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Educational Development Needs of Higher Education Faculty Working With ELLs

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This is to certify that the doctoral dissertation by

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has been found to be complete and satisfactory in all respects,
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Walden University
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Abstract

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Curriculum, Instruction, and Assessment

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Abstract

This study was undertaken to examine the educational development (ED) needs of higher education (HE) faculty who have English language learners (ELLs) in their mainstream courses but do not have specialized training in teaching such students. A quantitative approach was used to explore the impact of any existing ED and areas that might need improvement. This study, guided by andragogy, examined the pedagogical needs of these HE faculty. A cross-sectional analysis of online survey data using a multiple analysis of variance (MANOVA) and multiple analysis of covariance (MANCOVA) examined the ED needs and available resources of faculty with respect to their institutions and demographics. With $N = 66$, statistically significant results were found for the faculty's self-perceived responsibility to teach academic skills to their ELLs based upon teaching experience; and language skills based upon ethnicity. Significant results were observed for self-perceived needs related to addressing the academic needs of their ELLs based upon ethnicity; and language skills for gender, home language, where they grew up, and experience living abroad. The institutional context yielded significant results for the self-perceived responsibilities to teach academic skills based upon their ELL students' full-time study status; however, nonsignificant results were found for the impact of existing ED on the needs and feelings of responsibility for addressing the academic and language skills of their ELLs. This study contributes to positive social change by adding evidence-based information on the needs and feelings of responsibility of HE faculty working with ELLs. The results may have broader implications for improving and expanding ED for HE faculty by providing insights into their curriculum, instruction, and assessment needs.

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Dedication

I would like to dedicate this work to my grandmother who instilled in me the desire to always improve and develop myself intellectually; to my mother who may not be with us any longer, but who is always there (I miss you!); and to my dad, who is the smartest person I know.

Acknowledgments

I would like to thank all of those who have helped me throughout my career. This includes the teachers who pushed and pulled and never gave up on me, the innumerable mentors and colleagues I have met along the way, and the diverse students that I have had the pleasure of having in class. You are too numerous to name here, but the result of this work was largely built by standing on your shoulders. I am forever grateful for you in so many ways.

To my committee members, thank you for your support, encouragement, and constructive criticisms. I have learned a lot through this journey, and I am honored that you were a part of it.

A special thank you to Dr. Jenelle Reeves who gave me permission to use and adapt portions of a survey that she used for similar research in a K-12 setting.

To the Chair of the IRB where I conducted my pilot study (you know who you are!). I want to thank you so much for the extremely valuable feedback. I so valued your time and energy discussing my pilot (and my overall research) with you on multiple occasions. If there were ever a way to repay your time and encouragement, I would double it!

I would like to thank my expert review panel participants and my pilot study participants who significantly contributed to the completion of this work. I am forever indebted to you for your advice, suggestions, and criticisms. I read every word of your comments and ideas, and I pored over them for hours. Any omissions (willful or not) are my own.

To the 66 participants in this study, I value every minute of your time, and I thank you for clicking through to the end! I would also like to thank those who received my call for participation for either taking the survey, or passing it on. Research requires participants, and I am forever indebted to remembering this and paying it forward.

To my friend, colleague, and mentor, Dr. Rebecca Sachs, who continually encourages, guides, and does not judge me along the way. I learn a lot from you everyday, and for so many reasons, I am honored that our paths have crossed. While you might not realize it, you contributed to the completion of this work in many ways!

A special thank you to my family (especially my dad, Tyler, Michel, the pups, and Wawa) and friends who gave me space to work on my studies and encouraged me throughout. Although they will never read this, an immense thank you to my dogs (Louis, Aubrey, and François) who quietly slept through most of me writing this work. I owe everyone much more attention than I have given you along this journey, and I promise to make it up to you.

To my loving partner, Dr. Nogueras. Words cannot sufficiently describe how much you brighten my life. Every minute of every day, I am so appreciative of the fact that you are in my life, and I especially thank you for all of your support throughout this process. Without you, I am not sure that this would have been possible. (P.S.: I'll get to cleaning the house now! P.P.S: Let's have some alcapurria and watch the sunset on our beach in PR!).

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Chapter 1: Introduction to the Study

This study was undertaken to better understand the educational development (ED) needs of faculty in higher education (HE) who have English language learners (ELLs) in their classrooms but have no professional training to teach such students. Much research had been conducted focusing on teacher ED needs in K-12 settings (see Babinski, Amendum, Knotek, Sánchez, & Malone, 2018; Campbell, 2017; National Center for Education Statistics [NCES], 2017; The New Teacher Project, 2015) and HE generally (see Condon et al., 2016; Desimone, Shaha, Glasett, Copas, & Huddleston, 2016; Meng, Takaroensuk, & Seepho, 2013; Smith, & Phillips, 2013). There is likewise information regarding international students as they transition into higher education institutions (HEIs) (see Ecochard & Fotheringham, 2017) and problems that ELLs have in transitioning from their language learning experiences to their content areas (see de Jong, 2014; Kanno & Cromley, 2013; Kanno & Cromley 2015; Show Mei, 2015); however, there is a dearth of information regarding the specific ED needs of mainstream HE faculty working with ELL populations. The results of this study have the potential to influence existing and future ED related to working with ELL populations in HE. The goal of the study was to provide insight into the needs of HE faculty working with ELLs.

Background

There is an ongoing increase of students who are nonnative English speakers entering HEIs in the United States. One source of new learners in HEIs is an increasing U.S.-based K-12 ELL population (de Jong, 2014; Uro & Barrio, 2013). The number of ELL students in primary and secondary schools increased 57% between 1998 and 2008

(Ballantyne, Sanderman, & Levy, 2008), and has continued to increase through the 2014-2015 academic year (AY) (NCES, 2017). For the 2014-2015 AY, ELLs made up 9.4% of the total 4.6 million students studying in secondary education (NCES, 2017). The percentage of students in K-12 speaking a language other than English in the home has steadily increased in the last decade from 19.7% in 2006 (Kominski, Shin, & Marotz, 2008) to 20.6% in 2007 (Shin & Kominski, 2010) to 22.4% in 2011 (Ryan, 2013). Although this trend has been identified in K-12 schools, many of these primary and secondary teachers still lack the skills and qualifications to effectively work with this learner population (Ballantyne et al., 2008; de Jong, 2014; Education Commission of the States, 2016). If students lack quality instruction from trained teachers in secondary school, they tend to need more support as they enter HE (Flores & Drake, 2014; Howell, 2011; Kanno & Cromley, 2015). As ELLs continue to leave secondary schools and enter HEIs, the demographics and populations of these postsecondary institutions will continue to diversify, and the problems experienced in the K-12 environment will persist in HEIs.

International students who are ELLs are also a steady source of new students matriculating in HEIs. A HE degree from the U.S. is highly valued abroad (Urbana & Palmer, 2016). With increases in technology and advances in transportation, the world continues to globalize as international migration makes it easier to cross borders for educational opportunities (Adams & Nicolson, 2011; Anderson, 2015; Myles, 2015). According to the Institute of International Education (IIE), the international student population studying in the United States increased from 974,926 during the 2014-2015 AY to 1,043,839 in the 2015-2016 AY (Farrugia & Bhandari, 2016), an increase of 7.1%.

The number of international students studying in the U.S. for the 2016-2017 AY showed continued growth, although there was a slight decline in the number of first time international students (IIE, 2017). This increase represents a continuous growth in international student numbers for each AY since the 2006-2007 AY. In the 2015-2016 AY, 40.9% of the international students were enrolled at the undergraduate level, 36.8% at the graduate level, and 8.2% primarily in nondegree programs, with the remaining 14.1% engaged in optional practical training (OPT) (Farrugia & Bhandari, 2016). The IIE (2017) reported the top 10 U.S. states serving as destinations for international students for the 2015-2016 AY and the 2016-2017 AY including California, New York, Texas, Massachusetts, Illinois, Pennsylvania, Florida, Ohio, Michigan, and Indiana (IIE, 2017; Farrugia & Bhandari, 2016). Additionally, Farrugia and Bhandari (2016) reported the top five states with the highest percentage of international students as compared to all enrolled students for the 2015-2016 AY were Washington, D.C. (12%), Massachusetts (12%), New York (9%, Washington (8%), and Delaware (8%).

Jaschik and Lederman (2015) found that 55% of public universities and 63% of private universities intended to increase their enrollment of international students in future years. These students often have to learn English to take classes in their content areas such as education, mathematics, computer science, history, geography, or other majors. With increases in the international student population at HEIs, it was necessary to identify the needs of HE faculty to address any gaps in teaching skills they may have to address the academic needs of this population.

