verb agreement, reducing the use of passive voice, and using paragraph topic sentences and concluding transitions. Many noted that the online tool Grammarly helped them identify their errors in mechanics. One participant shared, "I had no idea how much Grammarly could help me catch things in my writing I missed. It helped me spot mechanics rules that I forgot needed to be fixed." In sum, participants' writing mechanics self-efficacy increased, and more felt capable of using mechanics properly.

Students' writing essentials efficacy improved when they learned to overcome difficulties by relying on others, including their peer working group, and prioritizing writing. A participant shared that her apprehension decreased as she "learned to carve out time daily to write." Several participants felt their relationships were instrumental in helping them become better writers. One student wrote, "I feel better each time I submit, but that isn't because I am a good writer, but I had a good support network from my advisor, the writing center, and colleagues in the program." One participant noted, "the peer working group was my rock; I couldn't imagine doing this without them," and another

stated, "we relied on each other to get through the hardest parts of this process." In sum, students felt that their strong relationships with their peers and the writing center staff helped them stay focused and supported during the process.

Students reported growth in accepting feedback and using it to improve their writing and helping them reflect on their strengths and weaknesses, even when feedback could be challenging to receive. Before the course began, participants noted that feedback, in general, from their faculty advisor and the RWDC was appreciated and well-received. After the course, participants described specific feedback as effective and helpful. One participant shared, "Feedback makes all the difference." Several participants noted that the feedback they received was sometimes difficult to receive, one sharing, "I was not prepared to receive such specific feedback." Another offered, "I had to remind myself the feedback was not personal." A majority conveyed that their skills in scholarly writing improved, and they could think more vividly about their skills as writers. One participant noted, "I was just not aware of my specific strengths and weaknesses before the class started." Several noted that the specific times their faculty advisors asked them to self-reflect were useful in fostering a sense of reflection about their work. One shared, "I grew as a writer when I reflected on what worked well and what didn't. I used this reflection to help me put my thoughts into action steps." The act of reflection became a more active process for most of the participants and helped them self-identify their strengths and weaknesses. The qualitative data revealed that specific feedback was essential in fostering a stronger self-efficacy in writing ability.

An overwhelming majority of students reflected specifically on positive changes in their scholarly self-efficacy and writing abilities from the beginning of their doctoral program to their first dissertation writing course. Participants noted "how confidence increased in their writing ability," and they "trusted themselves more." Participants noted the importance of feedback from their advisor in their growth over time, and an "awareness of how much there is to learn and what good quality research should look like has increased." Overall, participants reported growth in their writing abilities and confidence from their entry into the program to the end of the first dissertation writing course.

Overall, participants reported a positive change in their writing self-efficacy because of the course. They reported less writing apprehension and more awareness of how to use writing mechanics. Almost all participants noted that specific feedback from their faculty advisor and the graduate writing coordinators helped them have confidence in knowing how to improve specific areas of their dissertation. The practice of self-reflection also empowered participants to identify their strengths and weaknesses.

Integration of the Quantitative and Qualitative Findings

The integrated results highlight a range of developments and changes throughout the course (see Figure 1). Although we found no statistically significant differences in participants' writing apprehension, writing mechanics self-efficacy, academic writing essentials self-efficacy, and relational-reflective writing self-efficacy, we detected small effect differences. Given the positivity of the qualitative findings, we would have expected to see larger effect sizes and statistically significant changes. A minority of participants expressed disconfirming evidence. For example, analysis of the qualitative data revealed that many participants experienced increased confidence from the beginning to the end of the course, yet a few others reported having lower self-efficacy at the end of the course. Although many students relied on others for accountability, emotional support, and guidance, one participant lamented her lack of peer support. Participants' relational-reflective self-efficacy scores showed the greatest growth, mirroring the quantitative theme that students learned to accept and appreciate feedback, using it as a springboard to improve their writing and inform their writing self-reflection. The joint display presented in Figure 1 communicates how the data converges and diverges to explain both participants' writing self-efficacy and writing anxiety, ultimately answering the mixed methods research question.

