

# IMPROVING TEACHERS' WRITING: AN EVIDENCE-BASED INSTRUCTIONAL APPROACH

**Catherine R. Barber**

*University of St. Thomas*

**Janet McCollum**

*University of St. Thomas*

**Janice Taylor**

*University of St. Thomas*

**Ann Gichuri**

*University of St. Thomas*

## Abstract

*Effective written communication skills are an important part of educators' success, yet many preservice and in-service teachers struggle with writing. By integrating writing instruction into teacher preparation programs, teacher educators can help to improve teachers' writing confidence and competence. We have developed a five-component instructional approach based on the literature about writing as well as our own experiences with teaching graduate students academic writing. The approach integrates strategies that focus on attending to learners' needs, developing writing knowledge, using authentic formative and summative assessment, building a community of writers, and applying metacognition to the writing process. In this article, we present our instructional framework, highlight applications for undergraduate and graduate teacher preparation programs, describe preliminary data on the effectiveness of the approach, and discuss the benefits and challenges we have experienced in using the framework.*

Keywords: Formative assessment, metacognition, teacher preparation, writing instruction

---

Effective written communication skills are essential for all educators. However, many students in teacher preparation programs struggle with achieving a high level of writing competence (Plakhotnik & Rocco, 2016). These struggles mirror faculty members' broader perceptions about the apparent decline in student writing in university settings (Carter & Harper, 2013). However, the impact of such decline might be particularly acute for education students. If students' writing challenges are not addressed early in their university career, these students will often continue to practice poor writing habits throughout their curriculum. Teacher candidates who have not had the benefit of strong writing instruction may even transfer poor writing habits into their work as teachers, thereby potentially affecting their own students. Furthermore, writing difficulties can impact teachers' communication outside of the classroom with parents, colleagues, and the entire school community. Poor written communication can negatively affect the community's perception of a teacher's abilities.

Similarly, at the graduate level, many teachers enter a master's program with writing challenges, including lack of confidence as writers and previous negative educational experiences with writing (Street & Stang, 2008). Although the relationship between teachers' own writing abilities and their effectiveness as writing teachers is

complex (Brooks, 2007; Cremin & Oliver, 2017), the professional and empirical consensus is that improving teachers' confidence and skill in writing is beneficial. Teachers who model effective communication and who value the writing process will be better prepared to help students find their own voices.

As is true of many students in Master of Education (M.Ed.) programs, students in our program write frequently across the curriculum, regardless of the specific program's focus (e.g., School Counseling, Educational Leadership, Educational Diagnostician). However, M.Ed. students in our school have expressed concerns about their own writing, ranging from difficulties with foundational skills to challenges with various modes of writing. These concerns have been echoed by the M.Ed. program faculty. Such findings prompted us to discuss whether we could improve teachers' writing confidence and competence by implementing a scholarly writing course guided by evidence-based practices in writing instruction. Although we developed our instructional approach within a stand-alone course that all M.Ed. students take, we propose that the framework is flexible enough to be integrated into existing undergraduate teacher preparation coursework and curricula as well.

The instructional approach we have developed was inspired by an evidence-based learning framework that integrates five components: learner, knowledge, assessment, community, and metacognition. The first four components are drawn from the empirical learning research described in the National Research Council's (2000) report, *How People Learn*. These components, as well as the fifth (metacognition), are further informed by the Framework for Success in Postsecondary Writing (CWPA, NCTE, & NWP, 2011).

### Literature Review

*How People Learn* (National Research Council, 2000) is a ground-breaking work of scholarship on the science of learning. The authors identified four characteristics of effective learning environments. The first characteristic, which they call "learner-centered" (p. 133), refers to the attention instructors give to learners' backgrounds, experiences, beliefs, and needs. The learner-centered environment also respects and values learners' cultural uniqueness and helps learners apply their previous knowledge to the learning situation. The next characteristic, "knowledge-centered" (p. 136), refers to explicit teaching of both content and process, with multiple opportunities for learners to practice and apply what they are learning. This characteristic also helps learners make sense of what they are learning and provides them with the "big picture" of how different course topics are connected to each other and to the broader curriculum. The third characteristic, "assessment-centered" (p. 139), highlights the importance of aligning assessments with learning outcomes and instructional strategies. The authors also emphasize that assessment "should provide opportunities for feedback and revision" (pp. 139-140). Finally, the fourth characteristic, "community-centered" (p. 144) refers to the idea that learning often occurs in more than one social context, such as the classroom, the family, and the community as a whole. Building a sense of community among learners and fostering connections between learners and the larger community are key components of creating effective learning environments.

