

## PREPARING BILINGUAL PRE-SERVICE TEACHERS FOR THE ELEMENTARY SOCIAL STUDIES CLASSROOM: A CROSS-COLLEGE EFFORT

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### Abstract

This paper presents the findings of a grant funded initiative that joined the College of Education and the College of Arts and Sciences at a Hispanic serving institution to address low performing scores on the Social Studies (SS) portion of the EC-6 TExES Content Exam. Sixteen pre-service bilingual teachers participated in the grant initiative. As part of their participation the pre-service teachers were enrolled in a redesigned World Geography course that included National Geographic resources. Participants received training on the content taught in PK-6 grade classrooms, and tested on the state exam, using a technology-enhanced learning approach. Data were collected by providing students with an initial survey containing Likert-scale items. In addition, pre and post tests were given to the participants on the SS topics presented on the state exam for licensure. Participants noted an initial nervousness and ill-preparation toward teaching SS content on surveys. Pre-test scores corroborated this with initial pretest scores averaging 6.14 out of 10. After implementation of the National Geographic resources and structured lessons in the World Geography course post-test scores averaged 8.87 out of 10, indicating a strong preparation for the state exam.

Keywords: *bilingual, TExES exams, pre-service teachers*

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### Introduction

Texas currently has 1.1 million English Learners (ELs) enrolled in their PK-12 system (Tovar, 2019), 88% of that population are Spanish speakers (Texas Education Agency, 2021). Yearly, Texas sees an average of 40,000 teaching positions that go unfilled (KLTV, 2020) because they don't have the certified individuals to fill the positions. Bilingual educators in particular are in dire need. The number of ELs in the state continues to grow, yet the process to become certified and fill the classrooms with highly qualified teachers is a difficult and tedious one.

As part of the process to become a bilingual certified teacher in the state of Texas, candidates need to pass five different state exams focused on: (1) having knowledge in the content areas, (2) effective teaching pedagogy, (3) state policy/laws, (4) plus show proficiency in the Spanish language. One of the tests, the EC-6 Content Areas exam assesses the pre-service teacher's knowledge in the area of Social Studies. This portion of the exam verifies the candidate's knowledge in history, geography, culture, economics, government, and citizenship.

In recent years, the performance of pre-service teachers on the Social Studies portion of the exam that tests geographical knowledge is among the poorest (Texas Education Agency, 2017). Universities across the state are struggling with preparing the pre-service teachers to pass this portion of the content exam with scores that range as low as 40% (Texas Education Agency, 2017). The bilingual pre-service teachers enrolled in our Educator Preparation Program (EPP) were no different and too were performing poorly on this portion of the exam, adding only more of a deficit to the already great teacher shortage in the state.

Recent publications argue that Social Studies is one of the areas with poorest performance because too often students do not learn what they need to learn in the PK-12<sup>th</sup> grade system, leaving them with large gaps of knowledge in the areas of World History, Geography, and other areas of Social Sciences (Wexler, 2017). When reviewing student performance, only 22% usually score proficient on their high school state assessments in History, a trend seen nationally (Wexler, 2017).

This project, titled the Social Studies Scholar (S3) Initiative, was formulated as a way of addressing not just the low testing scores in the EPP at our university, but taking a hands-on approach to helping pre-service teachers in the program seeking bilingual certification by giving them the knowledge they'd need to be able to deliver lessons for this content area in EC-6<sup>th</sup> grade settings. This grant, sponsored by National Geographic, gave the researchers access to online tools and resources developed by the company to help redesign coursework and restructure lessons to assist students in preparation for the state exam (TE<sub>x</sub>ES). In addition, this grant brought together two colleges, joining experts in bilingual education, pedagogy, and geography. The research question this grant project aimed to answer was: What impact, if any, does technology enhanced learning (Brush & Save, 2009) using National Geographic online resources and structured review lessons have on pre-service teachers' preparedness to take the EC-6 Content Social Studies exam?

### **Technology Enhanced Learning**

Educators looking for ways to address knowledge gaps is an all too familiar story. However, most associate it with the PK-12 system. What we equivocate to after school tutoring, Saturday tutoring, and summer school. There is a misconception that students at the university level are expected to be at level academically because they are in an institution of higher learning. It would be ideal for university level students to be focused on expanding their knowledge and developing themselves into experts in their field of choice. However, as professors in a public university, we can attest that remediation rather than acceleration is the norm. According to Chen and Simone (2016), about one-third of undergraduate students need to take a remedial course during their first two years enrolled at a university.