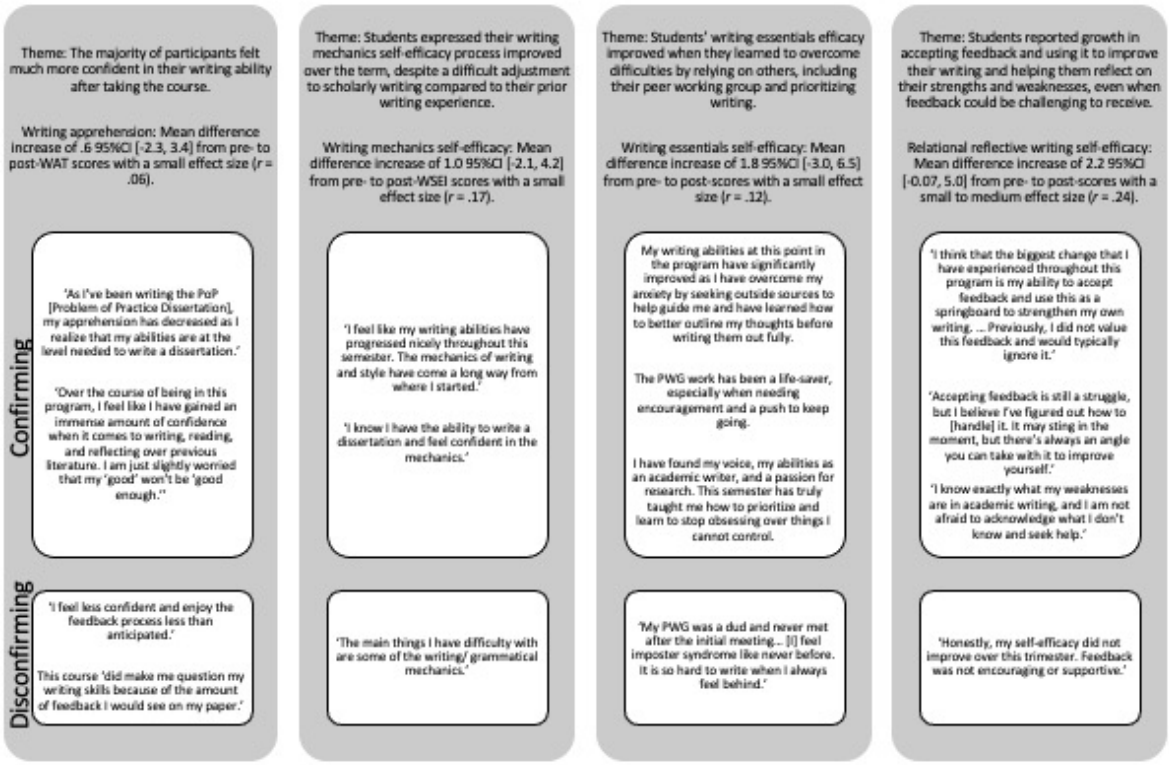

Figure 1. Integration of qualitative findings and quantitative results

DISCUSSION

The findings from this study contribute to current scholarship on writing apprehension, aversion, self-efficacy, and the doctoral student dissertation writing experience in three ways. First, the results for our quantitative research question demonstrated small mean increases in writing confidence and writing self-efficacy associated with small effects. The thematic findings reflecting students' perceived growth (Figure 1) are more strongly evident in the qualitative data. One potential reason for not finding larger quantitative changes may be related to the illusion of competence or the illusion of knowledge (Fisher & Keil, 2016; Plohl & Musil, 2018), in which participants overestimate their knowledge at the onset. Consequently, individuals can experience real growth without demonstrating quantitative changes as their subsequent evaluation is more realistic and informed by intervening instruction and feedback that allows them to understand what they did not know earlier. This divergence might also be due to the more open-ended nature of the qualitative instrument. For example, students responded about how they had "grown as a writer" or become more aware of "specific strengths and weaknesses" rather than responding explicitly about self-efficacy or confidence in the quantitative instrument. Although some past studies of undergraduate student writers suggest that single-term courses can impact student writing self-efficacy, apprehension, and anxiety in observable ways (Duijnhouwer et al., 2010; Frank Webb et al., 2016), the findings from this study suggest that the situation may be more complicated for doctoral students, particularly when measured quantitatively. Non-significant quantitative results may also result from a lack of statistical power, given our sample of 53 compared to the G*power sample size of 156 to find a small effect ($d = 0.2$, $\alpha = .05$). Given this limitation for finding statistical significance, mixed methods findings from these students should be considered in light of the broader complexities of the dissertation writing process. Doctoral student writers embark on a longer-term relationship with their writing project, which includes

