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Preservice Teachers and Writing: An Analysis of Academic Performance *RESEARCH*

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Abstract

It is necessary to address literacy throughout the curriculum, and writing is an effective tool for achieving it. This study sought to compare the academic performance of undergraduate students ($n = 121$) who sought teacher certification at elementary level (pre-kindergarten – 6th grade) and secondary level (7th grade – 12th grade). This study used a causal-comparative, quasi-experimental research design to compare the academic performance between these two groups in five university courses that were common among all education majors and contained a strong writing component. Data were collected in the form of final grades earned after completion of each of the five courses and analyzed using Mann-Whitney U analyses. Data analyses revealed two statistically significant findings between the two groups in both of the two sophomore-level English courses, and mean ranks showed that the academic performance of preservice elementary teachers was stronger. Effect sizes for these two findings suggested a low and moderate practical significance, which suggests a need for additional analyses. The article provides recommendations for teacher preparation programs to study the preparedness of preservice teachers with regard to writing efficacy and writing pedagogy, and to ensure that respective curricula are addressing these areas adequately.

Keywords: writing, teacher preparation, preservice teacher, elementary, secondary

Introduction

The need to address all aspects associated with literacy (i.e., reading, writing, listening, speaking, and discipline-specific language) within K-12 learning environments has fostered a paradigm shift among educators (Jacobs, 2006). Much literature within the past 20 years has advocated that each aspect of literacy be embedded throughout all subject areas during instruction (e.g., Bintz & Moore, 2011, 2012; Cook & Dinkins, 2015; Ford-Connors, Dougherty, Robertson, & Paratore, 2015; Johnson, Watson, Delahunty, McSwiggen, & Smith, 2011; Oliveira, 2015; Washburn, & Cavagnetto, 2013). From an accountability perspective, the integration of literacy was presented throughout the Common Core State Standards (CCSS) in two ways (National Governors Association Center for Best Practices, 2010):

1. The K-12 English Language Arts Standards (separated into K-5 grade level standards and 6-12 grade level standards) were categorized into Reading, Writing, Speaking, Listening, and Language Standards. These standards outline specific

grade-level expectations that aim to prepare students for college entrance and/or career readiness by the end of high school.

2. The Cross-Disciplinary English Language Arts & Literacy Standards for History/Social Studies, Science, and Technical Subjects Standards were integrated throughout the K-5 Reading Standards and addressed separately for grade levels 6-12. These cross-disciplinary standards are intended to support the construction of content knowledge through purposeful and intentional integration of reading, writing, speaking, listening, and language skills.

Although the CCSS were categorized according to these literacy skills, many individual standards reflected the interdependence among the aspects of literacy (e.g., writing about something that was read). Essentially, all teachers should recognize how the inclusion of all aspects of literacy during instruction fosters students' knowledge and skill development (Jewett, 2013).

Writing, one of the essential aspects of literacy, provides a vehicle for students at all grade levels to demonstrate their learning and deepen their understanding of content (Daniels, Zemelman, & Steineke, 2007; Swain & Coleman, 2014; Walling, 2009). Harward et al. (2014) emphasized that “teachers must better prepare themselves to teach writing and implement writing across the curriculum” (p. 219) and pointed to the importance of “the quality of preparation and inservice professional development” (p. 221). Morgan and Pytash (2014) asserted that the effective integration of writing throughout instruction juxtaposes the need for teachers to possess “strong pedagogical knowledge of how to teach writing and a sense of their own writing self-efficacy” (p. 28), yet their recent review of literature published within the last 20 years showed that these were lacking areas within teacher preparation programs. Lapp and Flood (1985) had reported this same deficit almost 30 years prior, thus demonstrating that this is an area requiring improvement among teachers. Lapp and Flood’s (1985) findings held that teachers were able to address the articulated deficiency “once they are taught how to teach writing” (p. 380).

