Evaluating the Effectiveness of Academic Writing Interventions in a Community-Based B.Ed. Program

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Abstract : To address teacher retention in rural and remote areas, universities have begun to offer Bachelor of Education (B.Ed) programs to help people living in these communities gain their teacher certification. However, because many students who enrol in such programs have been out of school for many years, they often struggle with academic writing. Through student surveys and focus groups, along with instructor interviews, this design-based study sought to determine the extent to which technological supports and pedagogical techniques influenced the acquisition of academic writing skills for B.Ed. students within two online courses. Among the findings, students emphasized the importance of face-to-face interactions, particularly during their summer residency, to build the trust needed to provide authentic peer-to-peer feedback. They saw individual instructor formative feedback as having the most significant impact on their writing abilities. Although not originally intended as a writing intervention, students found ongoing discussion postings—albeit challenging and time consuming—as essential to the development of their academic writing abilities. Students appreciated the learning modules created for this course; however, their effect was mitigated by technical difficulties and a lack of teacher presence to provide guidance around how they could be best used. Recommendations include redesigning community-based B.Ed. programs to address writing skills, incorporate formative feedback structures, and provide scaffolding for writing and constructive peer feedback on discussion posts.

Keywords*:* academic writing, online learning, rural teacher education, teacher certification program.

Résumé : Pour remédier au problème de rétention des enseignants dans les zones rurales et éloignées, les universités ont commencé à proposer des programmes de baccalauréat en éducation (B. Ed.) afin d'aider les personnes vivant dans ces communautés à obtenir leur brevet d'enseignement. Cependant, comme nombre d'étudiants qui s'inscrivent dans ces programmes ont quitté l'école depuis de nombreuses années, ils rencontrent de grandes difficultés concernant l'écriture académique. Cette recherche orientée par la conception (ROC) vise - via des enquêtes menées auprès des étudiants, des groupes de discussion et des entretiens avec les enseignants - à déterminer la mesure selon laquelle les dispositifs technologiques et les techniques pédagogiques influencent l'acquisition de compétences

d'écriture académique des étudiants en B. Ed. dans le cadre de deux cours en ligne. Parmi les résultats, les étudiants ont souligné l'importance des interactions face à face, particulièrement pendant leur résidence d'été, en vue de construire la confiance nécessaire pour fournir des rétroactions authentiques entre pairs. Ils ont estimé que les rétroactions formatives individuelles de l'enseignant étaient celles ayant l'impact le plus significatif sur leurs compétences en termes d'écriture. Bien qu'ils n'aient originalement pas été pensés comme une intervention écrite, les étudiants ont trouvé que les échanges de messages ayant lieu – quoique difficiles et chronophages- étaient essentiels au développement de leurs compétences en écriture académique. Les étudiants ont apprécié les modules d'apprentissage créés pour ce cours; cependant, leur effet a été restreint par les difficultés techniques rencontrées et le manque de présence des enseignants pour leur indiquer comment s'en servir au mieux. Les recommandations comprennent la refonte des programmes du B. Ed. fondés sur une communauté pour aborder les compétences en écriture, intégrer des rétroactions formatives et fournir des structures favorisant l'écriture et les rétroactions constructives entre pairs sur les messages.

Mots-clés : écriture académique, apprentissage en ligne, formation des enseignants en milieu rural.

Introduction

An established body of research has determined that attracting and retaining certified teachers to work in rural and remote locations is a persistent global problem (Canter, Voytecki, & Rodrĭguez, 2007; Grant, 2010; West & Jones, 2007). This reality is apparent within provincial jurisdictions of education in Canada, including Ontario (Danyluk & Sheppard, 2015; Ontario Ministry of Education, 2008), Saskatchewan (Saskatchewan Learning, 2007), and Alberta (Alberta Education, 2013). Recent studies have suggested that schools in Indigenous communities in Canada find it particularly difficult to attract and retain qualified teachers (Danyluk & Sheppard, 2015; Dragon et al., 2012). The challenge for rural, remote, and Indigenous communities to retain teachers has also been linked to a lack of access to teacher certification programs (Grant, 2010). For many people in remote locations wishing to pursue a teaching career, the option of leaving their community to meet the residency requirements of a Bachelor of Education (B.Ed) program is impractical.