While many approaches can be used to assist students by providing an optimal learning environment, we opted to use technology enhanced learning (TEL) to prepare the pre-service teachers participating in this grant for the state exam. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) (2023) provide an explanation of TEL and note that it can take many forms. Usually though TEL includes the use of devices and electronic media to deliver content (i.e., internet, videotapes, computer programs) and involves a wide range of applications and processes (i.e., web-based learning, computer-based learning, virtual classrooms). In short, the more access to technological resources a student has the more they can learn and add to their existing knowledge on the topic being studied.

Preparing the students for their state exam through this grant required careful planning to ensure that the TEL was at its optimal so that the educational goals outlined for the pre-service teachers could be met. Especially in the area of Social Studies where exponential gaps of knowledge exist (Wexler, 2019) for the pre-service teachers enrolled in our program. In order to reach these goals, best practices for teaching Social Studies were also imbedded within the pre-service teachers’ online learning. They include, but aren’t limited to: (1) creating a supportive environment, (2) directly introducing and reviewing content vocabulary, and (3) using groups and other technology to reduce the cognitive demand, while still facilitating learning. Table 1 presents a list of activities that were used to address these three components.

**Table 1**

*Best Practices Used in the Grant and Online Social Studies Classroom*

Supportive Environment	Direct Teaching of Content	Group Work and Technology
Regular access to professors via office hours or by appointment	Structured TExES reviews targeting specific content across four sessions	Videos recorded by the instructor presenting content to students and students presenting content to one another
Creating activities during reviews and lessons that allowed for questioning/clarification	Student-centered activities during TExES reviews and during class meetings	Online venue on Blackboard that allowed for discussion, questions, and dialogue
Quick response to students’ email	Exams that corresponded with the content taught in class and reviewed in the TExES sessions.	Group assignments that integrated the use of online programs like Zoom

**Project Overview**

The participants in this study were all juniors formally admitted into the College of Education’s Educator Preparation Program. All seeking to become Bilingual certified teachers, they were in their third of four blocks, meaning they had already taken half of their Education courses prior to beginning their participation in this grant. At this point the pre-service teachers had already taken History I and II, as well as Government I and II, as part of their common core through the College of Arts and Sciences. In addition, they had taken a pedagogy class on how to teach Social Studies in the elementary classroom and had reviewed best practices for that subject area through the College of Education. The only course pending for the pre-service teachers was World Geography, which was taken as a summer elective, per the degree plan.

**Participant Recruitment**

All pre-service teachers currently in their third block were informed of the study and recruited by passing out a flier during one of their Bilingual courses during the spring semester (N=54). The flier informed them of a virtual information session that would be offered via Zoom detailing information on the grant and how they would possibly benefit. The pre-service teachers were reminded a week prior and again on the day of the information session to attend if interested through an email blast sent out by the

course instructor. On the day of the information session a total of 22 potential participants joined the session via Zoom. The information session was offered through Zoom because students were enrolled at the main campus, but also at two extension campuses that were offsite. Zoom and other videoconferencing platforms have grown in popularity because of their ability to reach a wide audience, ease of use, and features for managing data (Archibald et. al, 2018). It is for these reasons that our initial meeting was conducted virtually with the potential participants.

The information session presented the potential participants with information about the grant. In short, the researchers explained that the students would be enrolled in a special section of World Geography that would use the National Geographic resources. The students were also informed that they would be given four extra review sessions by professors with expertise in Geography or classroom pedagogy. Lastly, the students were informed that the grant would reimburse up to two attempts on the EC-6 Content exam. After the information session, students were given the permission slips, approved by the campus Institutional Review Board (IRB), to review and sign. They were instructed to submit the permission slips to an email address the university had established for the grant. This was done to avoid any pressure from professors to participate in the grant. At the end of a two-week window, the researchers accessed the email address and found a total of 16 students had turned in the forms to participate in the grant initiative. A breakdown of the participants demographic data is presented in Table 2 below.

Once the permission slips were reviewed for signatures, the students' academic advisor placed them all in the special World Geography section and dates were set to begin the TExES reviews for the pre-service teachers participating in the grant (n=16).

**Table 2**

*Demographic Data*

Participant Characteristic	Response
Gender	
Male	1
Female	15
Prefer Not to Answer	0
Age (Years)	
18-25	14
26-33	0
34-40	2
Classification	
Underclassman	0
Junior	16
Senior	0
EC-6 Certification Route	
Generalist	0
Bilingual	16
Other	0
Previous Experience in Teaching (Years)	
0-1	16
2-4	0
5 or More	0

## Activities and Projects

Following the suggestion of Brush and Save (2009), all content was delivered online integrating different technology platforms, both in and out of class.