Various constraints, policies, and legislation-laden teacher preparation programs has resulted in a diverse conglomeration of curricula, modes, and approaches. Moreover, the preparation for preservice elementary teachers and preservice secondary teachers has been documented as significantly different (Shuls & Ritter, 2013). These differences, along with the noted lack of attention given to writing among teacher preparation programs, indicate a need to explore the preparation of preservice elementary and secondary teachers with writing.

Literature Review

Many studies highlight that integrating literacy into content area instruction is an effective tool for enhancing students’ learning at both the elementary level (e.g., Connor et al., 2010; Halladay & Neumann, 2012; Lapp, Grant, Moss, & Johnson, 2013; Moss, 2005) and the secondary level (e.g., Adams & Pegg, 2012; Hillman, 2014; Radcliffe, Caverly, Hand, & Franke, 2008; Roberts, Takahashi, Hye-Jin, & Stodden; 2012; Shanahan & Shanahan, 2008). While each aspect of literacy is critical, Graham, Gillespie, and McKeown (2013) advocated that writing was of particular importance due to its power as a learning tool and an instrument for communication, and by extension, persuasion. Graham et al. (2013) also asserted that writing has a significant impact on an individual’s reading ability, which is an essential academic skill with all students, particularly in the content areas (Swanson, Wanzek, Vaughn, Roberts, & Fall, 2015).

Traditionally, language arts teachers have borne the responsibility of teaching students how to write, but Johnson et al. (2011) alleged that the inclusion of writing during instruction throughout all content areas has the potential to foster deeper understandings about content among students. During a study conducted among elementary students, Roth (1992) implemented writing activities that deviated from the typical “work-oriented, product-focused kinds of writing” (p. 19) she had used in the past. Upon analyses of students’ writing, Roth reported that the newly implemented writing activities “fostered development of connected and useful understandings of science concepts as well as the disposition to be reflective about the nature of science” (p. 19). Subsequent literature has referred to this approach during content area learning as “writing to learn” (e.g., Marzano, 2012) and has shown it to be an effective method for integrating

writing as a part of content area instruction (e.g., Gammill, 2006; Knipper & Duggan, 2006; Marzano, 2012). Coupling features of writing instruction with content area instruction has been described as a promising practice that facilitates students' learning (e.g., Fisher & Frey, 2013; Moss, 2005; Peterson, 2007), while also developing students' writing skills, such as grammar and mechanics. For example, well-known language arts instructional strategies, such as shared writing and interactive writing, have the potential to boost students' understanding of content area knowledge and their development of composition skills concurrently (Fisher & Frey, 2013).

Gallavan, Bowles, and Young (2007) asserted that a need exists to train preservice teachers across all grade levels on how to integrate writing throughout all content areas effectively. In order to provide high-quality, writing-infused content area instruction, teachers themselves must be capable writers (Morgan, 2010). Therefore, teacher preparation programs must develop preservice teachers' proficiency with writing skills so that they are prepared to address and integrate writing with students at the elementary grade level (e.g., Colby & Stapleton, 2006) and secondary grade level within the content areas of math (e.g., Kenney, Shoffner, & Norris, 2014), science (e.g., Pytash, 2013), and social studies (e.g., Hotchkiss & Hougen, 2012). However, teacher preparation is addressed differently among preservice elementary teachers and preservice secondary teachers (Shuls & Ritter, 2013). Shuls and Ritter (2013) explained that the focus of teacher preparation programs with preservice elementary teachers is the attainment of "pedagogical practice and child development," while the focus with preservice secondary teachers is "deep understanding" of content area knowledge (p. 31). Furthermore, additional literature

has exhibited that teachers are quite underprepared for the task of integrating writing throughout all content areas effectively (Cutler & Graham, 2008; Gilbert & Graham, 2010; Graham, Capizzi, Harris, Hebert, & Morphy 2014; Kiuahara, Graham, & Hawken, 2009).