navigating technical, disciplinary discourse with the guidance of usually one advisor's feedback (Becher, 1989; Hyland, 2009). According to Kang and Pak (2023), doctoral students benefit from core and methods courses for engaging in academic thinking and writing. While scholarship suggests that student writing self-efficacy changes over time as students practice and engage feedback (Caffarella & Barnett, 2000; Pritchard, 2018; Zhang et al., 2023), the findings from this study suggest that exploring the presence of such changes among doctoral student writers likely requires a study encompassing a larger sample over more than a single term at the beginning of their writing experience. Given Berg's (2016) research, worthy future studies would also investigate the role of dissertation support for students of color in building self-efficacy.

Considering the second research question regarding how doctoral students' perceptions of their writing changed, although this study did not identify statistically significant changes throughout this term, the participants still qualitatively reported growth in their writing confidence and writing outcomes. Twice as many participants reported confidence in their writing at the end of the course than at the beginning. This observation supports past scholarship recognizing that while writing apprehension, anxiety, and self-efficacy are important metrics for understanding the student writing experience, the student writing experience often extends beyond the purview of what these instruments can capture. Our findings that students' apprehension persists even when they report growth suggests perhaps that some manner of writing anxiety might be more deeply entrenched than can be changed during a one-semester course. These experiences intersect with the overlapping – yet not perfectly aligning – understandings of "self-perception," "self-construal," "self-esteem," and "self-worth" (Jackson et al., 2010). Writing self-perceptions do not always correlate with writing outcomes and proficiencies (Helsel & Greenberg, 2007; Meier et al., 1984; Nettles & Millett, 2006).

When examining the third research question about the relationships between the qualitative and quantitative data, we found both confirming and disconfirming data. This study contributes to a scholarly understanding of the value of specific, concrete, and iterative feedback in writing development and the role of the reception of that feedback in the student growth process. Confirming the findings of past scholarship (Caffarella & Barnett, 2000; Fong et al., 2021; Pritchard, 2018; Zhang et al., 2023), the doctoral student writers in our study affirmed the instrumental value of specific, concrete, and iterative feedback for the growth of their writing confidence during this stage of the dissertation process. While extensive and overly critical feedback can be overwhelming for students (Zacharias, 2007), the participants in our study explained the need to intentionally approach feedback as a constructive part of the writing process, even at times regulating their emotional responses to its initial reception. The knowledge that the feedback came from an advisor or graduate writing coordinators who had the student writer's best interests and growth in mind helped students reframe potential emotional responses to critical feedback, allowing the feedback to become part of their growth process. These findings correlate with a broader understanding of the relationship between self-efficacy and the reception of feedback (Bandura, 1993; Schunk & Gunn, 1986).

In summary, while most scholarship on writing apprehension, anxiety, and self-efficacy has focused on writing development early in students' academic journeys, fewer studies have explicitly focused on these aspects of doctoral student writing experiences as they begin their dissertation writing process. While our study found no statistically significant differences from pre-course to post-course, the small increases in writing confidence and writing self-efficacy, along with the self-reported experiences of growth in writing proficiency, contribute to this gap in the literature. This study affirms past scholarship on the value of iterative, specific, and concrete feedback for students early in their dissertation process and the importance of receiving that feedback for their writing confidence development.

While we collected this data in 2021, prior to the rise of popular-use generative AI tools that can now augment the dissertation writing process in new ways (Cowling et al., 2023), the core contribution of this study (the focus on online doctoral student experiences of writing self-efficacy and apprehension

early in the dissertation writing process) remains a significant contribution to doctoral writing development scholarship, even in a world with new writing enhancing technologies. Writing self-efficacy and apprehension in the dissertation writing process remain core mediating factors through which students engage in the writing process, regardless of the technological tools at their disposal.