Given these considerations, Farrell and Hartwell (2008) advised school jurisdictions to recruit and train teachers already living in rural contexts (p. 28). Similarly, the Northern Alberta Development Council (2010) has noted that in Canada's North, it is easier to retain teachers who are originally Northerners (p. 7). By hiring local teachers, communities are better able to retain professionals who

are already invested and committed to living in the area. Following the recommendations of reports like these, a number of universities have established partnerships with colleges to serve people living in rural and remote locations who would like to pursue a teaching degree. The University of Alberta, for instance, has partnered with Keyano College (n.d.) in Fort McMurray, allowing students to earn their education degree without having to travel to Edmonton. Similarly, the University of Saskatchewan (n.d.) offers those from rural and remote communities the opportunity to study through the Northern Teacher Education program based in LaRonge. In this program, students are encouraged to stay in their communities for as long as possible through partnerships with various satellite campuses. Other such programs exist elsewhere in Canada, including the Aboriginal Teacher Education Program (Community-based) offered at Queen's University (n.d.) in Ontario. Using a satellite campus in the Manitoulin-North Shore region, students are encouraged to stay in their communities by attending the satellite campus, coming to the main campus in Kingston for only two summers.

In 2014, a province in western Canada provided funding for a new community-based B.Ed program to serve students living in rural and remote parts of the province, including Indigenous communities. Unlike the satellite campus model, this program is unique in that, other than a two-week on-campus residency each summer, students complete their courses online. Non-education courses, which make up approximately 50% of the degree, can be completed through a variety of educational institutions, including ones that offer correspondence courses. This blended delivery format increases flexibility for students. As part of this format, students attend weekly or biweekly Adobe Connect sessions, in which their instructor hosts interactive discussions. Students complete practicum placements in or near their community with the aid of retired principals or teachers who are hired to observe and evaluate them.

In the first three years of the program, students have been almost exclusively mature women returning to university after having children. These women have often been out of school for many years and are understandably apprehensive about entering a postsecondary education environment. An internal survey undertaken in the fall of 2015 found that many students enrolled in this program had difficulties acquiring academic writing skills. The need to improve competencies in this area is supported by research that has suggested undergraduate students' academic writing proficiency greatly influences achievement levels, as well as the successful completion of professional programs (Calhoun & Haley, 2003; Saidy, 2015). However, because students in this program take most of their classes online from their home communities, they have limited access to supports at the university that could help them address these challenges.

Responding to this issue, the researchers, all of whom are instructors in this program, adopted educational design-based research (DBR) methodology (McKenney & Reeves, 2012) to create a series of interventions, including interactive writing modules and scaffolding activities, to improve the students' academic writing skills. This paper reports on the effectiveness of these interventions within two second-year classes. Among the findings, in line with the research literature, students emphasized the importance of face-to-face interactions, including during their summer residency, to build the trust needed to provide genuine peer-to-peer feedback. Individual instructor formative feedback, and to a lesser extent peer-to-peer feedback, had the most powerful impact on their writing skills. Students found ongoing discussion postings essential to the development of their academic writing abilities, even though they were both challenging and time consuming—and not originally intended as a writing intervention. Finally, students appreciated the course learning modules, and in particular the ability to revisit examples (e.g., thesis statements) within the modules that they could use as models in their own work. However, technical difficulties, along with a lack of teacher direction around how best to use them, mitigated their influence.

Review of the Literature

Research Examining the Efficacy of Blended Learning Environments

Most B.Ed. programs in Canada require students to relocate to an urban centre to complete their degree. One study found that less than 23% of students who leave a rural or remote community to attend postsecondary programs come back to their community to work (Dupuy, Mayer, & Morisette, 2000). As noted, the few teacher education programs that have targeted rural and remote students in Canada have generally adopted a satellite campus model. This model has been critiqued, however, for the ways satellite or branch campuses are often found in locations that leave prospective students in truly remote parts of the country without access to teacher training (Canter et al., 2007). The blended delivery system, where students take a limited number of classes on campus and the remainder of their classes online, offers students in remote or rural parts of the country the opportunity to complete their B.Ed. program without relocating.