The population of ELLs is quite diverse and includes a variety of experiences, backgrounds, and linguistic and cultural needs that must be addressed for them to be successful in HEIs in the United States (Myles, 2015). Although students are required to demonstrate proficiency in English before entering their degree-level courses, they still have significant linguistic and nonlinguistic needs that must be addressed (Iwai, 2008; Show Mei, 2015). As has been demonstrated in K-12 school contexts, some teachers lack the necessary skills to meet the specific learning needs of ELLs (Ballantyne et al., 2008; de Jong, 2014; Education Commission of the States, 2016; Olsen, 2010; Uro & Barrio, 2013), and most colleges do not focus on teaching their professors how to meet the academic needs of these diverse students (Felder & Brent, 2010; Felder & Brent, 2016; Van der Klink, Kools, Avissar, White, & Sakata, 2017). Furthermore, the transition of international students into U.S.-based HE experience is understudied. In particular, there is a lack of understanding of the needs of international students broadly, and ELLs more specifically as they move into the HEI (Gale & Parker, 2012). These compounding circumstances pose a significant problem to the HEI and its ability to address the unique needs of ELL students through effective pedagogical strategies. With such changes affecting the HEI, there is a growing impetus to address the needs of faculty members who teach ELLs. In fact, little data is available nationally about the institutional supports and services available to assist in providing resources to these students (Andrade, Evans, & Hartshorn, 2015). Although this highlights systematic problems in HEIs, ED is one means of addressing gaps in instructional practices and providing general knowledge

about how HE faculty can support their ELLs (Nicolson, Murphy, & Southgate, 2011; Tong, Luo, Irby, Lara-Alecio, & Rivera, 2015; Wilkinson et al., 2017).

Although all educational institutions are charged with developing and addressing the needs of faculty (Tan, 1986), the task of ED is often left for faculty to do on their own (Abdal-Haqq, 1996; Felder & Brent, 2010; Van der Klink et al., 2017). The types and quality of resources and methods that faculty choose are varied in content and quality (Alsalahi, 2015; Kelly & McDiarmid, 2002), often occurring in isolation (Condon, Iverson, Manduca, Rutz, & Willet, 2016). Faculty often adopt a narrow scope regarding what constitutes effective professional development (PD) activities, and tend to focus on conferences or formal coursework alone to supplement their professional learning (Alsalahi, 2015). As a result, many of the activities that faculty choose lack a deliberate and targeted focus toward any specific personal learning agenda (Stout, 1996). Instead, faculty choose areas of personal interest, rather than specifically targeting and filling a perceived professional need.

Of the ED that is provided to faculty by HEIs, the content does not always directly address a faculty member's individual teaching capacities (Herman, 2012; Ingvarson, Meiers, & Beavis, 2005; Knight, 2007; Knowles, Holton, & Swanson, 2015). Instead, these activities largely lack direct relation to the faculty's daily institutional contexts and immediate needs. A theme evident in the literature is that ED should be more individualized, rather than generically addressing the needs of a large group of people (Minor, Desimone, Lee, & Hochburg, 2016; Richardson, 2003). McDonald (2012) further suggested that ED should focus on a teacher's attitudes and beliefs in addition to

daily practices. The predominant ED model assumes that faculty have homogenous needs, which leaves some faculty far below the level and pace of instruction, and others far above (Minor, Desimone, Lee, & Hochburg, 2016; Santagata, Kersting, Givvin, & Stigler, 2011). What is needed is a targeted focus on the individual learning needs of faculty, as opposed to broad trainings or workshops (Kleickmann, Tröbst, Jonen, Vehmeyer, & Möller, 2016; Perry & Hart, 2012; Nguyen, Benken, Hakim-Butt, & Zwiep, 2013; Ross, 2014). For faculty working with ELLs, more targeted approaches need to be provided that directly relate to the gaps in instructional practices of the faculty.

Faculty are likely to be left behind when ED does not acknowledge their unique needs (Alsalahi, 2015). Without exposure to training and resources directly targeting faculty's immediate needs, some faculty may lack the specific skills and abilities required to meet the needs of their ELL students. This is especially true because much of the learning about teaching occurs on the job (Condon et al., 2015). Pu (2010) suggested that directly addressing the individual needs of faculty is essential to improving their instructional and pedagogical skills, ultimately benefiting the learning needs of their students. Bohon, McKelvey, Rhodes, and Robnolt (2017) found that the application of experiential learning can have a major impact on teaching practices as long as they are targeted and focus on the individual needs of the faculty. Understanding the everyday needs of faculty, their institutional contexts, and their gaps in knowledge is essential to supporting their needs (Wright & de Costa, 2016).

Many HEIs have programs designed to provide the English language training required of ELLs prior to entering their academic programs. The duration of the programs

ideally depends upon the ability of individual students to master the English language for academic work. ELLs typically spend a specified period of time in these programs based upon their initial proficiency before continuing on to their academic programs. This language instruction can be as little as a term or semester, or as long as a year or more. These programs equip ELL students with basic language skills that are often not sufficient enough to make them competent learners in their eventual degree areas, and the length of time of such programs vary (Umansky & Reardon, 2014).

ELLs often experience a variety of issues long after finishing their English as a second language (ESL) classes. They often have enrollment and ultimate degree attainment rates that are far behind the rates of their non-ELL peers (Kanno & Cromley, 2013; Kanno & Cromley, 2015). ELL students often have weak academic language, reading, and writing skills, while at the same time they demonstrate strong capabilities with social interactions (Olsen, 2010; Show Mei, 2015). Beyond linguistic gaps, teachers need to understand and address the social and emotional issues faced by ELLs (Harklau, 2000; Show Mei, 2015), the expectations of students in comparison to their home countries (Decapua & Marshall, 2011), the differing cultural expectations between students and teachers (Morton & Gray, 2010), and the learners' need to use English in their content area classes beyond just communicative English (de Jong, 2014; Echevarria, Short, & Powers, 2006). With such a variety of needs, content area faculty in HEIs need to understand these issues to effectively address their ELLs. ED is a critical means of addressing the needs of mainstream faculty working with ELLs (Harper & de Jong, 2009).

Problem Statement

There has been a growing body of research on K-12 mainstream teachers and ELLs, but little research has been conducted on content area HE faculty in the United States who have ELLs, including their specific ED needs with respect to this population, and the available resources to them. Many teachers in colleges and universities in the United States currently teach or have the potential to teach international students who are largely ELLs, with around 1 in every 20 students studying in U.S. HE coming from abroad (Farrugia & Bhandari, 2016; IIE, 2017). Although ELLs can be found throughout all academic disciplines in HEIs, most faculty have no specific or specialized training related to instructional practices aimed at teaching ELLs. As a result, many ELLs struggle to succeed in their content courses, and some fail to make satisfactory progress because of their inability to master the English language enough to cope with their academic work.

Purpose Statement

The purpose of this quantitative study was to identify and analyze the instructional needs of mainstream HE faculty in U.S. colleges and universities who work with ELLs but who have no formal training in teaching these students. Without successfully identifying these needs, it is not likely that ED will address instructional gaps that might exist. Examining ED needs through a contextual focus affords a clearer understanding of these needs at a macro and micro levels with respect to both individuals and groups of faculty (Steinert, 2006; Wright & de Costa, 2016). Exploring these needs and available ED through this cross-sectional survey analysis makes it possible to

understand gaps in knowledge or abilities among faculty working with ELLs. Ultimately, these results can inform current and future ED offered to HE faculty.

Research Questions and Hypotheses

The following research questions and hypotheses were used for this study. The first research question (RQ1) focused on defining and understanding whether or not existing ED resources (independent variable educational development [IV-ED]) had an effect on whether faculty felt responsible (dependent variable faculty role [DV-Faculty Role]) for addressing the needs of their ELLs. This is addressed in RQ1:

RQ1: Are there significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources?

The following hypotheses are conjectured:

H_O1: There are no significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources.

H_A1: There are significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources.

Given the multifaceted nature of the multiple analysis of variance (MANOVA) statistical test, the main research question is broken into smaller components below for clarity.

In this study, there were seven categories related to the available ED (IV-ED) for faculty specifically related to working with ELLs. These categories included the availability of the following independent subvariables: ELL specialists, experienced peers, website resources, trainings, workshops, PD, professional learning communities (PLCs), ED offices at the university but not within the academic unit, and ED offices embedded in the academic unit. Each of the IV-ED subvariables was compared to the dependent variable, faculty role (DV-Faculty Role), which included the two subvariables of the ELLs' academic skills (DV-Faculty Role/academic skills) and language skills (DV-Faculty Role/academic skills). The combined DV-Faculty Role/academic skills variable was broken down as follows: Ability to comprehend lectures, contribute to in-class discussions, take accurate notes, deliver presentations, understand varying rhetorical styles in speech, read technical writing, understand abstract language, and write at the expected academic level. The combined DV-Faculty Role/language skills were broken down as follows: Grammar, sentence structure, pronunciation, general oral skills, word choice, academic vocabulary, academic writing, reading skills, development strategies for improving English, and making connections between their first language and English. Based upon the expanded variables, the main research question can be broken down into its smaller components:

RQ1: Are there significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources?

RQ1 academic needs-a: Are there significant mean differences in faculty's self-perceived role in addressing the specific academic needs (DV-Faculty Role/academic skills) of their ELL students based upon the presence of ELL specialists?

RQ1 academic needs-b: Are there significant mean differences in faculty's self-perceived role in addressing the specific academic needs of their ELL students based upon the presence of experienced peers?

RQ1 academic needs-c: Are there significant mean differences in faculty's self-perceived role in addressing the specific academic needs of their ELL students based upon the presence of website resources?