Limitations

Four limitations potentially influenced the findings of this study. First, our sample size of 53 affected the statistical power of the results, and a larger sample size would increase the statistical power and decrease the standard error (Serdar et al., 2021). More participants would also allow for exploring subgroups based on student characteristics. Second, data were self-reported. Third, we did not use a control group to compare writing self-efficacy, so we cannot make any causal claims. However, we gained deeper insight into the phenomenon using total population sampling for one cohort. Finally, the researchers served an evaluative role with the students' writing, either as faculty advisors or as graduate writing coordinators who gave written feedback during the course. This role might have affected our bias through implicit beliefs about students' writing abilities or attitudes toward writing. However, we addressed this concern by maintaining high levels of interrater reliability and reflexivity through reflection, conversations, and the use of a shared codebook. Two researchers analyzed reflection data and agreed on codes, using thick, rich descriptions to support our findings (Creswell & Poth, 2018).

Implications

This study has three implications for how researchers, dissertation advisors, and graduate writing center consultants should approach the dissertation writing experience in online programs. First, because writing a dissertation and receiving iterative feedback can affect students' writing confidence and writing apprehension, advisors should be intentional and constructive in the type of feedback they offer. Second, because changes to students' confidence and self-efficacy depend largely on how they conceptualize and internalize feedback, faculty must provide opportunities for students to engage in self-reflection and access resources to process the emotions they experience when receiving critiques. Third, because students' relationships with writing mechanics changed during the dissertation writing course, faculty should include writing mechanics resources in dissertation-focused courses.

Conclusion

The complexity and length of the dissertation writing process distinguish it from the smaller writing projects that occur earlier in students' educational journeys. While many studies of writing self-efficacy, apprehension, and anxiety have illuminated best practices to facilitate the writing development experience of students earlier in their writing journeys, the additional complexities of doctoral student writing experiences require more intentional focus on writers at this level. Although this study focused on online student experiences during their first dissertation writing course as they began working on the first two chapters of their dissertation, the writing experience extends beyond this as they collected their data and presented their findings. Future research, therefore, should expand the scope of the focus on doctoral student writing apprehension, anxiety, and self-efficacy to include other stages of the dissertation research and writing process, perhaps also examining these writing constructs and how they vary given student characteristics.

REFERENCES

Archbald, D. (2008). Research versus problem solving for the education leadership doctoral thesis: Implications for form and function. *Educational Administration Quarterly, 44*(5), 704–739. https://doi.org/10.1177/0013161X07313288

Arroyo González, R., Fernández-Lancho, E., & de la Hoz-Ruiz, J. (2021). Technologies for learning writing in L1 and L2 for the 21st century: Effects on writing metacognition, self-efficacy and argumentative structuring. *Journal of Information Technology Education: Research*, *20*, 87–116. https://doi.org/10.28945/4705

Badenhorst, C., & Guerin, C. (Eds.). (2015). *Research literacies and writing pedagogies for masters and doctoral writers*. Brill. https://doi.org/10.1163/9789004304338

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191–215. https://doi.org/10.1037//0033-295x.84.2.191

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*, 117–148. https://doi.org/10.1207/s15326985ep2802_3

Bayat, N. (2014). The effect of the process writing approach on writing success and anxiety. *Educational Sciences: Theory and Practice, 14*(3), 1133–1141. https://doi.org/10.12738/estp.2014.3.1720

Becher, T. (1989). *Academic tribes and territories: Intellectual enquiry and the cultures of disciplines*. Open University Press.

Belzer, A., Axelrod, T., Benedict, C., Jakubik, T., Rosen, M., & Yavuz, O. (2016). The problem of practice dissertation: Matching program goals, practices, and outcomes. In J. A. Perry (Ed.), *The EdD and the scholarly practitioner: The CPED path* (pp. 153–178). Information Age.

Berg, G. A. (2016). The dissertation process and mentor relationships for African American and Latina/o students in an online program. *American Journal of Distance Education*, 30(4), 225–236. https://doi.org/10.1080/08923647.2016.1227191

Burns, E. M., & Gillespie, C. W. (2018). A phenomenological study of attrition from a doctoral cohort program: Changes in feelings of autonomy and relatedness in the dissertation stage. *International Journal of Doctoral Studies, 13,* 517–537. https://doi.org/10.28945/4158

Buss, R. R., & Zambo, D. (2014). *A practical guide for students and faculty in CPED-influenced programs working on an action research dissertation in practice*. Carnegie Project on the Education Doctorate.