Given the flexible nature of blended learning environments, their introduction into teacher training has been somewhat controversial. A study by Černá (2009), for example, found that students perceive the increased time commitment of blended learning environments negatively due, in part, to weekly compulsory postings. Studies have also found that the technical elements of blended learning can be a distraction for students (Miller, 2012). Further, blended learning environments can increase teachers' workloads and time pressures due to the need to create course materials specifically tailored for an online environment, and, additionally, provide technical support to students (Muirhead, 2000).

Questions have also been raised around whether blended learning environments offer the same level of education as traditional on-campus face-to-face courses. In his study of online teacher education, Faulk (2010) found that administrators felt online education might be appropriate for theoretical aspects of teaching and learning; however, they believed it could not meet some of the other more relational aspects of the teaching profession. Supporting this view, a study by Schrum, Burbank, and Capps (2007) found that "the best online teacher preparation courses may be those that blend virtual and face-to-face interaction rather than being strictly online" (p. 204). They thus advocated for blended teacher education programs that include community site visits coupled with opportunities for students to discuss these visits with their peers (Schrum et al., 2007, p. 210).

Given these critiques, a parallel body of research has produced more favourable findings regarding the benefits of blended learning environments. A study by Grant (2010), for instance, suggested that preservice teachers who study in online environments may be better prepared to "learn to troubleshoot technology and build a catalogue of technology best practices to be used in their own classrooms" (p. 39). In an examination of online learning in teacher training, Brown (2014) found that students in an online course demonstrated higher-level thinking than students in a face-to face course, including critical, logical, reflective, metacognitive, and creative thinking. In addition, the flexibility of blended delivery may in fact provide increased opportunity for reflection (Černa ́, 2009), an aspect of teacher training deemed crucial to preservice teachers' growth (Schön, 1987). In their examination of rural and remote teacher preparation, Eaton, Dressler, Gereluk, and Becker (2015) pointed out that a blended environment might lessen feelings of anxiety and build a sense of community. Along these lines, Gao (2010), for example, found that preservice teachers in a blended learning environment continued their discussion communities even after their course had ended.

Blended Learning Environments and Technological Supports to Enhance Academic Writing

Noting the importance of academic writing for academic success in professional programs (Calhoun & Haley, 2003; Saidy, 2015), one of the additional advantages of blended learning environments is their ability to leverage the possibilities of technological supports, such as wikis or instructional videos, to aid students in developing writing skills. However, a systematic review of the literature on this topic found that no one technology is more effective than another, and, moreover, technological supports must be clearly linked to course assignments and structures to improve students' writing proficiency (Scott, Ribeiro, Burns, Danyluk, & Bodnaresko, 2017). Research suggests that instructors need to communicate the value of the technology, as well as how to best leverage the affordances a specific technology offers (Birch, 2016; Chanock, D'Cruz, & Bisset, 2009; Ellis, 2011; Yang & Durrington, 2010).

These insights parallel research findings examining the specific pedagogical techniques that can best promote academic writing in blended learning environments (Tuomainen, 2016; Wijeyewardene, Patterson, & Collins, 2013). Although flipped classroom models, for example, can decrease the amount of class time spent providing writing instruction, students with low levels of confidence in the writing process need a space to ask follow-up questions and gain feedback on works in progress (Balzotti & McCool, 2016; Engin & Donanci, 2016). In their examination of embedded academic writing instruction, Wingate, Andon, and Cogo (2011) found that formative assessment was perceived by both students and teachers as the most important element to improve academic writing. However, it was also identified as the most labour-intensive aspect of writing instruction. One solution to address this issue is to encourage students to assist one another in online discussion forums; the responsibility for feedback is thus shared, and the instructor workload can be lessened (Wijeyewardene et al., 2013).

The need to create more relational and collaborative learning environments is supported by insights from composition studies (Babcock & Thonus, 2012; Graham, Gillespie, & McKeown, 2012). This body of literature asserts that writing is a social act and that notions of the solitary writer are anachronistic. Specifically, to help students gain writing competencies and a greater sense of self-efficacy, they need opportunities to learn through trial and error, whereby, rather than offering corrections, the instructor engages in a "collaborative dialogue [of] asking questions and making suggestions for discussion and consideration" (Babcock & Thonus, 2012, p. 112).