RQ1 academic needs-d: Are there significant mean differences in faculty's self-perceived role in addressing the specific academic needs of their ELL students based upon the presence of trainings or workshops related to working with ELLs?

RQ1 academic needs-e: Are there significant mean differences in faculty's self-perceived role in addressing the specific academic needs of their ELL students based upon the presence of PLCs related to working with ELLs?

RQ1 academic needs-f: Are there significant mean differences in faculty's self-perceived role in addressing the specific academic needs of their ELL students based upon the presence of ED offices (at the university, but not within the academic unit)?

RQ1 academic needs-g: Are there significant mean differences in faculty's self-perceived role in addressing the specific academic needs of their ELL students based upon the presence of ED offices (embedded within the academic unit)?

RQ1 language needs-a: Are there significant mean differences in faculty's self-perceived role in addressing the specific language needs of their ELL students based upon the presence of ELL specialists?

RQ1 language needs-b: Are there significant mean differences in faculty's self-perceived role in addressing the specific language needs of their ELL students based upon the presence of experienced peers?

RQ1 language needs-c: Are there significant mean differences in faculty's self-perceived role in addressing the specific language needs of their ELL students based upon the presence of website resources?

RQ1 language needs-d: Are there significant mean differences in faculty's self-perceived role in addressing the specific language needs of their ELL students based upon the presence of trainings or workshops related to working with ELLs?

RQ1 language needs-e: Are there significant mean differences in faculty's self-perceived role in addressing the specific language needs of their ELL students based upon the presence of PLCs related to working with ELLs?

RQ1 language needs-f: Are there significant mean differences in faculty's self-perceived role in addressing the specific language needs of their ELL students based upon the presence of ED offices (at the university, but not within the academic unit)?

RQ1 language needs-g: Are there significant mean differences in faculty's self-perceived role in addressing the specific language needs of their ELL students based upon the presence of ED offices (embedded within the academic unit)?

The second research question focused on the effects that the IV-ED had on the self-perceived needs of the faculty with respect to working with their ELLs (IV-Faculty Needs). This is addressed in RQ2:

RQ2: Are there significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources?

The following hypotheses are conjectured:

H_O2*:* There are no significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources.

H_A2*:* There are significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources.

As with RQ1, there were seven categories related to the available ED (IV-ED) for faculty specifically related to working with ELLs. These categories and their associated subvariables were compared to self-perceived preparedness of faculty (DV-Faculty Needs), which again included the two subvariables of ELLs' academic skills (DV-Faculty Needs/academic skills) and language skills (DV-Faculty Needs/language skills). The combined DV-Faculty Needs/academic skills included ability to comprehend lectures,

contribute to in-class discussions, take accurate notes, deliver presentation, understand varying rhetorical styles in speech, read technical writing, understand abstract language, and write at the expected academic level. The combined DV-Faculty Needs/language skills included grammar, sentence structure, pronunciation, general oral skills, word choice, academic vocabulary, academic writing, reading skills, development strategies for improving English, and making connections between the first language and English. Again, the main research question is broken down to provide clarity into how the variables are analyzed in this study.

RQ2: Are there significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students based upon the presence of currently available ED resources?

RQ2 academic needs-a: Are there significant mean differences in faculty's self-perceived preparedness to address the specific academic needs of their ELL students based upon the presence of ELL specialists?

RQ2 academic needs-b: Are there significant mean differences in faculty's self-perceived preparedness to address the specific academic needs of their ELL students based upon the presence of experienced peers?

RQ2 academic needs-c: Are there significant mean differences in faculty's self-perceived preparedness to address the specific academic needs of their ELL students based upon the presence of website resources?

RQ2 academic needs-d: Are there significant mean differences in faculty's self-perceived preparedness to address the specific academic needs of their ELL students based upon the presence of trainings or workshops related to working with ELLs?

RQ2 academic needs-e: Are there significant mean differences in faculty's self-perceived preparedness to address the specific academic needs of their ELL students based upon the presence of PLCs related to working with ELLs?

RQ2 academic needs-f: Are there significant mean differences in faculty's self-perceived preparedness to address the specific academic needs of their ELL students based upon the presence of ED offices (at the university, but not within the academic unit)?

RQ2 academic needs-g: Are there significant mean differences in faculty's self-perceived preparedness to address the specific academic needs of their ELL students based upon the presence of ED offices (embedded within the academic unit)?

RQ2 language needs-a: Are there significant mean differences in faculty's self-perceived preparedness to address the specific language needs of their ELL students based upon the presence of ELL specialists?

RQ2 language needs-b: Are there significant mean differences in faculty's self-perceived preparedness to address the specific language needs of their ELL students based upon the presence of experienced peers?

RQ2 language needs-c: Are there significant mean differences in faculty's self-perceived preparedness to address the specific language needs of their ELL students based upon the presence of website resources?

RQ2 language needs-d: Are there significant mean differences in faculty's self-perceived preparedness to address the specific language needs of their ELL students based upon the presence of trainings or workshops related to working with ELLs?

RQ2 language needs-e: Are there significant mean differences in faculty's self-perceived preparedness to address the specific language needs of their ELL students based upon the presence of PLCs related to working with ELLs?

RQ2 language needs-f: Are there significant mean differences in faculty's self-perceived preparedness to address the specific language needs of their ELL students based upon the presence of ED offices (at the university, but not within the academic unit)?

RQ2 language needs-g: Are there significant mean differences in faculty's self-perceived preparedness to address the specific language needs of their ELL students based upon the presence of ED offices (embedded within the academic unit)?

The first two research questions aimed at examining the mean differences between available ED (IV-ED) and faculty attitudes and beliefs (DV-Faculty Role) and potential ED needs in relation to working with ELLs (DV-Faculty Needs). The goal was to establish what effect the IV-ED had on the two DVs (IV-ED vs. DV-Faculty Needs, and IV-ED vs. DV-Faculty Role). The subquestions further explore the fine differences between faculty in terms of language and academic skills.

The third research question focused on the interaction among the DVs (DV-Faculty Role and DV-Faculty Needs) in relation to IV-Context. This is addressed by the following research question. This research question includes two subparts.

RQ3a: Are there significant mean differences in the self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

The following hypotheses are conjectured:

H_O3a*:* There are no significant mean differences in the self-perceived educational ED needs of HE faculty who work with ELLs based upon the institutional context.

H_A3a*:* There are significant mean differences in the self-perceived ED needs of HE faculty who work with ELLs based upon the institutional context.

The second portion of this question and the hypotheses are:

RQ3b: Are there significant mean differences in the self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

The following hypotheses are:

H_O3a*:* There are no significant mean differences in the self-perceived responsibilities of HE faculty who work with ELLs based upon the institutional context.

H_A3a*:* There are significant mean differences in the self-perceived responsibilities of HE faculty who work with ELLs based upon the institutional context.

The independent variable, IV-Context denoted the institution in which the faculty worked. This variable included combined subvariables of institutional characteristics (primary modality of courses at institution, public/private status of the institution, highest degree offered, institutional size, primary academic area teaching in, location of the institution) and student characteristics (whether ELLs partook in a bridge program,

students primarily studied part-time or full-time or lived on or off campus). IV-Context was compared to DV-Faculty Role (combined DV-Faculty Role/academic skills or combined DV-Faculty Role/language skills) and DV-Faculty Needs (combined DV-Needs Role/academic skills or combined DV-Faculty Needs/language skills).

Based upon the expanded variables, the main research question can be broken down into its smaller components:

RQ3a: Are there significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined institutional context?

RQ3-a1: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific academic needs of their ELL students (DV-Faculty Needs/academic skills) based upon the institutional characteristics?

RQ3-a2: Are there significant mean differences in the combined faculty member's self-perceived perceived preparedness to address the specific academic needs of their ELL students (DV-Faculty Needs/ academic skills) based upon the student characteristics?

RQ3-a3: Are there significant mean differences in the combined faculty member's self-perceived perceived preparedness to address the specific language needs of their ELL students (DV-Faculty Needs/language skills) based upon the institutional characteristics?

RQ3-a4: Are there significant mean differences in the combined faculty member's self-perceived perceived preparedness to address the specific language needs of their ELL students (DV-Faculty Needs/language skills) based upon the student characteristics?

RQ3b: Are there significant mean differences in the self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

RQ3-b1: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific academic needs of their ELL students (DV-Faculty Role/ academic skills) based upon the institutional characteristics?

RQ3-b2: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific academic needs of their ELL students (DV-Faculty Role/ academic skills) based upon the student characteristics?

RQ3-b3: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific language needs of their ELL students (DV-Faculty Role/language skills) based upon the institutional characteristics?

RQ3-b4: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific language needs of their ELL students (DV-Faculty Role/language skills) based upon the student characteristics?

The fourth research question focused on the interaction among the DVs (DV-Faculty Role and DV-Faculty Needs) in relation to IV-Demographics. This research question includes two subparts.