Caffarella, R. S., & Barnett, B. G. (2000). Teaching doctoral students to become scholarly writers: The importance of giving and receiving critiques. *Studies in Higher Education, 25*(1), 39–52. https://doi.org/10.1080/030750700116000

Calle-Arango, L., & Ávila Reyes, N. (2023). Obstacles, facilitators, and needs in doctoral writing: A systematic review. *Studies in Continuing Education, 45*(2), 133–151. https://doi.org/10.1080/0158037X.2022.2026315

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Lawrence Erlbaum.

Council of Graduate Schools. (2008). *Ph.D. completion & attrition: Analysis of baseline demographic data from Ph.D. Completion Project.*

Cowling, M., Crawford, J., Allen, K. A., & Wehmeyer, M. (2023). Using leadership to leverage ChatGPT and artificial intelligence for undergraduate and postgraduate research supervision. *Australasian Journal of Educational Technology*, *39*(4), 89-103. https://doi.org/10.14742/ajet.8598

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage.

Crumbo, G. B. (1999). *Writing apprehension and the effects of "I think I can, I think I can"* [Psy.D. Dissertation, Spalding University].

Daly, J. A. (1985). Writing apprehension. In M. Rose (Ed.), *When a writer can't write: Studies in writer's block and other composing-process problems* (pp. 43–82). Guilford.

Daly, J. A., & Miller, M. D. (1975). Apprehension of writing as a predictor of message intensity. *The Journal of Psychology, 89*(2), 175–177. https://doi.org/10.1080/00223980.1975.9915748

Daly, J. A., & Miller, M. D. (2013). *Writing apprehension test (WAT): Measurement instrument*. Measurement Instrument Database for the Social Science.

Duijnhouwer, H., Prins, F. J., & Stokking, K. M. (2010). Progress feedback effects on students' writing mastery goal, self-efficacy beliefs, and performance. *Educational Research and Evaluation, 16*(1), 53–74. https://doi.org/10.1080/13803611003711393

Dupont, S., Meert, G., Galand, B., & Nils, F. (2013). Postponement in the completion of the final dissertation: An underexplored dimension of achievement in higher education. *European Journal of Psychology of Education, 28*(3), 619–639. https://doi.org/10.1007/s10212-012-0132-7

Elbow, P., & Sorcinelli, M. D. (2005). How to enhance learning by using high-stakes and low-stakes writing. In W. J. McKeachie, & M. Svinicki (Eds.), *Teaching tips: Strategic research and theory for college and university teachers* (12th ed., pp. 192–212). Houghton Mifflin.

Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs – Principles and practices. *Health Services Research, 48*(6.2), 2134–2156. https://doi.org/10.1111/1475-6773.12117

Field, A. (2018). *Discovering statistics using IBM SPSS statistics*. Sage.

Fisher, M., & Keil, F. C. (2016). The curse of expertise: When more knowledge leads to miscalibrated explanatory insight. *Cognitive Science, 40*(5), 1251-1269. https://doi.org/10.1111/cogs.12280

Fokkens-Bruinsma, M., Vermue, C., Deinum, J.-F., & van Rooij, E. (2021). First-year academic achievement: The role of academic self-efficacy, self-regulated learning and beyond classroom engagement. *Assessment & Evaluation in Higher Education, 46*(7), 1115–1126. https://doi.org/10.1080/02602938.2020.1845606

Fong, C. J., Schallert, D. L., Williams, K. M., Williamson, Z. H., Lin, S., Kim, Y. W., & Chen, L.-H. (2021). Making feedback constructive: The interplay of undergraduates' motivation with perceptions of feedback specificity and friendliness. *Educational Psychology, 41*(10), 1241–1259. https://doi.org/10.1080/01443410.2021.1951671

Fox, R. F. (1980). Treatment of writing apprehension and its effects on composition. *Research in the Teaching of English, 14*(1), 39–49. https://doi.org/10.58680/rte198015815

Frank Webb, A., Vandiver, B. J., & Jeung, S. (2016). Does completing an enriched writing course improve writing self-efficacy of talented secondary students? *Gifted Child Quarterly, 60*(1), 47–62. https://doi.org/10.1177/0016986215605359

Graham, K., Rios, A., & Viruru, R. (2023). Constructing radical community: An ecological model for shifting from an EdD to a We-dD in online doctoral programs. *Higher Education*, *85*(2), 301–323. https://doi.org/10.1007/s10734-022-00834-8

Guccione, K., & Wellington, J. J. (2017). *Taking control of writing your thesis: A guide to get you to the end*. Bloomsbury Academic. https://doi.org/10.5040/9781474282987

Helsel, L., & Greenberg, D. (2007). Helping struggling writers succeed: A self-regulated strategy instruction program. *Reading Teacher, 60*(8), 752–760. https://doi.org/10.1598/RT.60.8.5

Hyland, K. (2009). *Academic discourse: English in a global context*. Continuum.