Methodology

This study was guided by educational design-based research, referred to in this paper as DBR, which "strives to positively impact practice, bringing about transformation through design and use of solutions to real problems" (McKenney & Reeves, 2012, p. 14). In striving to solve authentic, real-world problems, DBR can be placed under the umbrella of participatory forms of research. DBR however, differs from participatory research genres, such as action research, in that one of its main goals is to generate theory. This includes the creation and refinement of principles that can guide the design of future practice in other contexts. Further, while DBR requires collaboration with a range of actors connected to a specific problem, unlike action research, the researchers are often the ones who identify the problem, as well as take the initiative in leading the research and designing solutions (Wang & Hannafin, 2005).

As part of the work of creating interventions to solve complex problems, researchers engage in an iterative cycle of analysis, design, and evaluation. For McKenney and Reeves (2012) this first stage involves identifying a significant issue that has become an impediment to learning. The identification

of this issue can emerge primarily from a problem recognized in the research literature, or equally, from surveying and analyzing a particular educational context. During the subsequent design phase "potential solutions are explored by generating ideas, considering each, and checking the feasibility of ones that seem the most promising" (McKenney & Reeves, 2012, p. 110). From here prototypes are developed that can then be field tested and evaluated in the field. Through an iterative cycle of gathering and analyzing feedback loops from users, prototypes can then be further refined and revised.

Analysis

In Phase 1, we identified specific struggles community-based students, now in their second year, were having with their writing. To gather insights into these challenges, two of us, both of whom were instructing the participants in this study, took part in a 45-minute focus group interview led by a research assistant (RA). The RA subsequently transcribed the audio recording of this interview. In addition to the interview, we analyzed examples of student writing to assess strengths and weaknesses.

Some of the notable themes that emerged from this data set included the fact that students' familiarity with academic writing varied widely in the first program cohort. Most of the students had been away from an academic environment for over 10 years, and although some were familiar with the outline of an essay, most of the early submissions lacked a clear thesis statement. Early essay submissions focused on summarizing the course literature and lacked the critical questioning as to whether the reading was consistent with students' own experiences. Students were able to weave together the themes they chose for their responses; however, clear introductory and concluding sentences were sometimes missing, resulting in a lack of clarity around the intent of the paragraph. The use of APA Style (American Psychological Association [APA], 2009) was supported extensively; however, students experienced ongoing challenges with it, particularly with the use of in-text citations.

Weekly postings completed in the online environment were often summaries of the assigned readings as opposed to the intended critical reflections on the readings. In addition, postings were often longer than required (one to two paragraphs) as students struggled to extract the salient points from the readings. The online instruction platform D2L (Desire2Learn; https://www.d2l.com) was new to most of the students and many struggled to implement various features such as spell check, which was further reflected in their writing.

From this vantage point, we developed the following problem statement: How could we improve the academic writing abilities of Bachelor of Education students in two mandatory online second-year education courses? The researcher team, with the help of the RA, then undertook a systematic review

of the research literature. This review included compiling the results of studies that had examined innovative technologies and approaches to instruction that have been proven to enhance the acquisition of academic writing skills for undergraduate students in blended learning environments. After identifying 26 peer-reviewed articles providing empirically grounded insights into this topic, we created an annotated bibliography and published it as a report (Scott et al., 2017).

Designing and Prototyping Solutions

Informed by insights gained from this review of the literature, we developed four key instructional interventions aimed at improving students' academic writing abilities: (a) two interactive writing modules, (b) scaffolding activities coupled with instructor formative feedback, (c) scaffolding activities coupled with peer-to-peer formative feedback, and (d) structured guides.

>   **Interactive writing modules.** During the two subsequent fall courses under study, students were given the opportunity to work through two interactive writing modules specifically tailored to the assignments and the students' unique academic writing needs in this primarily online program. The two modules focussed on writing a thesis statement and argumentation, and citing in APA Style. Using the interactive platform of Articulate Storyline (https://articulate.com), the writing modules included voice-overs, visual graphics, and video, allowing students to unpack examples and test their knowledge through embedded quizzes.

>   **Scaffolding activities coupled with instructor formative feedback.** Assignments were designed to scaffold one another by building on concepts used in previous assignments. For example, students began each online course with a series of postings. Drawing on the work of Nandi, Hamilton, Chang, and Balbo (2012), students were first instructed on the characteristics of good posts, which include writing a critical analysis of the readings, linking to personal experiences, extending the discussion, asking questions, referencing the readings, and clarifying and applying concepts from the course. During early synchronous sessions, instructors provided verbal examples of what a posting might include by relating the discussion to the weekly readings.