Although the literature discussed in *How People Learn* is largely focused on children's learning, the authors emphasized that the findings have implications for adult learning as well. Furthermore, the framework provided by *How People Learn* suggests that the four components are not isolated but rather, must be integrated to support learning. Subsequent texts (e.g., Ambrose, Bridges, DiPietro, Lovett, & Norman, 2010) have applied similar learning principles to higher education; however, none of these works focuses specifically on learning to write. Thus, our application of the framework to writing instruction is novel. In addition, although the importance of metacognition (i.e., thinking about one's thinking) is discussed throughout *How People Learn*, metacognition is not highlighted as a component of the book's learning framework. Our instructional approach includes metacognition as a fifth component because we have found that metacognition is one of the most important elements of improving teachers' writing skills as well as their writing confidence.

Extensive work has examined the role of metacognition in learning. Some researchers (e.g., Hacker, Keener, & Kircher, 2009) have suggested that writing can be conceptualized as applied metacognition. Metacognitive awareness with regard to a writing task has also been examined (Negretti, 2012). Negretti explored beginning academic writers' metacognitive awareness of their own writing strategies and how this group uses their own awareness to regulate their writing process. Negretti found that metacognitive awareness contributed to self-regulation. In other words, students who are skilled at thinking about their own writing process, including their rationale for various writing choices, are better able to monitor and evaluate their writing. This finding implies that fostering metacognitive awareness throughout the writing process may help students work through the writing process more effectively and with greater attunement to the areas that typically challenge them as writers.

Entire volumes have been written about approaches to writing instruction in higher education (e.g., Beaufort, 2007; Coffin et al., 2002; Nesi & Gardner, 2012). However, much of this work has focused on either instruction within college composition courses (e.g., Conference on College Composition and Communication, 2015) or general principles for writing across the curriculum (e.g., Writing Across the Curriculum Clearinghouse, 2014). While these works are immensely helpful as a starting point, teacher educators may benefit from scholarship that specifically examines writing within teacher education programs. The literature on writing within teacher education is somewhat sparse. In a rare study of writing instruction and in-service teachers enrolled in a graduate education program, Street and Stang (2008) developed a course for secondary teachers to improve their own writing, to recognize the importance of written communication skills within their students, and to improve their ability to teach writing. The authors used the National Writing Project's professional development framework to guide their instructional approach. This framework heavily emphasizes the teacher as author and includes peer feedback. Street and Stang (2008) found that the majority of participants (i.e., graduate students who took the post-course survey) changed their perceptions of teaching writing, felt that the course improved their confidence, and observed improvements in their students' writing. However, the survey sample size was very small ( $N = 14$ ), and it was unclear how the authors' instructional approach could be modified to suit other institutions' unique educational curricula.

Plaknotnik and Rocco (2016) adopted a different approach to improve education graduate students' writing skills. The authors developed writing support circles (WSCs) within a non-credit-bearing educational setting, and students were required to participate. Although the authors reported administering two measures (writing self-efficacy and WSC evaluation), no results were presented. Rather, the authors focused on challenges of the WSC approach, particularly students' frustration with the lack of academic credit, students' concerns about the WSC facilitator and assignments, and students' confusion about the purpose of the WSCs. These findings highlight the importance of having a clear framework that guides the instructional approach and that is made explicit to students throughout the learning process.