Jackson, L. A., von Eye, A., Fitzgerald, H. E., Zhao, Y., & Witt, E. A. (2010). Self-concept, self-esteem, gender, race and information technology use. *Computers in Human Behavior, 26*(3), 323–328. https://doi.org/10.1016/j.chb.2009.11.001

Jiang, M., Arrambide, M., & Munoz, A. (2021). Effective practices in facilitating nontraditional adult learners' dissertation writing in an online doctoral program. *Journal of Educators Online, 18*(3), 23–33. https://doi.org/10.9743/jeo.2021.18.3.6

Kang, H.-S., & Pak, Y. (2023). Student engagement in online graduate program in education: A mixed-methods study. *American Journal of Distance Education,* 1–17. https://doi.org/10.1080/08923647.2023.2175560

Kennedy, D., Terrell, S., & Lohle, M. (2015). A grounded theory of persistence in a limited-residency doctoral program. *The Qualitative Report, 20*(3), 215–230. https://doi.org/10.46743/2160-3715/2015.2110

Klassen, R. M., Krawchuk, L. L., & Rajani, S. (2008). Academic procrastination of undergraduates: Low self-efficacy to self-regulate predicts higher levels of procrastination. *Contemporary Educational Psychology, 33*(4), 915–931. https://doi.org/10.1016/j.cedpsych.2007.07.001

Klassen, R. M., Tze, V. M. C., Betts, S. M., & Gordon, K. A. (2011). Teacher efficacy research 1998–2009: Signs of progress or unfulfilled promise? *Educational Psychology Review, 23*(1), 21–43. https://doi.org/10.1007/s10648-010-9141-8

Krause, K.-L. (2001). The university essay writing experience: A pathway for academic integration during transition. *Higher Education Research & Development, 20*(2), 147–168. https://doi.org/10.1080/07294360123586

Kryshko, O., Fleischer, J., Grunschel, C., & Leutner, D. (2022). Self-efficacy for motivational regulation and satisfaction with academic studies in STEM undergraduates: The mediating role of study motivation. *Learning and Individual Differences, 93*, 102096. https://doi.org/10.1016/j.lindif.2021.102096

Lee, M., & Evans, M. (2019). Investigating the operating mechanisms of the sources of L2 writing self-efficacy at the stages of giving and receiving peer feedback. *The Modern Language Journal, 103*(4), 831–847. https://doi.org/10.1111/modl.12598

Locke, L., & Boyle, M. (2016). Avoiding the A.B.D. abyss: A grounded theory study of a dissertation-focused course for doctoral students in an educational leadership program. *The Qualitative Report, 21*(9), 1574–1593. https://doi.org/10.46743/2160-3715/2016.2167

McBrayer, J. S., Denlea Melton, T., W Calhoun, D., Dunbar, M., & Tolman, S. (2018). The correlation between self-efficacy and time to degree completion of educational leadership doctoral students. *International Journal of Doctoral Studies, 13*, 413–439. https://doi.org/10.28945/4138

Meier, S., McCarthy, P. R., & Schmeck, R. R. (1984). Validity of self-efficacy as a predictor of writing performance. *Cognitive Therapy and Research, 8*(2), 107–120. https://doi.org/10.1007/BF01173038

Melián, E., Reyes, J. I., & Meneses, J. (2023). The online PhD experience: A qualitative systematic review. *International Review of Research in Open & Distance Learning, 24*(1), 137–158. https://doi.org/10.19173/irrodl.v24i1.6780

Mitchell, K. M., McMillan, D. E., Lobchuk, M. M., Nickel, N. C., Rabbani, R., & Li, J. (2021). Development and validation of the Situated Academic Writing Self-Efficacy Scale (SAWSES). *Assessing Writing, 48*, 100524. https://doi.org/10.1016/j.asw.2021.100524