RQ4a: Are there significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

H_O4a: There are no significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

H_A4a: There are significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

RQ4b: Are there significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

The following hypotheses are conjectured:

H_O4b: There are no significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

H_A4b: There are significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

The independent variable, demographics (IV-Demographics) denoted the background of the faculty in terms of their: 1) degree information (faculty degree level, faculty discipline, and length of time since degree completion), 2) faculty characteristics (age, gender, ethnicity), 3) teaching experience (number of years teaching, level taught, modality experience, tenure status, and rank), 4) number of students (number of students taught each semester, number of ELLs taught each semester, and number of ELLs taught

over career), and 5) international experiences (faculty's L1, language used at home currently, foreign language learned beyond the intermediate level , where faculty spent their childhood, where faculty grew up, and if they lived outside of the U.S. for longer than at least 1 year). IV-Demographics was compared to DV-Faculty Role (academic skills and language skills) and DV-Faculty Needs (academic skills and language skills).

Based upon the expanded variables, the main research question can be broken down into its smaller components:

RQ4a: Are there significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

RQ4-a1: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific academic needs of their ELL students (DV-Faculty Role/academic skills) based upon the combined IV-Demographics/degree information of the faculty?

RQ4-a2: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific academic needs of their ELL students (DV-Faculty Role /academic skills) based upon the combined IV-Demographics/faculty characteristics?

RQ4-a3: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific academic needs of their ELL students (DV-Faculty Role /academic skills) based upon the combined IV-Demographics/faculty teaching experience?

RQ4-a4: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific academic needs of their ELL students (DV-Faculty Role /academic skills) based upon the combined IV-Demographics/number of students?

RQ4-a5: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific academic needs of their ELL students (DV-Faculty Role /academic skills) based upon the combined IV-Demographics/international experience?

RQ4-a6: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific language needs of their ELL students (DV-Faculty Role/language skills) based upon the combined IV-Demographics/degree information of the faculty?

RQ4-a7: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific language needs of their ELL students (DV-Faculty Role/language skills) based upon the combined IV-Demographics/faculty characteristics?

RQ4-a8: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific language needs of their ELL students (DV-Faculty Role/language skills) based upon the combined IV-Demographics/faculty teaching experience?

RQ4-a9: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific language needs of their ELL students (DV-Faculty Role/language skills) based upon the combined IV-Demographics/number of students?

RQ4-a10: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific language needs of their ELL students (DV-Faculty Role/language skills) based upon the combined IV-Demographics/international experience?

RQ4b: Are there significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

RQ4-b1: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific academic needs of their ELL students (DV-Faculty Needs/academic skills) based upon the combined IV-Demographics/degree information of the faculty?

RQ4-b2: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific academic needs of their ELL students (DV-Faculty Needs/academic skills) based upon the combined IV-Demographics/faculty characteristics?

RQ4-b3: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific academic needs of their ELL students (DV-Faculty Needs/academic skills) based upon the combined IV-Demographics/faculty teaching experience?

RQ4-b4: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific academic needs of their ELL students

(DV-Faculty Needs/academic skills) based upon the combined IV-Demographics/number of students?

RQ4-b5: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific academic needs of their ELL students (DV-Faculty Needs/academic skills) based upon the combined IV-Demographics/international experience?

RQ4-b6: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific language needs of their ELL students (DV-Faculty Needs/language skills) based upon the combined IV-Demographics/degree information of the faculty?

RQ4-b7: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific language needs of their ELL students (DV-Faculty Needs/language skills) based upon the combined IV-Demographics/faculty characteristics?

RQ4-b8: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific language needs of their ELL students (DV-Faculty Needs/language skills) based upon the combined IV-Demographics/faculty teaching experience?

RQ4-b9: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific language needs of their ELL students (DV-Faculty Needs/language skills) based upon the combined IV-Demographics/number of students?

RQ4-b10: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific language needs of their ELL students (DV-Faculty Needs/language skills) based upon the combined IV-Demographics/international experience?

Collectively, the exploration of the impact of factors like institutional context (RQ3) and faculty demographics (RQ4) provided insights into where the greatest needs might be in relation to providing ED for faculty working in HEIs in the United States. By breaking the DV into needs and perceived roles in terms of academic skills and language skills it was possible to understand a nuanced picture of the attitudes that faculty have in relation to working with ELLs, but also to establish ways in which ED can begin to address these needs.

Theoretical Framework

The theoretical framework employed in this study was Knowles's theory of andragogy in a revised version of *The Adult Learner* (Knowles et al., 2015). Knowles argued that adults need to have learning experiences that directly address their immediate interests and relate to their professional contexts. Knowles et al. (2015) contended that learning contexts and strategies differ between adults and children, with the premise that andragogy (learning in adults) is fundamentally different from pedagogy (learning in children) because of the biological and experiential differences between the two populations. In andragogy, the teacher assumes a student-centric approach; in pedagogy, the teacher assumes a teacher-centric approach.

As it relates to ED, andragogy provides information regarding what is essential to create a learning environment for the adult learner. As Knowles et al. (2015) suggested, andragogy is not a curriculum; rather, it is a model for learning that provides flexibility for meeting the learning needs of adults. Andragogy provides an individualized learning experience through six general principles as suggested by Knowles et al.:

- Need to know: Learners have a need to the use and personal benefits of learning something new;
- Self-centric: Learners need to have a level of self-awareness and self-direction;
- Previous experience: The learning experience is maximized when previous learning experiences are tapped into;
- Environmental readiness: The environment needs to be prepared and oriented toward the learning experience;
- Orientation to learning: Learners must be ready to learn; and
- Motivation: Learners need to be motivated to learn.

These principles provide a framework for tailoring the learning experience to the needs of the learner. Because the model does not assume any particular curriculum, any learning experience can be designed to include these fundamental principles.

Andragogy was a suitable framework for this study because it sets clear guidelines for what is required in the adult learning experience. The overall goal of andragogy is to identify the needs of adult learners and tailor the experience to meet their learning needs. Using the perspective that faculty are adult learners who have learning

needs related to their instructional practices, ED programs are tasked with identifying such needs as a foundation for the learning experience. Once implemented, it is possible to evaluate a learner's performance to understand whether additional interventions are required. Through this study, I analyzed how these principles were applied in the modern HEI. Further discussion of andragogy and the implementation of the model are presented in Chapter 2.

In relation to RQ1, the efficacy of existing ED was explored in terms of helping improve a faculty member's understanding of their role in the learning process of their ELLs. RQ2 addressed the existing ED available to faculty in terms of helping to equip the faculty member with the requisite knowledge of how to teach ELLs. The remaining questions allowed for a comparison of the needs of faculty by institutional context (RQ3) and demographics (RQ4). This allowed for a nuanced analysis of the real-world application of andragogy, and the ED needs of HE faculty to meet the learning needs of their ELLs. The application of andragogy in the context explored in this study required the expansion of the core principles as detailed by Knowles et al. (2015) to address the specific populations herein. These principles and the accompanying fundamental questions specifically related to HE faculty working with ELLs are outlined in Table 1. Through the results of this study, it was possible to identify and better understand the specific learning needs of faculty members working with ELLs.

The implication of this study was that ED programs should focus on the day-to-day needs of faculty to be better educators (Knowles et al., 2015). By focusing on faculty's individual needs, it is possible to help them improve their instructional

Table 1

Andragogy Applied to Higher Education Faculty Working With ELLs

Andragogical principle	Fundamental questions
Need to know	• Do faculty have perceived gaps in knowledge on the learning needs and expectations of their ELLs? • Do faculty have perceived gaps in instructional practices to adequately meet the needs of ELLs in their classes? • Are faculty aware of any gaps in knowledge that might exist? • What are the perceived needs of faculty who work with ELLs?
Learner-centric	• Have faculty been provided ED that meets their individual needs? • Do faculty have opportunities to consult on their needs with people designing PD/ED?
Previous experience	• Do faculty have previous experience working with ELLs? • Has experience alone given enough exposure to the needs of ELLs?
Environmental readiness	• Are there adequate resources (people and services) available to faculty? • Are there trainings available on addressing the needs of ELLs? • What is the effect of available resources on the attitude of the faculty toward teaching ELL students? • What support mechanisms exists outside of the institution, and are faculty aware of them? • What role do faculty have in the development of ED resources specifically targeting the needs of ELLS? • Are faculty given support for their own development? • Are there perceived improvements in teaching abilities based upon available ED resources?
Orientation to learning	• Can faculty problematize the individual needs of their ELLs? • Do faculty recognize the individual needs of the ELLs in their classes? • Can faculty identify concerns that they have in working with ELLs? • What preconceived attitudes and beliefs do these faculty members have about their ELLs?
Motivation	• Do faculty see an inherent need to better address the needs of the ELLs in their classrooms?

Note. ED = educational development; ELL = English language learner; PD = professional development.

practices, ultimately translating into improved learning experiences for their ELLs. Andragogy provides strategies for educational planners to make ED more effective.

Nature of the Study

This study was quantitative in nature, allowing for a comparative understanding of the ED needs of faculty, and the existing ED offered by HEIs to help faculty meet the needs of their ELLs. Through a statistical comparative analysis of cross-sectional data on the ED needs of U.S.-based faculty working with ELLs, it was possible to analyze the variables surrounding HE faculty and their ability to effectively meet the learning needs of their ELLs. The three independent variables (IVs) in this analysis included the available ED (IV-ED), institutional context (IV-Context), and the faculty demographics (IV-Demographics). These predictors were evaluated in terms of the two dependent variables (DVs) including the role of the faculty in the learning process (DV-Faculty Role), and the self-perceived needs of faculty in terms of working with their students (DV-Faculty Needs). A statistical analysis of the data allowed for a comparison of the needs of HE faculty and the ED offered to them.