>   Formative feedback played a significant role in ensuring students understood in which areas their writing was strong and how it could be improved. When students were struggling, instructors provided specific individual feedback via email on how their writing could be improved. For instance, in their second essay assignment, which focused on their field experience, students were required to analyze their time

in the classroom as it related to their coursework thus far in the program. As part of this process, students received feedback on their ability to analyze relevant literature and connect it to their classroom experiences. Students also received feedback on the structure of their writing and their ability to properly use APA Style citations.

Scaffolding activities coupled with peer-to-peer formative feedback. Scaffolding activities were also linked with peer-to-peer feedback opportunities. After their field experience, students submitted a teaching strategy and outlined what learning outcomes they would teach using the strategy. This activity required students to draw on their knowledge of teaching strategies, combine it with the strategies they had observed in their field experience, and pick a strategy to apply to their future teaching. Following this step, students provided a critique of one of their classmates' teaching strategies. In doing so, students considered how the peer would use this teaching strategy, concerns that might arise, learners who might be uncomfortable, and how the strategy could be made more inviting. Peer feedback offered students the opportunity to discern what feedback they thought was relevant to their writing and what was extraneous.

Structured guides. Where possible, instructors created structured guides that could be used as reference sheets. We created a one-page guide to formatting references in APA Style to allow students to see at a glance the most common references they would be writing. We prepared another structured guide to allow students to refer to various assessment and evaluation activities.

Field-Testing and Evaluation

To evaluate the ways and the extent to which these interventions affected students' acquisition of academic writing skills, data were drawn from several channels: an anonymous digital survey made up of short-answer and Likert-scale questions (completed by 9 out of 18 students in the course, labelled as SP1–SP9). We also initiated two focus group interviews with these same students (SFG1 and SFG2, made up of 3 to 4 participants respectively), and a 60-minute focus group interview with the two instructors (IFG-1 and IFG-2), all led by the RA.

Our aim in conducting the interviews was to draw out and clarify themes that emerged from the surveys to elicit richer and more nuanced data. We additionally drew data from the learning management system analytics, which told us, for example, how many times students had posted in the online discussion forums or accessed the interactive writing modules. This data set was then coded for common categories involving phrasing and responses that reflected similar and

corresponding interpretations related to the perceived effectiveness of the writing interventions created for this course (Miles, Huberman, & Saldaña, 2014, p. 12).

Findings and Discussion

Initial findings suggested that participants found that three instructional supports were most impactful on their academic writing abilities. This was evidenced by the vociferous manner in which students discussed the importance of targeted instructor feedback, discussion posts and personal connections with those in the program, and the online modules created for the course.

Instructor Feedback

Instructor feedback, which was targeted to each individual and specific to each assignment, was seen as a critical step towards improved academic writing. For example, one student noted that this feedback, particularly when coupled with a laddered approach to assessment, allowed for a greater sense of support. In this regard, the student noted appreciation for "the great responses to our questions and concerns, especially when we were able to submit rough drafts for feedback and support" (SP-8). These provisions were also evident in responses from students who demonstrated less confidence in the writing process, including one who noted that "I've had some papers pretty chopped up, but at least I knew where to fix it, and how to fix it, you know" (SFG1-1).

The importance of instructor feedback was also emphasized by instructors as one of the most critical ways in which to encourage improvement and a greater sense of self-efficacy among students. One instructor noted that the use of targeted feedback both in discussion posts and on a major paper provided an opportunity to lead students to write in more analytical ways. In discussing the feedback provided on discussion posts, this instructor highlighted the importance of moving students toward critical thinking:

> [Postings are] supposed to be leading into that critical thinking in your response. So at the beginning, we say what a good post consists of, but they still go on to post in a way that is not helpful, or not pushing the learning. So, I think part of what we do then is we read the response and we also add some information, or ask them a question, so we get them to think a little bit more about, maybe higher-level thinking, like, "Oh, that's a really good point. Have you ever thought about this?" So, we can respond in that way. (IFG-1)

Taken as a whole, these findings support previous studies that found instructor formative feedback was most valued by students and was identified as essential for strong gains in the acquisition of writing skills (Allwardt, 2011; Engin & Donanci, 2016; Wingate et al., 2011). However, research has shown that feedback must be future oriented rather than what Birch (2016) referred to as "dead end" feedback (p. 86):

> If students in a writing classroom receive feedback on a writing piece, but then have no reason to critically consider that feedback, and implement changes based on that feedback for future consideration . . . then that feedback could be considered "dead end" feedback.