### *State Exam Reviews*

One of the first activities that the pre-service teachers were able to attend were state exam reviews. The state exam reviews were conducted one month prior to beginning their World Geography course. The first workshop helped prepare the pre-service teacher for the SS portion of the EC-6 exam, focusing on potential questions that dealt directly with pedagogical techniques and resources. In addition, best practices tailored to Social Studies were reviewed. A second workshop for participating students was conducted reviewing the remaining portion of second portion of the Social Studies content. In addition, resources from the National Geographic resources that the researchers were given access to were integrated to assist students in preparing for any possible classroom scenario questions that may have been presented on the EC-6 exam. A third review focused on the last portion of the Social Studies content was also conducted. The reviews were conducted one month prior to the students beginning their World Geography course. This was done to present the information in a sequenced manner that also allowed students the opportunity to study and internalize the information presented prior to beginning the second portion of the activities planned out before clearing them to take the state exam.

### *Class Activities*

Once enrolled in the special session of the World Geography course, the pre-service teachers were asked to take a mini course titled “Developing a National Geographic Explorer Mindset with Your Learners” from National Geographic. This short, introductory course provided background information for educators interested in bringing geographic thinking to their SS lessons. The course was self-paced and on average took about 90 minutes to complete. Other resources from National Geographic that contained mini-lessons and resources that focused on academic vocabulary were also embedded in the class because of their potential to be useful for the pre-service teachers academic and test preparation.

The World Geography course also had exercises and assignments related to geographical skills (i.e., map reading exercises). In addition, lesson plans and discussion assignments were also written into the syllabus to provide the pre-service teachers opportunities to use the academic vocabulary they were being exposed and foster their communication skills. The assignments were also written to help students develop critical thinking skills because they had to evaluate their own views and consider other perspectives through the discussion and assignments. Finally, the pre-service teachers’ knowledge was assessed through pre and post tests. All in all, between the external resources and the assignments the pre-service teachers were given the opportunity to immerse themselves in Social Studies and its corresponding pedagogy.

## Instruments

Data for this study was gathered through a survey and the administration of a pre and post tests. Through the survey, participants shared demographic information as well as answered a series of questions and items. The pre and post tests were administrated through the World Geography course as a way to assess students understanding of the content before and after receiving instruction.

## *Survey*

A survey was the first of two instruments used to collect data. This was issued to the participants prior to beginning with the first set of grant activities, the TExES reviews. Surveys are commonly used in research as a means of collecting data and providing a snapshot of the group at that particular time (Kelley et. al, 2003). In this particular case it also allowed us to reach the students, who were at the main and extension campuses easily. The survey was divided into three sections. The first section collected demographic information, including their age, gender, any previous work experience related to education, and their current status at the university. The second section presented Likert scale items that made statements related to Social Studies instruction and pedagogy as well as their preparedness to deliver lessons related to Social Studies in the PK-6<sup>th</sup> grade settings. The last section presented open-ended questions that asked students their opinions on social studies instruction and how what they felt needed to be done to better prepare them to not just pass the state exam, but teach this subject area. Surveys have long been used in research. According to Kelley et. al (2003), surveys allow for a large amount of data to be collected and can be dispersed in a variety of ways, depending on the audience. In our particular case, the survey was given out electronically. While the surveys allowed us to gather data that provided an overview of the participants and their opinions, the other set of instruments we used to collect data were pre and post tests.

## *Pre and Post Tests*

Pre and post tests were given to participating pre-service teachers to assess their academic progress prior to and after enrolling in the World Geography course. Pre and post testing were adopted because it allowed for the evaluation of the project. Pre and post tests were selected to verify student growth because they are easy to score and relatively easy to analyze using statistical procedures (Skidmore College, 2023). Students were given the pre-test upon entry into the class before any substantial instructional intervention occurred. A post-test was then administered using alternate forms, at the end of class to document learning gains. Questions on the pre and post tests were similar to test questions on the Social Studies EC-6 Core Subjects Exam.

## **Results**

Upon reviewing the initial survey, it was noted that 85% of the pre-service teachers noted not feeling prepared to teach the content area of Social Studies. Based off of their open-ended questions some of the factors they attributed to this were: (1) not being taught Social Studies regularly while they were in the PK-12 system and (2) an emphasis on Math and Reading in the curricula, even at the university level. When reviewing the Likert style items on the survey it was found that one (6%) of the pre-service teachers strongly agreed, three (19%) agreed, and eleven (68%) strongly disagreed with the Likert scale item that focused on being knowledgeable in the content needed to deliver quality Social Studies lessons in a PK-6th grade setting. A total of the nine (56%) disagreed with the Likert scale item focused on feeling knowledgeable in the strategies and methods that were appropriate to use in a Social Studies classroom to enhance instruction for English Learners (ELs). The other six pre-service teachers felt neutral about the statement (44%). Lastly, all sixteen (100%) noted that they strongly agreed with Likert scale item focused on their willingness to teach the subject area to the ELs that will be in their charge. A summary of the Likert-scale items is presented below in Table 3.