A cross-sectional analysis was appropriate for this study because I had no control over the variables, making an experimental design impossible (Singleton & Straights, 2010). A cross-sectional design also allowed for the collection and analysis of data from faculty with varied experiences, backgrounds, and contexts (Gall, Gall, & Borg, 2007; Singleton & Straights, 2010). This research design allowed me to explore the data from multiple angles to understand the existing states of individual faculty members at a single point in time (Campbell & Stanley, 1963). By investigating the initial states, to inform

future ED, the data and scenarios were not manipulated, making a before and after analysis unnecessary.

The population in this study was a subset of adult learners who are HE faculty. This population was subdivided into faculty who presently worked with or had worked with ELLs, and those who did not or had not worked with ELLs. Through this study, I sought to identify the individual ED needs of faculty working with ELLs by assessing their perceived instructional needs, and the ED offered by HEIs related to ELLs (RQ1 and RQ2). This yielded the descriptive data, which was then used to make comparisons of faculty in terms of their institutional context (RQ3) and demographics (RQ4) using a multiple analysis of covariance (MANCOVA). Employing a statistical analysis allowed for a better understanding of the realities facing faculty working with ELLs along institutional and demographic lines. The principle is that once the needs of the faculty are identified, it is then possible to make ED more effective for them. Chapter 3 provided more nuanced insights into the methods used in this study.

Operational Definitions

The content of this study and the nature of the environment naturally lead to certain specialized terms that appeared throughout the investigation. This section provides these commonly referenced terms, their acronyms, and operational definitions.

Additional Language (LX): A language that is someone's second language (L2), third language (L3), fourth language (L4), or additional languages. An LX is distinct from a learner's L1 (first language) (National Council of Teachers of English [NCTE], 2008).

Adult Learner: An adult learner is anyone who has achieved the developmental level of adulthood (distinct from adolescence or childhood) (Knowles et al., 2015). The adult learners in the context of this study are the faculty members in the HEI.

Andragogy: A core set of learning principles focused on meeting the individualized needs of an adult learner (Knowles et al., 2015).

Dependent Variable Faculty Role (DV-Role): The dependent variable (DV) in this study denoting how responsible faculty felt for addressing the academic skills (DV-Faculty Role/academic skills) and the language skills (DV-Faculty Role/academic skills) of their ELLs. The academic skills variable was broken down as follows: ability to comprehend lectures, contribute to in-class discussions, take accurate notes, deliver presentation, understand varying rhetorical styles in speech, read technical writing, understand abstract language, and write at the expected academic level. The language skills variable was broken down as follows: grammar, sentence structure, pronunciation, general oral skills, word choice, academic vocabulary, academic writing, reading skills, development strategies for improving English, and making connections between the first language and English.

Dependent Variable Faculty Needs (DV-Faculty Needs): The dependent variable (DV) in this study denoting how comfortable faculty felt addressing the academic skills (DV-Faculty Needs/academic skills) and the language skills (DV-Faculty Needs/language skills) of their ELLs. The academic skills variable was broken down as follows: ability to comprehend lectures, contribute to in-class discussions, take accurate notes, deliver presentation, understand varying rhetorical styles in speech, read technical writing,

understand abstract language, and write at the expected academic level. The language skills variable was broken down as follows: grammar, sentence structure, pronunciation, general oral skills, word choice, academic vocabulary, academic writing, reading skills, development strategies for improving English, and making connections between the first language and English.

Educational Development (ED): The term applied to the learning context for faculty members or other school officials including a wide range of PD including workshops, classroom-based lectures, short courses, trainings, or other similar short-term pedagogical fixes. It also encompasses more long-term strategies associated with personal and professional growth, including mentoring, coaching, PLCs, or other similar approaches. These learning experiences serve as a matrix of interrelated activities aimed at longterm individual growth (Brown, 2016). Because faculty employ a wide variety of methods to grow and learn, this term applies to a broader range of learning contexts than the term PD implies (Amundsen & Wilson, 2012; Condon et al., 2016; Farooq, 2016; Lee, 2010; Ouellet, 2010).

English as a Foreign Language (program or course) (EFL): A language-learning context in which English is not readily available outside of the classroom. Students' only interaction with the language would take place in the classroom. Typically, these courses exist in countries where English is not an official language or is not used as a regular medium of communication (NCTE, 2008).

English for Speakers of Other Languages (program or course) (ESOL): A language-learning context in which English is readily available outside of the classroom.

Students have a high likelihood of interacting with the language outside of the classroom. Typically, these courses exist in countries where English is an official language or is used as the primary medium of communication. This language context is also referred to as an ESL program or course (NCTE, 2008).

English Language Learner (ELL): An individual who did not grow up speaking English and is engaged in learning the language (usually in an EFL or ESOL classroom or program or by active engagement in an informal learning environment outside of a classroom) (Garcia, Kleifgen, & Falchi, 2008; NCTE, 2008). Other terms have been put forward for such students including *emergent bilingual* (Garcia, Kleifgen, & Falchi, 2008; Garcia, 2009). ELL was used for this dissertation, as it is a prevalent term across the literature, and not to denote a preference for the term over others.

Higher Education Institution or Academe: An educational institution for students who possess at least a high school diploma or equivalent (e.g., GED). The HEI is a postsecondary institution including undergraduate and graduate education that is intended to train students for a broad range of skills to obtain a job or to pursue further education (Indiana University Center for Postsecondary Research, n.d.).

Independent Variable-Context (IV-Context): The independent variable (IV) in this study denoting the context of the institution in which the faculty work. This variable included subvariables grouped by institutional characteristics (of primary modality of courses at institution, public/private status of the institution, highest degree offered, institutional size, primary academic area teaching in, location of the institution) and

student characteristics (whether ELLs partook in a bridge program, students primarily studied part-time or full-time, and students lived on or off campus).

Independent Variable-Existing ED (IV-ED): The independent variable (IV) in this study denoting the availability of ED resources including subvariables: ELL specialists, experienced peers, website resources, trainings, workshops, PD, PLCs, ED office (at the university but not within the academic unit), and ED office (embedded in the academic unit).

Independent Variable-Demographics ED (IV-Demographics): The independent variable (IV) in this study denoting the demographics of the faculty in the study including subvariables: 1) degree information (faculty degree level, faculty discipline, and length of time since degree completion), 2) faculty characteristics (age, gender, ethnicity), 3) teaching experience (number of years teaching, level taught, modality experience, tenure status, and rank), 4) number of students (number of students taught each semester, number of ELLs taught each semester, and number of ELLs taught over career), and 5) international experiences (faculty's L1, language used at home currently, foreign language learned beyond the intermediate level , where faculty spent their childhood, where faculty grew up, and if they lived outside of the U.S. for longer than at least 1 year).

Mainstream Classroom Teacher: A teacher who teaches in a classroom not specifically designed for ELLs and who does not have specific formal training to work with ELLs (Pettit, 2011). This includes content area faculty (e.g., faculty in mathematics,

education, business, or other content areas) who are associated with a degree program but not specifically associated with an ESL, bridge, or remedial English courses or programs.

Professional Development (PD): Individual activities undertaken by faculty members to learn and grow professionally including workshops, classroom-based lectures, minicourses, trainings, and other similar short-term approaches. PD is a subcategory of ED (Farooq, 2016; Lee, 2010; Ouellet, 2010) and is associated with more immediate growth strategies.

Assumptions, Limitations, and Delimitations

This section includes an overview of the assumptions, limitations, and delimitations associated with the study. The goal is to provide insights into what the study sought to achieve and how the reader can interpret the results and their broader implications.

Scope of the Study

The study was limited to faculty members who were mainstream classroom teachers without formal training (a degree or significant course work) to work with ELLs (Pettit, 2011). This limited the population to those faculty members who were not English language teachers or who possessed significant backgrounds in language learning or language teaching (e.g., faculty possessing certificates or degrees in TESOL, TESL, TEFL, applied linguistics, or other similar areas). The goal of this study was to understand the ED needs of faculty members without this background.

Although the needs of students are paramount in HE, the needs of ELLs were used to inform likely aspects required for effective ED for this study. As a result, the

focus of this study was not on the learning needs of ELL students. The data underscore the learning needs of ELLs and provided insights into ELLs as a learner population in the HEI; however, the goal of the study was to identify gaps in instructional practices by HE faculty and ways in which ED can be improved to help faculty address the learning needs of their ELLs.

Assumptions

At the outset of the study, I assumed that faculty members would be truthful in their responses and that their recollections and memories were grounded in reality. Because faculty were be asked to reflect on their previous ED experiences and their needs (past, present, and future), it was important that their responses be accurate and reflective of their actual experiences. To control for this assumption, multiple methods of asking questions were used to ensure the integrity of the data, including asking similar information in multiple ways (e.g., open-ended questions and reverse wording questions).