In another study examining writing instruction at the graduate level, Sallee, Hallett, and Tierney (2011) integrated writing into the curriculum of a graduate research methods course. The authors' goals included making writing more manageable for students, fostering collaboration and encouragement among students, focusing on all aspects of the writing process (e.g., grammar and mechanics, structure, and citations), and modeling the writing process for students. The authors used established writing instruction strategies, such as peer review and provision of extensive feedback. Although they did not present any data on the effectiveness of their approach, Sallee et al. concluded that graduate faculty members have a responsibility to help students with their writing. These authors' approach demonstrates how effective writing instruction can be woven into an existing graduate course without diluting the other content of the course.

Finally, at the preservice teacher level, Myers and colleagues (2016) conducted a national survey of 63 teacher educators to examine the extent of writing instruction in teacher preparation programs. The study's focus was on courses that teach preservice teachers how to teach writing. Myers et al. (2016) found that the majority of teacher preparation programs embed writing instruction in courses on reading instruction, with only a small

percentage (28%) offering a stand-alone writing instruction course. The absence of a stand-alone writing instruction course may be problematic, as some research suggests that writing instruction courses have unique benefits for preservice teachers. For example, Martin and Dismuke's (2015) study of teacher candidates enrolled in a writing methods course found that candidates reported a greater understanding of the writing process, writing instruction, and their own identities as writers. Explicit instruction is beneficial for developing these writing-related characteristics.

### **Our Evidence-Based Approach to Writing Instruction**

Guided by the five components described above (learner, knowledge, assessment, community, and metacognition), we sought to address the gaps in the literature by developing a practical, evidence-based approach to teaching writing within teacher education programs. As we developed our approach, we carefully considered the writing needs of both teachers (i.e., our M.Ed. students) and their students. We hoped that by helping to build teachers' confidence and competence in writing, we would also help them apply their writing skills to their own practice as educators. Although we did not integrate explicit instruction on how to teach writing, we did set up the learning environment to model exemplary writing instructional practices that the teachers could use in their own classroom. In addition, our commitment to evidence-based practice ensured that we not only drew upon strategies that the scholarly literature had indicated were effective but also gathered evidence from our own students and from our observations. We began applying our approach in the graduate courses we taught in 2016. In 2018, we began systematically gathering quantitative and qualitative data to examine the effectiveness of the approach. Preliminary evidence from a sample of three online or hybrid course sections (35 students) is discussed following the description of the instructional approach. Note that when we refer to "the instructor," we are referring to ourselves in the context of our individual courses.

### **Learner-Centered Strategies**

To ensure that learners' needs would guide instruction and feedback, we incorporated several strategies. First, analysis of learning needs was accomplished with initial self-assessments, early ungraded writing assignments, and open-ended reflection questions about what students' goals were for the course. Second, each student had a personal learning plan (PLP) that was based on his or her self-identified learning needs and the instructor's feedback about areas for growth. Because the instructor and student added to the PLP after each assignment, this document became a tool for reflecting on and highlighting areas of growth as well as areas of additional need for improvement throughout the course. Third, students were directed to within-course resources that targeted areas needing additional scaffolding (e.g., grammar resources and quizzes; didactic materials on modes of writing) and/or that provided guidance for strong writers who required more advanced instruction. Fourth, students' cultural and linguistic diversity was considered. The overarching course goal was to build students' competence and confidence as writers. Because we have a highly diverse student population, we wanted to ensure that students who self-identified as English language learners or who initially expressed low confidence in their written academic English skills would have a positive and effective experience in the course, regardless of their baseline level of written English proficiency. Finally, student choice was an important element of the course, as students were free to choose writing topics related to their professional interests and career goals, within the broad limits of the writing assignments.

### **Knowledge-Centered Strategies**

The main knowledge-centered strategy employed in the course was the explicit teaching of a clear process for writing, including pre-writing, drafting, revising, responding, editing, and reflecting. Nielsen (2015) has noted that explicit writing strategy instruction has ample theoretical support in the literature, though the topic would benefit from additional research support with an adult learner population. In our course, students received instruction while going through the writing process twice within the course (once with a formative assignment and

once with a summative assignment), which provided them ample opportunity for engaging in writing tasks. We integrated well-established writing instructional practices (e.g., writing an outline, developing a concept map, engaging in peer-review, finding good source material; Troia, 2014) into the content of the course. As noted below, many students reported applying their learning to their own teaching of writing in K-12 settings. This application resulting from knowledge-centered strategies highlights the integrated nature of the framework, as metacognition is required to apply learning in one setting (e.g., engaging in the writing process in a graduate course) to a completely different setting (e.g., teaching elementary or secondary students how to write).

