

# A Case Study of the Effectiveness of Online Graduate Teacher Education in TESOL

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## ABSTRACT

A cadre of schoolteachers took part in three semesters of online coursework to earn TESOL certification. They participated in a hybrid university math course and a face-to-face summer institute on effective teaching of math to English learners. Participants took pre and post-tests aligned to Common Core elementary mathematics content and the Praxis Test for Teachers of English to Speakers of Other Languages. They were observed teaching a math lesson in the beginning of the project to evaluate effectiveness in TESOL instructional strategies. A follow up observation was conducted the following semester. Both observations were scored using the sheltered instruction observation protocol (SIOP Model). Assessment and observation results indicated statistically significant growth in content and pedagogical knowledge and application. A qualitative analysis suggests flexibility in the form of online and hybrid courses, financial support, and practical application of new concepts to current practice are key factors in successful professional development for practicing teachers.

## KEYWORDS

Certification, Inservice, Mathematics, Online, Professional Development, SIOP, TESOL

## INTRODUCTION

Demands placed on English Learners (ELs) in mathematics are often underestimated. ELs require specialized instruction that will often differ from instruction that works for non-ELs. Mathematics is not, in fact, a universal language. It “involves specialized vocabulary, specific grammatical construction,” distinct terminology, and “it requires students to master knowledge through practicing and processing abstract information” (Valle et al., 2013, p. 180). As a result, teachers require additional training in accessing the background knowledge of ELs and providing them with opportunities to apply their skills in authentic ways (Valle et al., 2013, p. 174).

Valle et al. (2013) argue that current classroom instruction practices (i.e. teacher-directed activities, textbooks, and worksheets) limit ELs and non-ELs opportunities to learn in mathematics, and that “multiple instructional approaches will promote ELs’ academic development and achievement” (p. 174). These targeted instructional approaches designed to meet the needs of ELs require additional training for teachers.

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This study analyzes the outcomes of a project, funded by the Rhode Island Office of Post-Secondary Education, through a federal Title II grant, in which a cadre of currently licensed and practicing elementary and middle school teachers took part in four semesters of coursework in order to earn a certification in Teaching English to Speakers of Other Languages (TESOL). The call for proposals for this grant had the ambitious goal of not only improving educational certification programs overall, but also prioritizing the persistent low performance by EL students on state mathematics exams. Therefore, as part of this grant-supported program participants enrolled in a university mathematics course for educators focused on building teachers' content knowledge, and a summer math institute focused on TESOL mathematics pedagogy to help them improve their effectiveness in teaching math to English learners.

## BACKGROUND

ELs' academic success is often measured by their ability to demonstrate growth and/or proficiency on federally mandated standardized assessments in English language proficiency (ELP), English Language Arts (ELA), science, and mathematics. These standardized assessments are aligned to the "academically rigorous" and "language-intensive" Common Core State Standards (CCSS), Next Generation Science Standards (NGSS) and one of the two ELP consortia: WIDA or ELPA21 (Lee, 2018, p. 318). Despite well-documented cultural bias, lack of reliability, and lack of validity in testing ELs' content knowledge in their non-native language, as well as their academic English, English is the language used on such standardized assessments (Abedi, 2004, 2014; Cummins, 2008; Gottlieb, 2016; Luykx et al., 2007; Mahon, 2006; Solano-Flores, 2008). Therefore, an EL must have access to *both* English language instruction and content area instruction as part of their academic programming. Likewise, ELs must have access to properly trained and certified teachers with the skills to implement such programming (United States Department of Education [USDOE], 2017).

The achievement gap between ELs and non-ELs in standardized test performance is a nation-wide problem (USDOE, n.d.). Additionally, the lack of qualified staff to provide ELs access to research-based programs has been cited by the United States Department of Justice in sixteen different states between the years 2003-2018. Each state signed agreements to increase the number of qualified teachers to instruct ELs in their programs and support ELs in overcoming language barriers, which is a federal requirement under Section 1703(f) the Equal Education Opportunities Act (EEOA) of 1974 (United States Department of Justice [USDOJ], 2020).

The ability to overcome language barriers is typically determined by an EL's test performance. The achievement gap between ELs and non-ELs in the content area of mathematics is of particular concern in Rhode Island. ELs comprised 10% of the total student population during the 2018-2019 academic school year, and they are the fastest growing student population in the state (Rhode Island Kids Count, 2020). On the 2019 state-wide content area assessments, over 95% of ELs did not meet or exceed the state's expectations in mathematics (Rhode Island Department of Education [RIDE], 2019a). On the 2019 English Language Proficiency (ELP) assessment, ACCESS, only 3.16% of ELs in Rhode Island scored Bridging or Reaching, which is a score that would indicate the EL has overcome language barriers (RIDE, 2019a).

There is significant research that correlates students' test performance to having access to properly trained, certified, and effective teachers (Hattie, 2003; Newton et al., 2010; Samson & Collins, 2012). The research is clear that for teachers to increase ELs' test performance and overcome language barriers, the teachers must have ongoing and rigorous training in research-based instructional practices and culturally responsive pedagogy. These studies include the importance of explicit instruction in academic English (DiCerbo et al., 2014), integrated and intensive vocabulary instruction across the content areas (Baker et al., 2014), leveraging students' background knowledge (Neri et al., 2016), being culturally responsive (Mellom et al., 2018; Walker et al., 2004), and integrating all language domains in content area and English language instruction (Li, 2012).

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