I also assumed that the responses from faculty were complete and provided enough information about their experiences and needs. To ensure completeness and accuracy, the final survey instrument was assumed to be valid and reliable. Procedures were implemented to ensure this including an expert review panel, piloting, and reliability testing using statistical analyses of the final data.

Biases

Although it is impossible to completely remove bias from a study, it is possible to mitigate its influence by identifying and monitoring it throughout the design and implementation process. This includes identifying biases and monitoring them throughout

the development, implementation, and analysis of the data. In the remainder of this section, I highlight several fundamental beliefs that I had as I approached this study.

As a language specialist, specifically focusing on ESOL education for adult learners in HEIs, I believed that it was important to actively address the needs of this population. As such, the needs of students must be a key focus of faculty including noncontent considerations like language ability, linguistic competence, and academic preparedness. I monitored these beliefs by ensuring that my data collection strategies and the design of the study were not clouded by my own agenda. To do so, I attempted to remain objective throughout the process and, wherever possible, to rely upon impartial expert reviewers to examine the wording of correspondences and survey instruments to ensure that bias was minimized.

I made every effort to minimize the appearance of expected outcomes of the study to control for demand characteristics, minimizing the potential for participants to respond as I expected (Frankfort-Nachmias & Nachmias, 2008). This was done by identifying personal biases and expected outcomes, and then working to reduce their presence in the survey instruments and in communications with the participants. By identifying and reducing these biases, it was possible to reduce their impact.

Limitations

There were several limitations to the study including reaching faculty in academe that would be good candidates for the study. Because the goal was to have a broad understanding of the needs of HE faculty working with ELLs, every effort was made to address a wide variety of influential factors including geography, content area expertise,

and experiential diversity among participants. Although it was not possible to address all potential institutional contexts or demographic backgrounds, the goal was to explore the needs of faculty from varied contexts and backgrounds. Future research can target specific populations in specific geographical or contextual areas more directly.

Delimitations

I intended to fully identify the backgrounds and contexts of the faculty in the study, helping to make the data more generalizable. This was done by collecting data through survey questions on each participant's demographic characteristics and institutional contexts. This helped to address any potential issues of missing populations or backgrounds by developing a broad understanding of the sample.

The study was not exhaustive as it was limited to a select type of faculty member at the HEI. Because the data dis not encompass all HEIs, it is important that the results be interpreted in the context and the environment in which they were extracted. Further studies can expand upon the results of this study to determine whether the results are applicable in other settings and scenarios.

Significance and Implications for Social Change

The results of this study have broad implications for a variety of contexts including improving ED practices at HEIs. By understanding the needs of faculty who work with ELLs, it is possible to inform and address future ED. Targeted, research based ED practices can improve the quality and efficacy of teachers, which can translate into improved instructional practices and better learning on the part of the student (Babinski et al., 2018; Condon et al., 2016; Giraldo, 2014; Henderson, Beach, & Finkelstein, 2011;

Manduca et al., 2017; Master, Loeb, Whitney, & Wyckoff, 2016; Song & Samimy, 2015). These results build upon literature advocating for ELLs (Staehr Fenner, 2014) and extends the focus to HEIs.

The data from this study can be used to inform curricula in programs preparing future teachers, ongoing ED programs, and individuals destined for leadership in an HEI. By focusing on the needs of existing faculty members, it is possible to design curricula to address the needs of preservice teachers. Those seeking leadership opportunities in HEIs can also better understand their role within the institution as a conduit for learning and teaching. The potential impact on these populations is high as the results can help to improve future practices.

The population in this study was limited to mainstream faculty with ELLs in their classes, providing insights into the professional learning needs of faculty in context. The results demonstrated that there is a need to help faculty understand their learners on a deep, individualized level. By focusing on faculty needs, it is possible to improve current and future learning conditions for ELLs in the mainstream classroom. The results of this study have broader implications for improving the teaching and learning conditions for specific populations (including students with special needs, with limited English, or other similar needs) by providing a framework for analyzing and improving ED.

Summary and Conclusion

Faculty are a crucial part of the learning environment and the learning process, and it is important that they possess the instructional skills to effectively address their ELLs. With the number of ELLs in the K-12 classroom increasing (Ballantyne et al.,

2008; Kominski et al., 2008; NCES, 2017; Ryan, 2013; Shin & Kominski, 2010), with steady increases in international students (Farrugia & Bhandari, 2016; IIE, 2017), and with future trajectories indicating HEIs will continue to increase international student populations (Bridge Education Group, 2016; Jaschik & Lederman, 2015), it is important that HEIs begin to identify the instructional needs of faculty before a wave of these students enter HEIs at higher frequencies. There is even evidence that non-ELLs have degree attainment rates that are higher than for their ELL counterparts (Kanno & Cromley, 2013; Kanno & Cromley, 2015). HEIs need to proactively respond to issues instead of passively reacting to them (Yeager, El-Ghali, & Kumar, 2013), and this study was one step toward that end. Given the many needs of ELLs and the systems that serve them, Staehr Fenner (2014) called for advocacy of ELLs in K-12 environments. This need for advocacy extends beyond K-12 to a need that is present at all levels of education. If academe does not look ahead to address the needs of faculty, they will be left to address the problem on their own without proper ED. These needs are further explored in Chapter 2.

Chapter 2: Literature Review

The purpose of this quantitative study was to identify and analyze the instructional needs of mainstream HE faculty in U.S. colleges and universities who work with ELLs but who have no formal training in teaching these students. Available literature indicated that the ED needs of faculty have been the focus of many studies; however, these studies have not directly addressed the needs of HE faculty who have no special training in teaching ELL students. In order to gain more insight into this problem, this literature review focuses on studies that examine the likely ED needs of this faculty population. The information presented in this section provided a basis for linking this study to previous research on ED for HE faculty. Chapter 2 begins by addressing considerations related to the nature of adult learning, followed by considerations related to the role of the teacher in the learning process, and then to an identification of the specific learning needs of ELLs as a basis for areas to consider in ED.

Strategies Used for Searching the Literature

A full exploration of available literature was conducted for the development of the topics in this literature review. The following databases were explored during the literature review process: LearnTechLib, Education Research Complete, Education Resource Information Center (ERIC), JSTOR, and SAGE Premier. I additionally conducted searches using Google Scholar to find sources that might have been available outside of the databases. The goal was to find peer-reviewed scholarly materials published between 2013 and 2018. Searches were conducted across a wide range of disciplines including psychology, education, and business to find relevant material. Since

existing research on mainstream classroom teachers and ELLs had been done in the K-12 environment, an expanded strategy was required to examine literature including primary, secondary, and HE. The broad approach used in the search assumed that research related to the study could come from different disciplines and fields of work to avoid the isolation of information that often occurs in the ED literature.

The following search terms were used: *English language learner(s)*, *ELL*, *ESL*, *EFL*, *ESOL*, *ELL needs*, and *teaching ELLs*. Because these terms were relevant to the study itself but would yield results that were very broad and far-reaching, it was necessary to couple these terms with some of the following terms related to the ED needs of faculty: *mainstream*, *mainstream classroom*, *content area*, *professional development*, *PD*, *educational development*, *ED*, *faculty development*, *faculty learning*, *instructional development*, *academic development*, *teacher development*, *higher education*, *postsecondary education*, *teacher perceptions*, *teacher attitudes*, *attitudes and perceptions*, and *misconceptions*. Combinations of the search words yielded a variety of results across differing contexts.

The search was limited to peer-reviewed materials published between 2013 and 2018 to reflect the current literature on the subject of working with ELLs. Some older resources including seminal work were used, providing foundational knowledge on the subject to establish the longitudinal nature of the topic in the literature. The goal was to understand the breadth and depth of the problem from the existing literature, including older materials and recent research on the subject.

The Nature of Adult Learning in Educational Development

The following main research questions guided the study:

RQ1: Are there significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources?

RQ2: Are there significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources?

RQ3a: Are there significant mean differences in the self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

RQ3b: Are there significant mean differences in the self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

RQ4a: Are there significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

RQ4b: Are there significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

Because the goal of this study was to explore the nature of adult professional learning, it was important to understand what adult learning was and how it evolves to meet the needs of the individual learners over time. This section begins with an exploration of the adult learning experience, followed by a description of how to maximize the learning process and how adult learning can be sustained over time.

The Focus of Learning

Andragogy provides a framework for understanding the needs and motivations of adults engaged in a learning experience. Knowles et al. (2015) suggested that effective adult learning requires the adult to have control over his or her learning experience, as opposed to a teacher-centric focus. The difference between the two approaches can be summed up by the differences between the terms *pedagogy* and *andragogy*.

Pedagogy vs. andragogy. The conceptual difference between andragogy and pedagogy centers on the role of the teacher in the learning experience. In pedagogy, the teacher is the central focus in the learning process; in andragogy, the learner is the focus. According to Knowles et al. (2015), in pedagogy the teacher is responsible for designing and manipulating all aspects of the learning experience. In a pedagogical model, learners are submissive to and dependent upon the teacher for all aspects of the learning experience. The learners have little experience to tap into, so they require someone to guide them through the learning process. These individuals typically have more experience and are the authority on the subject for the learners. Because learners have little vested in the need to learn, extrinsic motivation is the primary driver of the process.