Of importance here is the understanding that, without targeted and individual feedback, students were apt to continue writing at the same level of quality. Only with the interventions provided by the instructor, with the introduction of questions and comments designed to push the learning forward, can improvement occur.

The findings highlighting the positive influence of instructor feedback were, however, tempered by student comments suggesting modifications were needed in this area. One student, for example, articulated a need for even more instructor feedback than was provided: "A bit more formative feedback on early drafts and specific comments related to D2L posts [would be helpful]. However, I know that all of this takes time that professors do not necessarily have" (SP-6). In another instance, a student noted that there was a mismatch between the formative feedback the instructor gave and how the assignment was ultimately evaluated:

> I have had circumstances where I have had a professor comment that our writing was perfect (exact words were "you've nailed it!"), then suggested minor changes. Those changes were implemented before final submission, but the professor then critiqued the writing at a much more critical level when grading. That for me personally felt not only unfair, but rather a waste of time. (SP-1)

These two comments indicate that providing quality feedback in a blended learning environment is a time-intensive task that does not permit shortcuts but instead requires a significant commitment on the part of the instructor. As Wingate et al. (2011) noted in the context of their study examining the efficacy of integrating writing tasks and feedback into online environments, assessment feedback requires significant additional work for teachers, and there are thus issues with its feasibility (p. 77). Accordingly, providing detailed descriptive feedback can sit in tension with the need to engage in other necessary instructional tasks.

Peer Feedback

In light of this tension, both instructors had introduced peer-to-peer feedback within their courses. The effectiveness of this technique for improving writing skills was mentioned by a number of students. For instance, one participant noted, "we went in and did it [provided peer feedback] and that … helped a lot too. I got a lot of interesting feedback from my group that I was working with as well" (SFG 1-1). Equally, another student asserted: "I think there should be more of that [peer editing] because I think peer-editing helps you with self-editing, and everything else, right? I think it should have been done more often" (SFG2-1). As can be seen here, targeted feedback from the instructor is

critical, but the workload associated with such feedback may be occasionally decentralized among the students themselves with positive results. This finding reflects research that has found that when students are encouraged to assist one another in the discussion forums, the responsibility for feedback is shared, and the workload for the instructor can be lessened (Birch, 2016; Ellis, 2011; Wijeyewardene et al., 2013).

Important to the discussion around how peer-to-peer feedback can be best integrated into online learning environments is the need for students to feel comfortable enough with one another to engage in such a practice honestly and authentically. In the program described here, the trust needed to engage with one another's ideas more openly and more critically was built primarily during the mandatory two-week summer residency. Even though the residency portion of the program was relatively short, it was intensive, and students found themselves working on group projects before and after classes had ended. A student-led Facebook site was started during this time and further helped students build relationships. As one student reflected, "The Facebook group really helped you provide the classroom community, which we don't have because we're not in the classroom" (SFG2-1).

Students highlighting the importance of community mirrors insights from the literature that affirm the necessity for face-to-face relationship-building opportunities to create the trust needed to provide genuine and constructive peer writing feedback (Allwardt, 2011; Ellis, 2011; Engin & Donanci, 2016; Stetson, 2016). Allwardt's (2011) pilot study examining the extent to which a collaborative wiki platform could be used to facilitate collaboration of the writing process, for instance, found that students expressed a desire to work with their group in person. Though the intent of the wiki was to remove the need for group meetings, "some students circumvented the wiki assignment by meeting face to face" (Allwardt, 2011, p. 600). In this regard, research has suggested that if students have not built relationships of trust with one another or the instructor, constructive feedback will often be withheld; or, when given, it can be seen as overly critical and a personal attack. In a similar vein, Ellis (2011), in a study comparing traditional, in-class peer evaluation with online blog postings, concluded that the online environment "seemed to engender a much more casual writing style" (p. 96). Comments, likewise, gravitated towards affirming one another's writing abilities, whereas suggestions of revisions were hedged to avoid confrontation or insult.