### **Assessment-Centered Strategies**

The course used an innovative assessment strategy that emphasized formative feedback and progress while still providing a summative evaluation of students' writing proficiency. In line with the literature on the value of formative assessment in instruction (e.g., National Council of Teachers of English, 2013; Shute, 2008), the first half of the course was completely formative. We provided detailed comments on students' work on one complete assignment (from pre-writing through reflection). We also provided in-depth feedback on each student's personal learning plan (PLP). The PLP contained the course standards of writing proficiency that were the common goals for all students. The PLP also contained student-specific goals for the second half of the course. During the second half of the course, students completed another written assignment (pre-writing through reflection), and we again provided detailed comments. However, the final product was also evaluated with summative criteria for writing proficiency. Students' effort and improvement were taken into account by tracking their progress on the PLP from the first half through the second half of the course.

In addition, we ensured that the assignments provided authentic assessment of writing. Each student chose a research topic with personal relevance and social justice implications. This research topic became the student's focus for all writing tasks. Through this method, students developed additional expertise in an area of interest while also thinking about key social justice issues related to their practice. Students developed a teaching statement as part of one assignment, which prompted them to think about and express how their own values and beliefs shape their practice. Such assignments help to give voice to teachers' inner lives. Furthermore, such self-reflection helped teachers forge connections between the writing skills and values they were learning in our course and the application of such skills and values to their teaching practices.

One noteworthy difference between our course and many writing courses is that we did not use a strict rubric. Although rubrics are commonly used in evaluation of writing, some (e.g., Wilson, 2006) have convincingly questioned their necessity and benefit. After years of using rubrics to grade students' writing, we have found that the PLP strategy provided a more useful, nuanced, and accurate assessment of students' writing strengths and areas for growth. Furthermore, because students contributed to the PLP, the assessment process became a two-way dialogue rather than a one-way evaluation process.

### **Community-Centered Strategies**

Building a learning community was one of the biggest challenges of developing the approach, as our students were enrolled in online or hybrid courses. However, we successfully built community through the use of writing support groups that regularly met (in person or online) to discuss their writing. Part of the writing support groups' function was to promote students' engagement in and comfort with the peer review process. We used Nellen's (n.d.) model of "I heard...; I noticed...; I wondered" to reduce the likelihood that students would simply edit each other's papers. Peer review is a well-established and highly effective instructional practice in higher education (e.g., Topping, 1998, 2005). Peer review appears to benefit not only the student receiving feedback but also the student providing feedback (Nicol, Thomson, & Breslin, 2014). Although students were often initially hesitant about sharing their work, we laid the groundwork for a comfortable peer review atmosphere by providing

encouragement, setting a positive tone by modeling constructive feedback on students' written work, and giving students guidance on what to focus on with peer review worksheets.

The instructor is also a crucial part of the community. Even in the online courses, we established a strong presence by participating in formal and informal online meetings via software built into our learning management system, sending frequent announcements to the class, responding quickly to email, and sharing personal reactions to students' writing. In addition, we provided ready access to one-on-one teleconferencing, as needed, in lieu of face-to-face office meetings.

### **Metacognition-Centered Strategies**

In our approach, we fostered metacognition by requiring self-reflection at numerous points in the writing process. Students engaged in self-assessment of writing strengths, reflected on their experience within the writing support groups, and contemplated their individual growth and future writing goals. By embedding this self-reflection into the personal learning plan (PLP), we also fostered metacognitive dialogue between the student and the instructor. In this way, we had opportunities to respond directly to students' self-reflection, ask follow-up questions, and then self-reflect on our own instructional practice as it related to students' progress. Furthermore, peer review fostered metacognition, as it required students to critically reflect on their own writing vis-à-vis their review of peers' writing. The authentic assessment strategies described above also required metacognition, as such assignments as the teaching statement required self-reflection on beliefs, values, and practices.