Knowles et al. (2015) suggested that andragogy focuses on a student-centered approach because of the amount of experience that the adult learner brings to the learning experience. Because adults have more experience, they are less dependent on guides as they have a foundation for future learning. Adult learners require less leading because they have more developed cognitive abilities and can be more self-guided.

Andragogy and pedagogy can be viewed along a spectrum of learning needs. As children mature into adolescents and then to adults, their learning strategies shift with the development of higher cognitive functions and more experiences. Their needs and motivations for the learning process change over time as a result. The learner eventually needs less assistance from a guide as his or her experiences grow and change, making the individual more independent. Although pedagogy and andragogy have been applied along a dichotomy between adults and children, their underlying principles would suggest that the differences lie mainly in the difference in world experience. Thus, based upon a learner's previous experience with the concepts being learned, those with little experience need more assistance than those with a lot of experience. This shifts from only focusing on the differences between child versus adult, to a focus on experience.

Andragogy. Table 2 highlights the main principles and underpinnings of andragogy. Without fully exploring the state of the learner and the trajectory of the learning experience, the learning process will be compromised. The learning experience is unlikely to succeed if learners see little relevance to their current and future trajectories. Learners need to be involved in the planning and implementation of the

Table 2

Underpinnings of Andragogy

Principles	Underpinnings
Need to know	• Learners need to understand the value and utility of learning something new
Learner-centric	• Learners need to have a level of self-awareness and self-direction
Previous experience	• Learners need to identify and understand previous experiences of the learner • The learning experience needs to be tailored to meet the needs of the learner
Environmental readiness	• The environment needs to be prepared and oriented toward the learning experience • Conditions in the environment are favorable to learning • Resources need to be made available to the learner
Orientation to learning	• Learner must be ready to learn • Learning experience is problem based • Problems are contextualized
Motivation	• Learner needs to be motivated to learn • Intrinsic motivation drives the learner

Note. Adapted from Knowles et al. (2015).

learning process to maximize their learning potential (Knowles et al., 2015). The following section highlights how best to maximize learning for the adult learner.

Maximizing Learning

Learning is maximized when the following are present: learning is locally focused, culturally relevant, socially oriented, and developed with learner input. This section identifies and expands upon these criteria in relation to ED as demonstrated in the literature on adult professional learning. As this section demonstrates, these elements are necessary for meaningful learning experiences to take place.

Locally focused. Effective training needs to be focused on the actual needs of the participants (Esterhuizen, Blignaut, & Ellis, 2013; Minor et al., 2016). By understanding

these needs, it is possible to tailor the learning experience directly to the gaps and goals of the participants. Such a tailored approach can only be developed through an understanding of the initial state of learners and where they want or need to be (Aydin, 2016). The first step to address the learning needs of adults is a needs assessment, which allows for the development of an individualized learning plan (Knowles, 1986). After a needs analysis has been performed, it is possible to develop learning outcomes with the specific learner in mind. Outcomes should be negotiated with the learner to allow the learner to engage in his or her own learning plan (Knowles, 1986; Knowles et al, 2015). Once the needs of the learner are addressed and are clear, true learning can take place because the eventual learning goals are clear and specified (Allen, 2014; Esterhuizen et al., 2013; Knowles, 1986; Knowles et. al, 2015).

Central to andragogy is a holistic understanding of the learner and his or her individual needs. This allows for learning experiences focused on the short and long-term needs of the individual. In this study, the focus is on HE faculty working with ELLs; therefore, the holistic understanding includes areas such as the classroom environment, the students in the classroom, the curriculum, the cultural environment, among others. Highly performing ED programs employ a holistic framework by focusing on the needs of teachers (Ingvarson et al., 2005).

Because ED is focused on what is necessary to improve faculty's instruction, content knowledge, knowledge of their student population, and how to be more generally effective, the effects are potentially far-reaching and long lasting. ED can have an impact upon the modification of practices and strategies used in the classroom (Babinski et al.,

2018; Condon et al, 2016; Giraldo, 2014; Henderson et al., 2011; Shaha & Ellsworth, 2013a; Shaha & Ellsworth, 2013b; Song & Samimy, 2015; Wang, et. al, 2013), as well as personal and professional empowerment (Mackay, 2017). The result of long-term ED should translate into improved student performance over time (Babinski et al., 2018; Condon et al., 2016; Johnson & Fargo, 2014; Shah, Glassett, & Ellsworth, 2015; Shaha, Glassett, & Copas, 2015a).

Huston and Weaver (2008) found that teachers with more experience are often regarded as not needing ED as much as their newly initiated colleagues. Additionally, the informal learning that more experienced faculty choose are sometimes less rigorous than those chosen by newer faculty (Kyndt, Gijbels, Grosemans, & Donche, 2016). However, learning is something that needs to occur regardless of years of experience (Güneri, Orhan, & Aydın, 2017; Nandan & Nandan, 2012; Van der Klink et al., 2017), with different topics, approaches, and strategies required based upon faculty experience (Al Asmari, 2016; Ebert-May et al., 2011; Feuerborn & Chinn, 2013). As teachers evolve in their knowledge and skill sets as they pass through the stages of their careers (Güneri et al., 2017; Maskit, 2011; Van der Klink et al., 2017), so too must the ED to meet the faculty-learners where they are (Derting et al., 2016; Güneri et al., 2017; Huston & Weaver, 2008; Van der Klink et al., 2017). More experienced teachers are often less likely to implement new information from ED because of their deeply engrained practices, beliefs, and attitudes (Ebert-May et al., 2011; Kyndt, Gijbels, Grosemans, & Donche, 2016). Ongoing ED, regardless of years of experience, can affect change that is meaningful and long lasting. Developers of ED programs need to keep the needs of

faculty in mind, regardless of their career stage, when designing professional learning activities (Güneri et al., 2017; Murphy & Southgate, 2011; Van der Klink et al., 2017). Through a holistic focus of ED as local, it is possible to ensure that trainings are meaningful and reflective of the everyday realities of the faculty.

Cultural relevance. The cultural expectations and desires of participants are as important as the actual ED content. In a study conducted on transnational PD, the ED leaders (from the United States) were not aware of the cultural expectations of their participants (in South Asia) and chose Western styles of instruction (Allen, 2014). Participants indicated that they struggled to find meaning in the training because they were more focused on their differing expectation for instructional strategies. Participants expected more top-down, teacher-centered approaches because they were used to this style in their home country; whereas, the U.S.-based trainers were more used to the student-centric focus.

When the learning experience does not take into account the cultural needs, backgrounds, and expectations of participants, learners can become alienated from the learning experience. Although learning can still take place, the learner has to expend energy to look beyond the differences to focus on the content. The learning experience not only needs to be sensitive to the backgrounds and experiences of the learners, it also needs to focus on their cultural expectations (Baker, 2016). Without a rudimentary understanding of the expectations of participants, trainings can become more focused on differences than actual learning goals. ED professionals need to be aware of the expectations of their participants.

Socially oriented. Well-balanced and informed PD requires the input of multiple stakeholders, perspectives, and factors in developing and implementing learning experiences (Condon et al., 2016). One way of making learning experiences more catered to learners is by directly involving them in the planning and implementation of ED (Al Asmari, 2016). This can include allowing learning communities to dictate their own learning agenda (Wenger, 2008) and including peer observation as a component of the learning experience (Shaha, Glassett, & Copas, 2015b; Shortland, 2010; Zwart, Wubbels, Bergen, & Bolhuis, 2009). Making these learning experiences interdisciplinary (focusing on incorporating varied faculty-community members into the learning, and focusing on interdisciplinary content) can have a major impact on the learning outcomes for faculty (Peercy, Martin-Beltrán, Silverman, & Nunn, 2015).

The formation of PLCs can be effective in the development of new skills for faculty (McLaughlin & Talbert, 2006; Morton & Gray, 2010; Vangrieken, Meredith, Packer, & Kyndt, 2017). These communities serve as a local means of addressing the development of community members at large (Engin & Atkinson, 2015; Hess, 2016; Priestley, Miller, Barret, & Wallace, 2011). These PLCs provide an opportunity for teachers to experiment, practice with, and learn from their colleagues about new material or practices (Al Asmari, 2016; Baker, 2016; Gallucci, Laurillard, 2016; Van Lare, Yook, & Boatright, 2011; Gonen, 2016; Sandlund, Sundquist, & Nyroos, 2016). PLCs can impact practices as they allow for new ideas and ways of viewing issues inside the community (Condon et al., 2016; Gallardo, Heiser, & Nicolson, 2011; Gonen, 2016; MacVicar, Guthrie, O'Rourke, & Sneddon, 2013; Schoonenboom, Kusurkar, Beishuizen,

Croiset, & Volman, 2016; Vangrieken et al., 2017) and developing strong bonds and a shared ethos (Boose & Hutchings, 2016). Kennedy (2016) cautioned that the implementation of PLCs should be structured and include content and practices that honor the social and interactional intention of the PLC. The modern PLC can take place in both traditional face-to-face formats, as well through social media (Bledsoe & Pilgrim, 2016) and through new media like MOOCS (Niehaus & Williams, 2016). Properly implemented PLCs draw upon community members to help enhance colleagues through mutual learning opportunities (Wenger, 1998). Such actions promote a spread of ideas and practices, which can have an impact upon the entire community (Condon et al., 2016). Not only does collaboration allow for individualization, it also allows for a sharing of knowledge that extends beyond just one individual learning experience in which a community of supporters and resources emerges both internal to the HEI and beyond (Ho & Peng, 2016; Vangrieken et al., 2017).