Discussion Posts

Although not originally conceived as an intervention, the criticality of discussion posts became a central theme in the data set. Students generally described postings (weekly and, in some courses, daily) as challenging and time consuming, yet essential to the development of their academic writing

skills. By requiring students to post weekly or, in some courses, daily, students learned to determine the significant points of the reading and compose a post that went beyond summarization. For instance, one student noted that it was helpful "reading all of the discussion boards to hear different opinions and see different writing styles" (SFG1-3). This student's comment demonstrated the power of the cohort as a learning community. Along these lines, one instructor asserted:

> What I noticed in posting responses to their [students'] postings . . . is that they started to link it [the topic] to something that they have read or heard in another class, or bringing in other literature, or a video they've seen. So I think by witnessing it [instructor feedback to discussion posts], they start to model. (IFG-1)

The positive benefits of engaging in ongoing discussion posts are further reflected in the literature (Tuomainen, 2016; Voegele, 2014). In her examination of a blended learning approach to academic writing, Tuomainen (2016) pointed out that "the consistent and active use of weekly tasks, reflection and peer comments were considered essential to developing academic English communication skills in a blended learning environment" (p. 45). In this regard, Tuomainen suggested that blended learning offers students additional time to reflect on their thoughts, in comparison to face-to-face instruction where students need to participate in instantaneous classroom conversations (2016, p. 45). This opportunity to pause and reflect may contribute to higher level thinking, resulting in deeper learning (Voegele, 2014).

However, despite their apparent benefit to students' academic writing, participants simultaneously viewed discussion posts as time consuming, difficult to complete, and, for some, lacking in critical feedback. One survey respondent, for instance, stated: "I do not feel that weekly posts improved my academic writing skills, only my citation skills. I felt the weekly posts lacked constructive criticism or acknowledgement of good work" (SP-7). Focus group participants also described struggling with the format of a good post. Several reported taking hours to write a two- or three-paragraph post that responded to the topic and provided support from the readings. For example, one focus group participant stated:

> You had to do these online posts where you reference a couple of sources and back up the argument, and it's supposed to take place as a conversation in class. But at the beginning, especially, it would take hours to do something that shouldn't take hours. (SFG2-1)

This sentiment has been echoed in the literature, where previous studies have suggested that students view blended learning environments as laborious, primarily due to compulsory posts (Allwardt, 2011; Černá, 2009; Napier, Dekhane, & Smith, 2011). This body of research suggests that time management associated with completing tasks has been a significant problem for students in blended learning environments. Černá (2009), for example, found that 49% of student respondents to a survey indicated that the time required to complete mandatory postings was their largest area of concern (p.

45). Students in Černa's study expressed feelings of being "stressed to reply in time to meet the requirements" (2009, p. 45).

Similarly, Edginton and Holbrook (2010), in their implementation of a blended learning model within a pharmaceutical course, received complaints from students regarding the length of time it took to post on the class discussion board. Students and the researchers further noted concerns over time management throughout the course as it lacked the structure of traditional, in-person class formats. Ravenna, Foster, and Bishop (2012) advised instructors to make students aware of the significant time investment required for successful online learning. Though students in our community-based program were told to expect a full-time workload, for many the long-term absence from an academic writing environment meant the program became more than a full-time commitment.

Modules

Reactions were mixed around the ability of the embedded modules to improve academic writing. In a positive vein, students appreciated the ability to go back to the modules to engage with examples (e.g., thesis statements) to use as models in their own writing. For example, one student noted, "They [the modules] had useful tips, and it's easy to refer back to them when working on a tougher assignment" (SP-2). The modules also provided an element of practice outside of assignments, allowing students to improve their writing in a nonevaluative context. In this regard, one student stated: "The thesis statement one I actually liked [was] the interactive one. I liked that I could actually practice some things" (SFG1-1).

The ability to refer to the examples contained in the modules was seen to be helpful from an academic perspective but it took on new importance when considered in relation to the demographics of the students, most of whom were working mothers returning to postsecondary education after some time away. This sentiment was reflected in the following statement from the second focus group interview:

I really liked online modules. Because we're distance students, we generally have crazy schedules, or we're working full time, single moms going on, and we've got this, we've got that, so I like things I can do on my own time, or refer back to whenever I want it. So, I really like the idea of the modules, the self-contained little "mini-lessons," if you like. "This is how you do this." You can look at it whenever you want, refer back to it whenever you want, but if you have questions you can talk to your teacher, or whoever. So I would like more of those. (SFG2-1)

Given these observations, students articulated various ways in which the modules could be improved. One student asserted, "I wish there were just more quizzing and testing examples … It would just be nice if there were more interactive examples, just so I could practice more" (SFG2-1).