### **Findings**

Two sources of evidence were available. First, the PLP included a five-item Likert scale self-assessment, administered both pre (first course session) and post (final course session). This self-assessment required students to self-assess their skill in using library databases for research, analyzing research articles, applying APA style, scholarly writing, and applying the writing process to a variety of writing tasks. In the current study, we used paired *t* tests and effect sizes (Cohen's *d*) to measure significance and size of mean changes from pre to post on the five items. The PLP also included two qualitative end-of-course items in which students were asked to describe one or two things they found helpful about the course and one or two suggestions for improving the course. We categorized responses into various themes.

Second, we analyzed course evaluation data obtained with the IDEA Student Ratings of Instruction (SRI), which provided quantitative information on student learning outcomes. The SRI (e.g., Li, Benton, Brown, Sullivan, & Ryalls, 2016) is a widely used and well-established measure of student learning and carries the advantage of measuring students' self-rated progress on specific objectives that the instructor has identified as essential for the course. In the current course, we identified four learning objectives: learning to apply course material; developing skill in oral or written expression; learning how to find, evaluate, and use resources to explore a topic in depth; and learning how to analyze and critically evaluate ideas, arguments, and points of view. For the current study, we calculated the percentage of students who reported "substantial" or "exceptional" progress (ratings of 4 or 5 on a 5-point scale) for each objective.

Participants were 35 graduate students enrolled in the course in the Spring of 2018. Not all students completed all measures; thus, the specific number of participants for whom data were available will be indicated with each set of analyses. Means for self-assessment items are presented in Table 1.

Table 1  
*Means and Standard Deviations for Pretest and Posttest Self-assessment Items (N = 35)*

Skill	Pretest <i>M</i>	Pretest <i>SD</i>	Posttest <i>M</i>	Posttest <i>SD</i>
Library databases	2.89	0.93	4.23	0.65
Analyzing articles	3.14	0.94	4.03	0.62
APA	2.57	0.88	3.57	0.78
Scholarly writing	2.40	0.95	3.74	0.78
Variety of writing	3.00	1.03	4.14	0.65

Students' self-assessment of their skills changed significantly from pre to post on all five items: library skills,  $t(34) = 7.16, p < .001, d = 1.67$ ; research article analysis,  $t(34) = 5.28, p < .001, d = 1.12$ ; APA skills,  $t(34) = 4.88, p < .001, d = 1.20$ ; scholarly writing skills,  $t(34) = 7.34, p < .001, d = 1.54$ ; and writing variety,  $t(34) = 6.06, p < .001, d = 1.32$ . All changes were significant and large (more than one standard deviation unit of change from pre to post). Although self-assessment data can be limited in validity, some evidence supported the accuracy of students' self-assessments, particularly with regard to their posttest writing skills, which were significantly correlated with their final grades:  $r(33) = .42, p = .01$ .

Table 2 presents the themes and response frequencies for helpful course aspects and areas for improvement; many students' responses noted more than one theme.

Table 2  
*Themes and Frequencies for Helpful Course Aspects and Suggestions for Improvement (N = 35)*

Helpful Aspects	Frequency (%)	Suggestions	Frequency (%)
Instructor feedback	17 (49%)	More examples	7 (20%)
Resources/content	11 (40%)	Other (e.g., more collaboration)	5 (14%)
Clear expectations	7 (20%)	Technical difficulties	3 (9%)
Group/peer feedback	7 (20%)	More time needed	3 (9%)
Navigation/organization	7 (20%)	Group difficulties	2 (6%)
Other (e.g., PLP)	7 (20%)		
Pacing/timing	4 (11%)		

The aspects of the course most commonly cited as helpful included the group/peer collaboration, course content/resources, clear expectations, instructor feedback, and course navigation/organization. These strengths clearly map onto the community, knowledge, assessment, and learner components of our approach. The most common areas for improvement included technical difficulties and students' desire for more examples, more collaboration, and more time.

