

An Investigation of Elementary Teacher Candidates' Pedagogical and Content Knowledge of the Social Studies Curriculum

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Abstract

This small-scale study investigated teacher candidates' knowledge of both social studies content and pedagogical knowledge. A pre-test to determine existing knowledge was administered at the beginning of the spring semester. The pre-test was in the form of an official practice EC-6 Content TExES Exam given through an education testing service available on campus. Volunteers were recruited to take the pre-test, and the testing fee was paid for through an internal grant received to fund this study. A sampling of The 100 Question Civics Test was also administered at this time. At the conclusion of the semester, actual EC-6 Content TExES Exam scores were received from the participants. There were no significant differences in the mean scores of the pre-and post-tests. Additionally, scores on the pre-test and The 100 Question Civics Test indicated limited knowledge of both social studies content and pedagogical knowledge, leading the researchers to re-examine teaching methods for the social studies methods courses.

Introduction

Elementary certification in Texas includes grades Early Childhood through 6th (EC-6). A teacher candidate will take the necessary coursework and field experiences through an approved Texas Educator Preparation Program (Texas Education Agency, 2014) in preparation to teach these grade levels. Although many schools in Texas are departmentalized, or have teachers who only teach specialized subjects, there is also a possibility a teacher with a general EC-6 Certificate will be assigned to teach a self-

contained classroom or a specialized subject. This means teacher candidates will need to be prepared both pedagogically and in the content area knowledge for their specific degree.

Schulman (1987) recognized the need for teachers to have a knowledge base for the content taught, and specifically noted that “Pedagogical content knowledge is the category most likely to distinguish the understanding of the content specialist from the pedagogue” (p. 8) in explaining the need for teachers to have a foundation of *what* they are teaching to facilitate the delivery of information efficiently for active student participation. Moreover, he added “there are powerful relationships between the comprehension of a new teacher and the styles of teaching employed” (p. 17). This means teachers are more likely to actually teach the content, as well as use effective strategies, when they possess a strong content knowledge themselves. Grossman (1990) reiterated this point noting teacher candidates will have to think metacognitively and weave understandings together in order to develop a personal and professional style of teaching content.

Since the data shows that students score lower in content area knowledge than pedagogical knowledge, particularly in social studies (Texas Education Agency, 2014), it is important for professors, instructors, and teacher candidates in higher education to realize the importance of a solid content knowledge base. Experts have maintained teachers who do not have adequate understanding of the content they are teaching may revert to encouraging the rote memorization of facts (Journell, 2013; Sanchez, 2010). This strategy has the potential to become a cycle of “teaching how you were taught” instead of using the most appropriate methodology for today’s students and can lead to

less than dynamic teaching with the probable outcome of short term knowledge acquisition by students.

Significance to the Field and Purpose

The Texas Essential Knowledge and Skills (TEKS), makes it clear that teachers are responsible for providing social studies instruction, and are divided into four major strands: History, Government, Economics, and Geography/Culture. In a review of the literature, several studies (Journell, 2013; Marks, Binkley, & Daly, 2014; Sanchez, 2010) have indicated the difficulty for pre-service teachers to teach the content of social studies, because of the limited or lack of discipline-specific knowledge. For example, a study of a college's pre-service teachers by Journell (2013) found their knowledge of politics alarmingly low. He noted that within "parties and important political personalities", more than 10% of the students responding could not identify the Vice-President of the United States, and more than 40% could not identify the Secretary of State. A similar study by Sanchez (2010) found that pre-service teachers' knowledge of facts about historical figures were limited, providing consideration into the possible relationship between a lack of content knowledge and a rote memorization cycle. Additionally, another study investigating pre-service teachers' knowledge of religious differences and the first amendment found a limited knowledge of cultural differences in relation to religion (Marks, Binkley, & Daly, 2014).

Because of the critical role social studies education plays in our community, state, and nation, future teachers must have an extensive knowledge of the strands of social studies, and also the skills to accurately teach them in order to break the cycle mentioned previously. This study investigated two dimensions concerning elementary

teacher candidates: 1.) their knowledge of both social studies content and 2.) their knowledge of the specific pedagogy before and after an Integrated Language Arts/Social Studies course.