Statement of Research Question

In order to understand how to better prepare preservice teachers for writing instruction, this study sought to explore the following question: Does the academic performance of undergraduate students who were preservice elementary teachers differ significantly from undergraduate students who were preservice secondary teachers in university courses that contain a strong writing component?

Participants

This study was conducted during a 16-week fall semester and included analyses of data from undergraduate students enrolled at a regional public university in Texas who were education majors seeking initial teaching credentials. In Texas, individuals who seek initial state-level teaching certification must be formally admitted to a teacher preparation program approved by the Texas Education Agency. At the time of this study, the university's teacher preparation program had admitted 337 teacher candidates. Of these, 36% ($n = 121$) met the criteria for inclusion in the data analyses.

Participants were grouped according to their intended level of teaching certification. Participants included in the Elementary group ($n = 63$) consisted of teacher candidates who sought teaching certification for the pre-kindergarten grade level through 6th grade level. Participants in the Secondary group ($n = 58$) consisted of teacher candidates who sought teaching certification for specific content areas in the middle

grade levels (i.e., 4th grade through 8th grade) or the high school grade levels (i.e., 9th grade through 12th grade).

Methodology

This study utilized a causal-comparative, quasi-experimental research design in order to compare the academic performance between the two groups in five university courses that were required of all preservice elementary and preservice secondary teachers. Each course contained a strong writing component. The university courses selected for inclusion in this study were two freshman-level English courses, two sophomore-level English courses, and one junior-level reading course that was related to content area literacy. At the time of this study, the latter course was affiliated with the university's Writing Intensive Program (WIP), which was developed to encourage students' continued development with writing in upper-level courses to achieve the following goals: (a) improve undergraduate students' overall abilities with writing and (b) develop undergraduate students' professional writing abilities within their fields of study. The specific courses selected for use in this study were:

- Freshman English I – this course served as an introduction to writing within academic contexts. This course was the first required English course and enrollment was open to all university students.
- Freshman English II – this course focused upon research within academic contexts. This course was the second required English course and enrollment was open to all university students.
- Sophomore English I – this course focused upon writings within the narrative genre. Enrollment in this course was open to all university students; however, successful

completion of Freshman English I and Freshman English II was required before enrolling.

- Sophomore English II – this course focused upon writings within modern literary works. Enrollment in this course was open to all university students; however, successful completion of Freshman English I and Freshman English II was required before enrolling.
- Literacy in the Content Areas – this course focused on factors that influence learning from content area texts and taught specific instructional strategies to promote comprehension, vocabulary development, study strategies, and test-taking skills. Enrollment in this course was restricted solely to education majors, and a final grade of a “C” or higher was required. This course also carried a prerequisite of successful completion (i.e., a grade of a C or better) of nine hours of English.

Within both groups, only students who had earned a final grade in each of the five aforementioned courses were included in data analyses. Academic performance in each course was measured with final course letter grades that were awarded to students (i.e., A, B, C, D, and F). With regard to students who had repeated specific courses (e.g., they had previously failed the course), the most recent final course letter grade earned was included in data analyses.

Data analyses were conducted using IBM SPSS Statistics 19.0 software. A Shapiro-Wilk test indicated that the data were not normally distributed ($p < .05$); therefore, data were analyzed with the non-parametric Mann-Whitney U test. An alpha level of .05 was used to determine any statistically significant findings, which are reported with corresponding effect sizes (Cohen, 1988).