Finally, course evaluation data indicated that students who completed the measure ( $N = 27$ ) almost unanimously reported either substantial or exceptional progress on the four learning objectives: learning to apply course material (93%); developing skill in oral or written expression (93%); learning how to find, evaluate and use resources to explore a topic in depth (96%); and learning to how to analyze and critically evaluate ideas, arguments,

and points of view (93%). In summary, quantitative data across both sources indicated that students improved substantially, while qualitative data indicated that the aspects of the course that were most valued supported the components of our instructional approach.

### **Benefits and Challenges**

Our highly diverse graduate student population includes a large number of first-generation graduate students, bilingual and/or immigrant students from non-English speaking countries, and mid- to late-career students. Many entered teaching through alternative certification routes. Many teach in Title I K-12 schools. In addition, a growing number of our students serve in emerging online classrooms that reach at-home and in-class learners through multi-grade classrooms with limited direct teacher access. Given this background, improving teachers' writing has significant potential for direct spillover effects to a diverse range of high-need, underserved K-12 learners. Such impact extends beyond the individual teacher's classroom because many of the teachers quickly transition into academic leadership positions in their K-12 campuses, thereby further extending their range of student learning influence and impact capacity.

Some of the direct benefits of improving teachers' writing included the following:

- 1) Extending teachers' capacity in scholarly writing and their related enhanced capacity in formal communication skills;
- 2) Enhancing teachers' comprehension and consumption of scholarly literature, which further increases teachers' ability to stay current with emerging learner improvement trends, strategies, and other professional development;
- 3) Empowering teachers as reflective scholar-practitioners;
- 4) Improving K-12 students' writing through improved teacher writing skills;
- 5) Improving schools' success, which in turn transforms viable and vibrant local communities.

Students' comments during online writing support group meetings and their anonymous qualitative feedback on course evaluations indicated that many students extended the writing instruction practices to their own K-12 classrooms. Furthermore, students generally reported feeling increased confidence and competence that matched our own assessment of their improvement. Perhaps most importantly, students reported feeling respected and validated by their peers and instructor. Students appreciated detailed, timely, and constructive feedback on their writing, which they often reported being somewhat surprised by (perhaps due to lack of detailed or helpful feedback in previous educational settings). For example, in correspondence at the end of the semester, one student stated, "I have always struggled with writing and haven't always had someone who wrote kind words." This comment captured the spirit of what we wanted our writing instruction to be—a different and even corrective experience for teachers who may have received negative feedback on their writing in the past.

Given the aforementioned background that the majority of our teachers have, several challenges encountered in improving their writing are worth noting:

- 1) Many teachers lack mastery of prior/entry-level academic and scholarly writing skills.
- 2) Notable numbers are mid/late-career teachers who have been out of academic/scholarly learning and writing environments for significant periods. This delay not only impacted their journey to scholarly writing mastery but also impeded their mastery of newer/updated scholarly attitudes and standards. Their learning curve of prerequisite background skills and knowledge is steep and further stretched by the short duration of the graduate program.
- 3) Almost all teachers have full-time employment, with direct responsibility for many students, lesson management, and other school duties. In addition, the majority of teachers have family responsibilities. This requires juggling of time and schedules to maintain full-time graduate learning and the demands of mastering scholarly writing.



These challenges are not insurmountable, however. Awareness of one's learners and their needs is part of the learning-centered component of writing instruction. We continue to tweak the course to be manageable and practical for our learners while also maintaining rigorous educational standards.

### **Implications for Practice and Research**

Although our sample size is small, our findings are robust: The instructional approach developed for this graduate-level course in research and scholarly writing has been effective with our students. However, the typical teacher education program curriculum leaves little room for additional coursework (Sallee et al., 2011); thus, it is difficult to implement a transitional writing course for students with low writing self-efficacy and/or underdeveloped writing skills in the undergraduate context. However, writing instruction informed by our approach can be integrated into existing courses and curricula. We offer several recommendations for teacher educators and teacher education programs.