Research Questions

1. To what extent do elementary teacher candidates possess content knowledge of social studies (history, government, economics, and geography/culture)?
2. To what extent do elementary teacher candidates possess the pedagogy of social studies?
3. What importance do these teacher candidates place on having content knowledge of social studies to teach social studies effectively in the elementary setting?
4. What effect did the methods course have on both content knowledge and pedagogy?

Methods

This study was generated and completed with funds from an internal grant program at the university. The researchers applied for and received the funding to pay for the students' practice certification exams, as well as to purchase specific instructional materials to utilize throughout the semester. Participants in this study were enrolled in a Language Arts/Social Studies methods course in a teacher education department in Texas. During the first two weeks of the spring 2015 semester, students were told about the research and asked to voluntarily participate in the study.

Volunteers were required to sign the approved consent forms before any data was collected. The incentive was the fee-waived practice EC-6 Generalist test. This test costs the student \$25 if they sign up to take it independently. Of approximately 120 students entering Language Arts/Social Studies methods, 38 students agreed to participate and individually signed up to take the practice test, which served as the pre-test for the study. Of the 38 who registered, 15 students took the practice test.

Due to scheduling, the practice EC-6 Generalist was only offered on a limited basis. The semester began at the end of January, but due to the impact of winter weather, the March testing was the remaining option. New college department regulations required taking and passing the actual EC-6 Generalist prior to student teaching, so several of our students were already registered to take the test by March. The researchers believe the number of students who actually took the practice test was significantly reduced due to the unforeseen impact of the weather.

During the spring semester, the instructor integrated various strategies to teach both content and pedagogical methods regarding the social studies content. Two books were approved and funded through this grant were used as additional support materials (Argarwal-Rangnath, 2013; Melber & Hunter, 2009). Additionally, all students in the course were given a sampling of questions from the 100 Question Civics Test to serve as a baseline for the discipline-specific content knowledge. Data was collected only from students who had given their consent to participate in the study.

Because of the department requirement that all education students now have to take and pass the actual state certification exam, the data was used as a post-test result from students who participated in the study. Since the state certification exam

was taken later in the semester, the researchers did not receive the scores. The college's Department of Education was able to provide the researchers with the information regarding students who had participated in the study and had also taken their certification exam. From that information, the researchers were able to analyze pre-test (practice tests) and post-test (certification exam).

Results and Discussion

Pre- and Post-test data were collected on the students who agreed to participate in the study with the help of the college's Department of Education. Once received, the data were entered into SPSS and a Paired Sample T-Test was run to determine acceptance or rejection of the null hypothesis (There was no significant difference in the pre- and post-test mean scores for social studies competencies). The analysis indicated the following information: (N=12; $t=.060$; $p=.953$; $p<.05$, so null was accepted). After running the analyses, the researchers determined the null hypothesis would be accepted rather than rejected. One score received on the post-test fell as an outlier, and was extremely lower on the post-test than the pre-test, so data was also run without that student scores to see if there would be significance present. The second data analysis yielded the following information: (N=11; $t= -.860$; $p=.410$; $p< .05$, so null was accepted). However, there was a notable difference between means on the second data set run (M= 69.36, 72.090). Additionally, data was analyzed from the scores on the sampling from the 100 Question Civics Test. These scores ranged from 12%-82%, with the average score being 62%. This means the researchers saw no significant growth between the pre- and post-test period, leading them to believe that the interventions implemented during the course had little or no effect.

These analyses indicate two importance findings: First, teacher education candidates do not have sufficient knowledge in either content or pedagogy of social studies; and secondly, teacher education candidates' knowledge was not increased with one course in social studies methods. This leads the researchers to believe that an increased emphasis is needed in social studies content before entering the teacher education program.

The researchers agreed that research questions 1, 2, and 4 were sufficiently answered through the process of the study. These questions were easily assessed using the methods presented in the study for both a pre-test and post-test measure. Question 3 would need to be revised to include a qualitative portion, since this question addressed more of an affective area.