Morris, D. B., Usher, E. L., & Chen, J. A. (2017). Reconceptualizing the sources of teaching self-efficacy: A critical review of emerging literature. *Educational Psychology Review, 29*(4), 795–833. https://doi.org/10.1007/s10648-016-9378-y

Nettles, M. T., & Millett, C. M. (2006). *Three magic letters: Getting to PhD*. Johns Hopkins University Press. https://doi.org/10.56021/9780801882326

Ondrusek, A. L. (2012). What the research reveals about graduate students' writing skills: A literature review. *Journal of Education for Library and Information Science, 53*(3), 176–188. https://doi.org/10.1016/j.lisr.2022.101190

Onwuegbuzie, A. J. (1999). Writing apprehension among graduate students: Its relationship to self-perceptions. *Psychological Reports, 84*(3), 1034–1039. https://doi.org/10.2466/pr0.1999.84.3.1034

Onwuegbuzie, A. J., & Collins, K. M. T. (2001). Writing apprehension and academic procrastination among graduate students. *Perceptual and Motor Skills, 92*(2), 560–562. https://doi.org/10.2466/pms.2001.92.2.560

Pajares, F., & Johnson, M. J. (1994). Confidence and competence in writing: The role of self-efficacy, outcome expectancy, and apprehension. *Research in the Teaching of English, 28*(3), 313–331. https://doi.org/10.58680/rte199415378

Plohl, N., & Musil, B. (2018). Do I know as much as I think I do? The Dunning-Kruger effect, overclaiming, and the illusion of knowledge. *Horizons of Psychology*, *27*, 20-30. https://doi.org/10.20419/2018.27.481

Prat-Sala, M., & Redford, P. (2012). Writing essays: Does self-efficacy matter? The relationship between self-efficacy in reading and in writing and undergraduate students' performance in essay writing. *Educational Psychology, 32*(1), 9–20. https://doi.org/10.1080/01443410.2011.621411

Pritchard, M. (2018). *Evaluation of thesis completion in a graduate blended learning program* [Doctoral Dissertation, University of Southern California].

Rechtien, J. G., & Dizinno, G. (1997). A note on measuring apprehension about writing. *Psychological Reports, 80*(3), 907–913. https://doi.org/10.2466/pr0.1997.80.3.907

Reeves, L. L. (1997). Minimizing writing apprehension in the learner-centered classroom. *The English Journal, 86*(6), 38–45. https://doi.org/10.2307/820367

Riffe, D., & Stacks, D. W. (1992). Student characteristics and writing apprehension. *The Journalism Educator, 47*(2), 39–49. https://doi.org/10.1177/107769589204700206

Ruegg, R. (2018). The effect of peer and teacher feedback on changes in EFL students' writing self-efficacy. *The Language Learning Journal, 46*(2), 87–102. https://doi.org/10.1080/09571736.2014.958190

Sanders-Reio, J., Alexander, P. A., Reio, T. G., & Newman, I. (2014). Do students' beliefs about writing relate to their writing self-efficacy, apprehension, and performance? *Learning and Instruction, 33*, 1–11. https://doi.org/10.1016/j.learninstruc.2014.02.001

Santicola, L. (2013). Pressing on: Persistence through a doctoral cohort program in education. *Contemporary Issues in Education Research, 6*(2), 253–264. https://doi.org/10.19030/cier.v6i2.7736

Schouwenburg, H. C. (1992). Procrastinators and fear of failure: An exploration of reasons for procrastination. *European Journal of Personality, 6*(3), 225–236. https://doi.org/10.1002/per.2410060305

Schunk, D. H., & DiBenedetto, M. K. (2016). Self-efficacy theory in education. In K. R. Wentzel & D. B. Miele (Eds.), *Handbook of motivation at school* (pp. 34–54). Routledge.