Findings

The purpose of this study was to explore whether a significant difference existed between the academic performance of preservice elementary teachers and preservice secondary teachers in university courses common to education majors that contained a strong writing component. As shown in Table 1, analyses from the Mann-Whitney U tests revealed the following results:

- Freshman English I course: The mean ranks for the Elementary group and Secondary group were 58.70 and 63.50, respectively. The two groups did not differ significantly with respect to overall academic performance, $U(119) = 1,822.50$, $Z = .78$, $p > .05$.
- Freshman English II course: The mean ranks for the Elementary group and Secondary group were 58.79 and 63.34, respectively. The two groups did not differ significantly with respect to overall academic performance, $U(119) = 1,815.50$, $Z = .74$, $p > .05$.
- Sophomore English I course: The mean ranks for the Elementary group and Secondary group were 66.21 and 50.98, respectively. A statistically significant finding was found between the two groups with respect to overall academic performance, $U(119) = 1,259.00$, $Z = -2.43$, $p < .05$, $r = 0.22$. According to Cohen (1988), this was a small effect size.
- Sophomore English II course: The mean ranks for the Elementary group and Secondary group were 68.85 and 42.05, respectively. A statistically significant finding was found between the two groups with respect to overall academic performance, $U(119) = 862.00$, $Z = -4.34$, $p < .05$, $r = 0.40$. According to Cohen (1988), this was a medium effect size.
- Literacy in the Content Areas course: The mean ranks for the Elementary group and Secondary group were 56.71 and 66.82, respectively. The two groups did not differ significantly with respect to overall academic performance, $U(119) = 1,972.00$, $Z = 1.76$, $p > .05$.

Table 1
Analyses from Mann-Whitney U Tests

Course	<i>n</i>	Mean Ranks	U	Z
Freshman English I				
Elementary	63	58.70	1,822.50	0.78
Secondary	58	63.50		
Freshman English II				
Elementary	63	58.79	1,815.50	0.74
Secondary	58	63.34		
Sophomore English I				
Elementary	63	66.21	1,259.00	-2.43
Secondary	58	50.98		
Sophomore English II				
Elementary	63	68.85	862.00	-4.34
Secondary	58	42.05		
Literacy in the Content Areas				
Elementary	63	56.71	1,972.00	1.76
Secondary	58	66.82		

Discussion and Recommendations

Analyses did not reveal statistically significant differences in the academic performance between preservice elementary and secondary teachers in the freshman level English courses or the Literacy in the Content Areas course. Conversely, the data revealed statistically significant findings regarding academic performance between these teacher groups in both sophomore English courses. For these findings, Cohen's effect size values indicated low ($r = 0.22$) and moderate ($r = 0.22$) effect sizes, respectively, thus suggesting low and moderate practical significance.

Further analyses with the mean ranks related to these two findings showed that the academic performance of the preservice elementary teachers was stronger than that of preservice secondary teachers.

Shuls and Ritter (2013) pointed out that there are great curricular differences within secondary teachers. However, enrollment in both of the university's sophomore English courses was open to all university students.

Of the five courses included in this study's data analyses, only one course limited enrollment to preservice teachers: Literacy in the Content Areas. Consequently, preservice teachers at this university were exposed to only one common course in which specific pedagogy related to "how to write . . . and how to integrate writing across the curriculum" (Gallavan, Bowles, & Young, 2007, p. 67) was addressed.

A limitation of this study was that it did not explore how preservice teachers perceived their preparedness to teach writing. Future studies be conducted in this area, particularly since empirical evidence has held that practicing teachers feel underprepared to teach writing (Cutler & Graham, 2008; Gilbert & Graham, 2010; Graham et al., 2014; Kiuahara et al., 2009). Findings from future analyses may assist teacher preparation programs with identifying how they might improve the educational experiences of preservice teachers to foster a sense of preparedness regarding writing and how to integrate

writing into each content area effectively. Moje (2008) cautioned that this training should “build *disciplinary literacy*,” rather than “employ literacy teaching practices and strategies” (p. 96). Pytash (2012) further noted that quality training with writing instruction requires authentic engagement

among learners. As noted by Lapp and Flood (1985), “once they are taught how to teach writing” (p. 380), preservice elementary and secondary teachers will carry a repertoire of research-based instructional practices that incorporate writing throughout content area instruction.

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