Conclusion

Although the numbers for this study were small, and effected by the unforeseen circumstances discussed, the researchers feel strongly that the sample has the potential for representation of teacher education students university-wide, if not wider. The low beginning scores on both the certification practice tests, as well as the 100 Question Civics Test yielded evidence that teacher candidates' content and pedagogical knowledge of Social Studies is low, as indicated by other studies showing the lack of social studies content knowledge of teacher candidates (Marks, Binkley, & Daly, 2014; Schulman, 1987). After utilizing various strategies and employing different methods throughout the semester, the researchers expected to see scores increase after taking the actual certification exam. However, since there was not a significant change from the pre-test to the post-test, one conclusion could be a deficiency in social studies

knowledge prior to acceptance in the teacher preparation program, thus hindering the students' acquisition of new knowledge (Neuman, Kaefer, & Pinkham, 2014).

Consequently, teacher candidates who do not possess adequate knowledge of social studies content will be more likely to struggle when trying to learn pedagogy specific to social studies (Schulman, 1987). This is particularly important for teacher preparation programs in Texas, as the new teacher certification exam has changed to reflect proficiency in each core area, as opposed to the previous composite scoring system. The information gained and discussed in this study should be beneficial, as instructors are responsible for preparing students to enter the field of teaching, which requires the students to meet specific standards on the state certification exam.

Knowledge of social studies is extremely important for students, who will be the future of the United States, to know and understand its importance. According to the position statement released by the National Council for the Social Studies,

If the young learners of this nation are to become effective participants in a democratic society, then social studies must be an essential part of the curriculum in each of the elementary years. In a world that demands independent and cooperative problem solving to address complex social, economic, ethical, and personal concerns, core social studies content is as basic for success as reading, writing, and computing. Beginning to build this knowledge at an early age involves educators who are well grounded in social studies educational practice (NCSS, Position Statement: Powerful and Purposeful Teaching and Learning in Elementary School Social Studies, 2009, p. 3, 1).

Working together, instructors and teacher candidates can break the cycle of a diminishing knowledge in social studies content. Each teacher has a responsibility to learn, and ultimately teach, effective social studies instruction. Imperatively, teacher education programs need to be aware of this situation in order to address it proactively, and should include teacher candidates' willingness to take ownership and responsibility for a remedy to this dilemma.

References

- An Investigation of Elementary Teacher Candidates' Pedagogical and Content Knowledge of the Social Studies Curriculum. PI: Crystal Hughes; Co-PI: Elsa Diego-Medrano. Source: Kilgore Faculty Research Grant; West Texas A&M University; 1/1/15-5/1/15. Awarded amount: \$1373.00.
- Argarwal-Rangnath, R. (2013). *Social studies, literacy, and social justice in the common core classroom*. New York: Teachers College Press.
- Grossman, P. (1990). *The making of a teacher: Teacher knowledge and teacher education*. New York: Teachers College Press.
- Journell, W. (2013). What perspective teachers (don't) know about politics and current events- And why it matters. *Theory & Research in Social Education, 41*, 316-351.
- Marks, M. J., Binkley, R., & Daly, J. K. (2014). Preservice teachers and religion: Serious gaps in religious knowledge and the first amendment. *The Social Studies, 105*, 245-256.
- Melber, L. M., & Hunter, A. (2009). *25 strategies for k-8 inquiry based learning: Integrating language arts and social studies*. New York: SAGE Publications.
- National Center for the Social Studies. (2009). *Powerful and Purposeful Teaching and Learning in Elementary School Social Studies*. Silver Spring, MD: Task Force on Early Childhood/Elementary Studies.
- Neuman, S., Kaefer, T., & Pinkham, A. (2014). Building background knowledge. *The Reading Teacher, 66*(2), 145-148.

Sanchez, R. M. (2010). The six remaining facts: Social Studies content knowledge and elementary preservice teachers. *Action in Teacher Education*, 32(3), 66-78.

Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-22.

Texas Education Agency. (1998). *Texas essential knowledge and skills for social studies, subchapter c., high school*. Retrieved from <http://www.tea.state.tx.us/rules/tac/chapter113/ch113c.pdf>

Texas Education Agency. (2014). Becoming a classroom teacher in Texas. Retrieved from:

http://www.tea.state.tx.us/index2.aspx?id=25769812527&menu_id=865&menu_id2=794

U.S. Citizenship and Immigration Services. *100 civics questions and answers with MP3 Audio*. Retrieved from <http://www.uscis.gov/citizenship/teachers/educational-products/100-civics-questions-and-answers-mp3-audio-english-version>.