Schunk, D. H., & Gunn, T. (1986). Self-efficacy and skill development: Influence of task strategies and attributions. *Journal of Educational Research, 79*, 238–244. https://doi.org/10.1080/00220671.1986.10885684

Serdar, C. C., Cihan, M., Yücel, D., & Serdar, M. A. (2021). Sample size, power and effect size revisited: simplified and practical approaches in pre-clinical, clinical and laboratory studies. *Biochemia medica, 31*(1), 27–53. https://doi.org/10.11613/bm.2021.010502

Seo, E. H. (2008). Self-efficacy as a mediator in the relationship between self-oriented perfectionism and academic procrastination. *Social Behavior and Personality, 36*(6), 753–764. https://doi.org/10.2224/sbp.2008.36.6.753

Shell, D. F., Murphy, C. C., & Bruning, R. H. (1989). Self-efficacy and outcome expectancy mechanisms in reading and writing achievement. *Journal of Educational Psychology, 81*(1), 91–100. https://doi.org/10.1037/0022-0663.81.1.91

Simpson, S., Caplan, N. A., Cox, M., & Phillips, T. (Eds.). (2016). *Supporting graduate student writers: Research, curriculum, and program design.* University of Michigan Press.

Singh, T. K. R., & Rajalingam, S. K. (2012). The relationship of writing apprehension level and self-efficacy beliefs on writing proficiency level among pre-university students. *English Language Teaching, 5*(7), 42–52. https://doi.org/10.5539/elt.v5n7p42

Spada, M. M., Hiou, K., & Nikcevic, A. V. (2006). Metacognitions, emotions, and procrastination. *Journal of Cognitive Psychotherapy, 20*(3), 319–326. https://doi.org/10.1891/jcop.20.3.319

Spaulding, L. S., & Rockinson-Szapkiw, A. (2012). Hearing their voices: Factors doctoral candidates attribute to their persistence. *International Journal of Doctoral Studies, 7*, 199–219. https://doi.org/10.28945/1589

Stadtlander, L. M., Sickel, A., & Salter, D. (2020). Online doctoral student research and writing self-efficacy in a publishing internship. *Higher Learning Research Communications, 10*(1), 78–89. https://doi.org/10.18870/hlrc.v10i1.1170

Sun, T., Wang, C., Lambert, R. G., & Liu, L. (2021). Relationship between second language English writing self-efficacy and achievement: A meta-regression analysis. *Journal of Second Language Writing, 53*, 100817. https://doi.org/10.1016/j.jslw.2021.100817

Tsao, J.-J. (2021). Effects of EFL learners' L2 writing self-efficacy on engagement with written corrective feedback. *Asia-Pacific Education Researcher, 30*(6), 575–584. https://doi.org/10.1007/s40299-021-00591-9

Varney, J. J. (2010). The role of dissertation self-efficacy in increasing dissertation completion: Sources, effects and viability of a new self-efficacy construct. *College Student Journal, 44*(4), 932–947.

Wagener, B. (2018). The importance of affects, self-regulation and relationships in the writing of a master's thesis. *Teaching in Higher Education, 23*(2), 227–242. https://doi.org/10.1080/13562517.2017.1379480

Wilson, J., Huang, Y., Palermo, C., Beard, G., & MacArthur, C. A. (2021). Automated feedback and automated scoring in the elementary grades: Usage, attitudes, and associations with writing outcomes in a districtwide implementation of MI Write. *International Journal of Artificial Intelligence in Education, 31*(2), 234–276. https://doi.org/10.1007/s40593-020-00236-w

Werse, N. R. (2021). Practical and transferable: The quest to design online writing instruction for mentoring professional doctoral students. In L. Gray-Rosendale, & S. Rosendale (Eds.), *Go online! Reconfiguring writing courses for the new, virtual world*. Peter Lang.

Werse, N. R., Lively, C., & Crocker Papadakis, L. (2022). High impact writing support for online students writing a dissertation in practice. In Information Resources Management Association (Ed.), *Research anthology on doctoral student professional development* (pp. 499–514). IGI Global. https://doi.org/10.4018/978-1-6684-5602-6.ch031

Woodrow, L. (2011). College English writing affect: Self-efficacy and anxiety. *System, 39*(4), 510–522. https://doi.org/10.1016/j.system.2011.10.017

Zacharias, N. T. (2007). Teacher and student attitudes toward teacher feedback. *RELC Journal, 38*(1), 38–52. https://doi.org/10.1177/0033688206076157

Zhang, F., Schunn, C., Chen, S., Li, W., & Li, R. (2023). EFL student engagement with giving peer feedback in academic writing: A longitudinal study. *Journal of English for Academic Purposes, 64*, 101255. https://doi.org/10.1016/j.jeap.2023.101255

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