We recommend the inclusion of the writing practices and instructional strategies we have described here to target students at all levels of higher education. This recommendation was supported by students' comments that they experienced a lack of writing instruction and engagement in their prior undergraduate, professional, and post-graduate experiences. For programs that cannot offer a stand-alone writing course, many alternatives are available. Writing boot-camps (during the first or second week of a semester) or mini-courses (during an academic break) can introduce concepts that can be reinforced within later content courses. Supplementary instruction is another option that involves pairing writing instruction with a content course (e.g., in the form of a 1-credit lab); the key in this model is that writing instruction is grounded in the context of the course content, which makes the writing instruction more practical and meaningful. Existing content courses can also be designated as writing-intensive, with time carved out of regular instruction to address writing strategies and practices. This approach can be particularly effective if the course is team-taught (Sallee et al., 2011). Regardless of the format and context of delivery, any approach to writing instruction will benefit from thoughtful, integrated inclusion of strategies that reflect the five components of our approach (learner, knowledge, assessment, community, and metacognition).

One question not addressed in the current work is whether there are important cultural factors that contribute to students' experiences with the approach we have described. Although the learner-centered strategies do appreciate and respect students' cultural, national, and linguistic differences, we did not look at the impact of these differences on students' outcomes. Additional research is needed to determine whether our experiences with students replicate across settings (including international settings) that have varying demographic, cultural, socio-political, and communal attributes and attitudes, as well as diverse approaches to public education. For example, although we have a moderate-sized international student population in our M.Ed. program, we have not yet attempted to explore how writing instruction differentially affects international students. This area is ripe for investigation.

### **Future Directions**

We hope to undertake a comprehensive curriculum review that examines writing instruction across our curriculum. We have started this process by integrating and coordinating writing instruction across the two core courses that our M.Ed. students take: the course described here (Educational Research and Scholarly Writing, usually taken in the first or second semester) and the capstone course (Educational Research Design and Data Analysis, which typically is taken the last or penultimate semester). We have used the same framework to guide instruction in both courses, attempted to identify common writing outcomes, integrated formative feedback consistently across the two courses, and capitalized on the benefits of peer review in both courses. This process is a model of writing instruction and assessment across the curriculum, and we hope to extend the process to more graduate education courses within our M.Ed. program in the future. We urge teacher educators to value writing instruction and to apply evidence-based strategies using the five-component framework in their undergraduate and

graduate education courses. Not only will teachers benefit from this comprehensive approach, but improvement in their students' writing may even depend on it.