Another student commented, "Break them [the modules] down into more specific topics so it is easier to look up a topic when needed rather than try to find the information in the PowerPoint [module]" (SP-8). Several student comments also highlighted technical challenges using the modules. For instance, one student stated, "You couldn't find the 'next' button on the modules, and that was very aggravating" (SFG2-1).

These various findings parallel the wider research literature in several ways. First, the ability of embedded technologies to improve academic writing has been found to be mixed. In this regard, some research has suggested that no one technology stands out as more effective than another in promoting the acquisition of academic writing skills (Allen & Tay, 2012; Dishaw, Eierman, Iversen, & Philip, 2011; Wheeler & Wheeler, 2009). In their study comparing the effectiveness of different technologies in distance collaborative writing, for instance, Dishaw et al. (2011) found "no evidence to show any difference between the effort of collaboration of students" (p. 49). This same body of research also suggests that although the use of platforms like interactive modules or wikis on their own do not lead to significant changes in writing ability, the introduction of effective pedagogical practices can help to leverage the affordances of these technologies (Stetson, 2016). Using wikis as an example, these pedagogical strategies include the need to "provide . . . information about how wikis work, to allow for practice opportunities, and to provide technical support" (Stetson, 2016, p. 140). Introducing such strategies promotes familiarity with the platform in question while also additionally building student confidence in using the technology effectively and appropriately (Dishaw et al., 2011).

Student perceptions, both in this study and in the research literature, suggest that specific technologies can offer notable advantages for the acquisition of academic writing skills. However, these advantages do not reside solely within a particular technology itself. As Engin and Donanci (2016) found, improvement depends on how students interact with the technology, the introduction of effective pedagogical practices, and further scaffolding, such that students come to feel confident and gain competencies in their burgeoning academic writing abilities. Accordingly, although technological interventions, including interactive modules, may be helpful for promoting writing competencies, our study confirms prior research, demonstrating a need for students "to be supported with more teacher presence" (Engin & Donanci, 2016, p. 6).

Conclusion

In addition to offering viable ways to improve academic writing, findings from this study point to a number of recommendations that could guide the creation of academic writing supports for future iterations of courses in this community-based B.Ed. program, and similar programs. In light of the

importance of formative feedback, we recommend that more formalized feedback structures be built into future courses. To offset the time-intensive nature of relying primarily on the instructors to offer this feedback, students should be trained and equipped to undertake this work. Redesign efforts should focus on modeling feedback for students prior to directing them to offer feedback to their peers and on ensuring students have enough time to make substantive changes to their writing. Due to the sensitive nature of this feedback, this process should be emphasized during the summer residency so that students gain the trust needed to offer quality constructive feedback later in the program.

Closely tied to this point, we also recommend that course redesign efforts focus on greater scaffolding around writing and providing constructive peer feedback on discussion posts. This could include a sequence where the instructor shows both weak and strong examples of discussion posts, using assessment criteria to examine them critically, and then asks students to engage in constructive feedback on their own. This feedback should be scrutinized closely to ensure students are offering the kind of timely, constructive feedback needed to move the writing forward. The mixed responses to the modules point to the need to make more explicit how they can be best used. Findings from this study also highlight possibilities for breaking up the modules into smaller, more focused components, and integrating them more intentionally into the course structure.

This study is significant in several ways. Although an established body of literature has explored how to improve the acquisition of academic writing for undergraduate students in both face-to-face (Babcock & Thonus, 2012; Graham et al., 2012) and online environments (Birch, 2016; Chanock et al., 2009; Ellis, 2011), few studies have looked at blended learning environments, and none at the area of teacher education. Using a DBR approach, guided by insights from composition studies that highlight the social and collaborative nature of writing, we were able to identify innovative ways to improve writing without sacrificing course content. Ultimately, the study's focus on praxis within the context of higher education could inform parallel educational research in this area across the globe.

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