**Table 3***Summary: Likert-scale Items on Social Studies (SS) Instruction*

Abbreviated Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
	%	%	%	%	%
I have knowledge on SS content.	6	19	0	0	68
I am knowledgeable on SS classroom best practices in a bilingual classroom.	0	0	44	56	0
I am comfortable teaching SS in EC-6 settings.	0	19	0	50	31
I am interested in SS professional development.	100	0	0	0	0
I have a positive attitude toward teaching SS.	100	0	0	0	0

A pre-test was given to students during the first day of class and the post test was given the last week of class as a way to track improvement. Upon reviewing the results of the pre and post tests the following was observed: 14 of the 16 students participated in the pretest and 15 participated in the post test. The tests administered to the students had 10 questions total, each question worth one point. The average pre-test score was 6.14 out of 10. The average post test score was 8.87 out of 10. The post test showed greater preparedness on not just content, but on how to teach the content (pedagogy). The standard deviation of the pre-test scores was 2.23. The post test standard deviation was 1.21. A more consistent performance was noted in the post scores, meaning the students had internalized and mastered the content. Over all, pre and post test results show that the pre-service teachers' testing grades were substantially improved and most students would be deemed ready for the Social Studies portion of the EC-6 Core Subjects exam. A summary of the pre-post test is presented below in Table 4.

**Table 4***Summary: Pre and Post Tests*

Statistic	Pre-test	Post-test
Number of Participants (n)	14	15
Minimum Value	2.00	5.00
Maximum Value	10.00	10.00
Range	8.00	5.00
Average	6.14	8.87
Median	6.00	9.00
Standard Deviation	2.23	1.20
Variance	4.98	1.44

**Discussion**

This study provides faculty preparing pre-service teachers in Texas, and in other states that have certification exams, with insight into the effectiveness of taking the time to align classes to state testing standards. While no professor can spend hours on end reviewing for state exams with practice test questions, if the content is taught in the course, then mastery on the state certification exam becomes

attainable. The growth noted by the pre-service teachers on the pre-post tests can also be attributed to the collaboration among the colleges and professors whom worked on this effort. It allowed the preservice teacher to see the interconnectedness between the content and the pedagogy needed for effective instruction in the Social Studies classroom. Additional preparation for the state exam through the World Geography course, as well as the two workshops, provided a positive learning experience with the students and confidence to do better on the Social Studies portion of the exam. While they noted being nervous, ill-prepared, and having a lack of knowledge in methods and strategies specific to Social Studies, they all still looked at teaching the subject in a positive light, which is the most important take away from this grant and speaks highly of the caliber of teachers coming into our Texas classrooms.

While this study only provides a snapshot of a small group of pre-service teachers, it still serves as a reminder that through collaboration much can be accomplished. In addition, there is also a strong reminder that Social Studies needs to be taught in the PK-12<sup>th</sup> grade system. Public educators can help the future generation of teachers by ensuring that they don't focus too much on one subject in their daily lessons and should evenly focus on all subjects so that their students can perform well in each subject area on high school exit exams and once enrolled in college or university. While this grant is in its initial stages, it still provides valuable insight. More than insight it provides steps on how to proceed. While the pre-service teachers have completed their participation in the grant, results are pending from their state examinations. However, once the results do come in for our university it will provide insight and guide our curriculum alignment.

### Recommendations

After completing this research, the following recommendations are asked to be considered by those preparing teacher candidates: (1) reach out across colleges who have experts on the areas of the EC-6 content exam. Their expertise can become a valuable asset once paired with a professor who is an expert in pedagogy. (2) Consider redesigning your coursework to include external sources and content beside test preparation manuals to prepare the preservice teachers for their state exams. The era of drill and kill is over and doesn't provide long term retention of content. (3) Talk to the preservice teachers about their initial anxieties, not just about testing in general, but about the content. Instead of taking a blanket approach, specifically try to pin-point areas of need and address them through the classes.

### Conclusion

Through this study we, as researchers and professors, were able to grow. This research reminded us that at times we may need to ask for help. While we are experts in our field, that does not mean that at times we need to bring in others to help our students meet their educational goals. For the pre-service teachers who participated in this study, it provided them the opportunity to tackle an area that they did not feel strong in, both for testing and teaching. While this study was small, it reinforces that cross-college collaborations can have a big impact. If other universities follow with similar efforts we may be able to collectively address the shortage of teachers in our state by getting all of our teaching candidates certified.

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