## References

- Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M. K. (2010). *How learning works*. San Francisco, CA: Jossey-Bass.
- Beaufort, A. (2007). *College writing and beyond: A new framework for university writing instruction*. Logan, UT: Utah State University Press.
- Brooks, G. W. (2007). Teachers as readers and writers and as teachers of reading and writing. *The Journal of Educational Research*, 100(3), 177-191.
- Carter, M. J., & Harper, H. (2013). Student writing: Strategies to reverse ongoing decline. *Academic Questions*, 26, 285-295.
- Coffin, C., Curry, M. J., Goodman, S., Hewings, A., Lillis, T. M., & Swann, J. (2002). *Teaching academic writing: A toolkit for higher education*. New York, NY: Routledge.
- Conference on College Composition and Communication. (2015). *CCCC statement on preparing teachers of college writing*. Retrieved from <http://www2.ncte.org/statement/statementonprep/>
- Cremin, T., & Oliver, L. (2017). Teachers as writers: A systematic review. *Research Papers in Education*, 32(3), 269-295.
- Council of Writing Program Administrators, National Council of Teachers of English, & National Writing Project. (2011). *Framework for success in postsecondary writing*. Retrieved from [www.wpacouncil.org](http://www.wpacouncil.org).
- Hacker, D. J., Keener, M. C., & Kircher, J. C. (2009). Writing is applied metacognition. In D. J. Hacker, J. Dunlosky, & A. C. Graesser (Eds.), *Handbook of metacognition in education* (pp. 154-172). New York, NY: Routledge.
- Li, D., Benton, S. L., Brown, R., Sullivan, P., & Ryalls, K. R. (2016). *IDEA technical report No. 19: Analysis of IDEA Student Ratings of Instruction System 2015 pilot data*. Manhattan, KS: The IDEA Center. Retrieved from [https://www.ideaedu.org/Portals/0/Uploads/Documents/Technical-Reports/IDEA\\_Technical\\_Report\\_No\\_19.pdf](https://www.ideaedu.org/Portals/0/Uploads/Documents/Technical-Reports/IDEA_Technical_Report_No_19.pdf)
- Martin, S. D., & Dismuke, S. (2015). Teacher candidates' perceptions of their learning and engagement in a writing methods course. *Teaching and Teacher Education*, 46, 104-114.
- Myers, J., Smetana, L., Scales, R. Q., Yoder, K. K., Grisham, D. L., Ikpeze, C., ... & Martin, S. (2016). What about writing? A national exploratory study of writing instruction in teacher preparation programs. *Literacy Research and Instruction*, 55(4), 309-330.
- National Council of Teachers of English. (2013). *Formative assessment that truly informs instruction*. NCTE Position Statement. Retrieved from [http://www.ncte.org/library/NCTEFiles/Resources/Positions/formative-assessment\\_single.pdf](http://www.ncte.org/library/NCTEFiles/Resources/Positions/formative-assessment_single.pdf)
- National Research Council. (2000). *How people learn: Brain, mind, experience, and school*. Washington, DC: The National Academies Press.
- Negretti, R. (2012). Metacognition in student academic writing: A longitudinal study of metacognitive awareness and its relation to task perception, self-regulation, and evaluation of performance. *Written Communication*, 29(2), 142-179.
- Nellen, T. (n.d.). I heard, I noticed, I wondered. [Website.] Retrieved from <http://www.tnellen.com/cybereng/method.html>
- Nesi, H., & Gardner, S. (2012). *Genres across the disciplines: Student writing in higher education*. Cambridge, UK: Cambridge University Press.
- Nicol, D., Thomson, A., & Breslin, C. (2014). Rethinking feedback practices in higher education: A peer review perspective. *Assessment & Evaluation in Higher Education*, 39(1), 102-122.
- Nielsen, K. (2015). Teaching writing in adult literacy. *Adult Learning*, 26(4), 143-150
- Plakhotnik, M. S., & Rocco, T. S. (2016). Increasing writing self-efficacy of adult learners: Different approaches, different results. *Adult Learning*, 27(4), 160-167.
- Sallee, M., Hallett, R., & Tierney, W. (2011). Teaching writing in graduate school. *College Teaching*, 59, 66-72.
- Shute, V. J. (2008). Focus on formative feedback. *Review of Educational Research*, 78(1), 153-189.
- Street, C., & Stang, K. (2008). Improving the teaching of writing across the curriculum: A model for teaching in-service secondary teachers to write. *Action in Teacher Education*, 30(1), 37-49.

- Topping, K. (1998). Peer assessment between students in colleges and universities. *Review of Educational Research*, 68(3), 249-276.
- Topping, K. J. (2005). Trends in peer learning. *Educational Psychology*, 25(6), 631-645.
- Troia, G. (2014). *Evidence-based practices for writing instruction (Document No. IC-5)*. University of Florida, Collaboration for Effective Educator Development, Accountability, and Reform Center. Retrieved from [http://cedar.education.ufl.edu/wp-content/uploads/2014/09/IC-5\\_FINAL\\_08-31-14.pdf](http://cedar.education.ufl.edu/wp-content/uploads/2014/09/IC-5_FINAL_08-31-14.pdf)
- Writing Across the Curriculum Clearinghouse. (2014). *Statement of WAC principles and practices*. Retrieved from <https://wac.colostate.edu/principles/>
- Wilson, M. (2006). *Rethinking rubrics*. Portsmouth, NH: Heineman.