Peer observation can also impact the community as it provides the opportunity for engagement among equals to gain new perspectives on an individual's practices. Through peer observation, deep and long-term relationships form, which can have an impact upon practices inside and outside of the classroom (Jones & Gallen, 2016; Lowderet al. 2017; Shortland, 2010; Thomas, Chie, Abraham, Raj, & Beh, 2014; Zwart et al., 2009). Peer observation allows for the scaling of learning activities to encompass all stages of the teacher's development process from novice to experienced teachers (Huston & Weaver, 2008). Significant growth and development can result from peer observation as a result of

the opportunity to experiment and grow with the eyes and feedback of a trusted individual.

Observations by supervisors can also have a significant impact by enhancing existing ED. Shaha, Glassett, and Copas (2015b) found that supervisor observations could be used to inform the ED offered to faculty, allowing for a tailored learning experience. Supervisor observations allow faculty to work toward developing and implementing their own learning agenda to improve instructional practices through long-term growth (Zaidi, 2017). Coupling observation feedback with existing ED can have a significant impact upon filling the gaps that faculty might have (Giraldo, 2014).

Learner input. Allen (2014) demonstrated that when ED activities do not address both the content and expectations of learners, significant barriers can arise for the learning experience. These barriers can cause learners to become alienated and lack a clear understanding of what is to be learned. These issues are largely because of a fundamental lack of understanding of the needs of the participants. Only by working to understand participant needs, can ED truly be meaningful (Condon et al., 2016; Felten 2013). A major aspect of understanding the needs and expectations of the participants is to provide them with the opportunity to give their input (Engin & Atkinson, 2015; Knowles, 1986; Knowles et al., 2015).

Faculty need to be engaged in developing knowledge of their content areas in addition to improving their instructional strategies by keeping up-to-date with the latest trends and new information in the field. HE faculty spend a significant amount of time on their courses, with 50% of their time dedicated to preparing for and conducting class

(Eagan et al., 2014). With so much of their time dedicated to teaching, faculty want to learn, grow, and improve their instructional practices (Gappa & Austin, 2010; Hoffman Beyer, Taylor, & Gillmore, 2013; Tannehill, 2014). There is a deep desire and dedication on the part of the faculty to be more effective at the teaching portion of their jobs. Condon, Iverson, Manduca, Rutz, and Willet (2016) demonstrated that faculty value learning opportunities and want to grow as teachers. van Lankveld, Schoonenboom, Volman, Croiset, and Beishuizen (2017) and Lew (2016) also found that ED has an impact upon the development of a faculty member's identity.

When given the option, faculty actually want to be involved in their development trajectories by choosing trainings that might complement their abilities (Bakah, Voogt, & Pieters, 2011; Van der Klink et al., 2017). Given the opportunity to participate in the customization of their learning experiences, teachers are able to maximize their learning by targeting the specific areas that need to be addressed (Al Asmari, 2016). This freedom translates into new practices and knowledge of content that can have an immediate impact upon student learning (Bakah et al., 2011). However, without input from an ED professional as a collaborator in professional learning, faculty occasionally choose PD that is not always most effective (Giraldo, 2014; Kelly & McDiarmid, 2002), or that lack connection between ED aims and the specific skills to be improved (Steinert et al., 2009). There should be some freedom, but also some input from someone with a supportive view of a faculty member's long-term learning needs.

Allowing new research and practices to complement the ED learning experience has the potential to keep learning up-to-date and inclusive of advances in the field.

Including action research as a component of the learning agenda for faculty can also lead to gains in knowledge (Dikilatas, K., 2015; Gallardo, Heiser, & Nicholson, 2011; Smith, 2015) and changes in practice in class (Zoch, Myers, & Belcher, 2015). Implementing research in their classrooms allows faculty to bridge the theoretical and the practical to improve in their contexts. An action research agenda is particularly useful in settings and content areas that are quickly evolving (Gallardo, Heiser, & Nicholson, 2011). Action research can be a useful supplement to existing ED practices.

Ongoing feedback and follow-up is important for participants to continue to remain engaged in what they have learned through ED (Desimone & Garet, 2015). Ingvarson, Meiers, and Beavis (2005) suggested that feedback and follow-up are often neglected areas of most ED contexts, and Van der Klink, Kools, Avissar, White, and Sakata (2017) found that encouragement of the faculty to participate in ED is often lacking. When faculty are able to work with an ED professional in a collaborative manner, they are able to learn new strategies that they can implement (Giraldo, 2014). Continual follow-up and feedback allows for a long-term understanding of the needs of teachers, which can help to develop future trainings or interventions.

Sustaining Learning

ED activities that are not sustainable often never make it into practice (Knight, 2007; Knowles et al., 2015; Wenger, 2008). This is largely as a result of learning experiences not meeting the individual needs of faculty. Without the individualization of the learning process and the ability to make the learning experience meaningful, ED becomes ineffective and unsustainable.

For ED to be sustainable, it needs to be built into the infrastructure within an organization (Hoekstra, Kuntz, & Newton, 2017). The culture within an organization is important to ensuring that professional learning is engrained as a core of the institution (Alsalahi, 2015; Condon et al., 2016; Hakim, 2015; Hoekstra, Kuntz, & Newton, 2017; Steinert et al., 2009; Zepeda, 2012; Zwart et al., 2009). Bowen and Schofield (2013) suggested that leadership is an essential element to building culture within an organization and ensuring that professional learning is maximized. Without leadership, it is unlikely that the practices within an organization will lead to the success of new initiatives (Condon, 2016; Desimone & Garet, 2015; Hakim, 2015; Scanlan & Lopez, 2012; Whitworth & Chiu, 2014). Professional learning can cease or become unproductive without effective leadership (Hassan, 2011). Leadership is important because the management within an organization determine how time and resources are allocated (Herman, 2012) through internal social and political maneuvering (Priestley et al., 2011). Without effective management of the internal resources, it is likely that the resources and data within an organization will go underutilized (Drew & Klopper, 2014).

Professional learning experiences should be "cyclical, ongoing, and sustained" (Peyton et al., 2007, p. 215) to provide access to resources and the development of new skills over time (McDonald, 2012), and in a medium that meets the preferences of the faculty (Güneri et al., 2017). Sustained and longterm ED provides the opportunity for faculty to evaluate and change their practices to be more effective (Dixon. Yssel, McConnel, & Hardin, 2014; Güneri et al., 2017; Meng et al., 2013; Sharma, 2016; Supovitz & Turner, 2000). This requires a space an emphasis on being able to partake in

learning opportunities, but also to allow time to reflect on what they have learned (Pitsoe & Maila, 2013; Wieringa, 2011). Continually engaging in a critical evaluation of beliefs in relation to actual practices in the classroom allows for cognitive development through reevaluation and restructuring of practices (Arce, Bodner, & Hitschinson, 2014; Chenowith, 2014; Kang & Cheng, 2014). Faculty are able to grow and learn from their experiences in the classroom if they are given time and space for ED (McKeown, Abrams, Slattum, & Kirk, 2016; Pitsoe & Maila, 2013).

Coaching and mentoring is an important way in which learning can be promoted within the organization on a highly individual basis (Bowen & Schofield, 2013; Hakim, 2015; Patti & Holzer, 2015; Knight, 2007; Morton & Gray, 2010; Perry & Hart, 2012; Thomas, Bell, Spelman, & Briody, 2015). Coaching can help to create a culture of sustainability and acceptance of new initiatives within the organization (Bowen & Schofield, 2013; Jimenez-Silva, Rillero, Merritt, & Kelley, 2016; Phillips, Nichols, Rupley, Paige, & Rasinski, 2016; Sharma, 2016). Coaching promotes the sharing of resources and activities among colleagues (Avalos, 2011; Hakim, 2015; Zoshak, 2016). The most effective coaches employ collaborative and interactive strategies that engage with the professional in conversation and learning (Kennedy, 2016). The time dedicated to and by coaching programs can create a laboratory for innovation and change within organizations (Gallucci et al., 2010).

ED is one way that organizations demonstrate their commitment to improving the instructional quality of the faculty (Herman, 2012). Although professional learning is applied differently in various contexts (Erikson, 1986; Knight, 2007; O'Neil & Taylor,

2001; Peyton et al., 2007), these differences can be positive if they focus on local needs. HEIs that promote faculty learning are more likely to be successful at achieving the quality of instruction required for success. Many faculty members in HE have personal barriers that keep them from engaging in ED, including constraints on time, financial limitations, and extra-work limitations (Mori & Radcliffe, 2016; Omer, Saeed, Yousif, Elmubarak, & Hassan, 2016). Hassan (2011) and Polkinghorne (2013) found a caveat in that faculty want ED/PD promoted by their schools, but do not want it to be mandatory. Kennedy (2016) further suggested that mandatory attendance at ED/PD does not necessarily translate into learning. This is likely a commentary on the fact that not all professional learning activities are a right fit for all faculty, resulting in a lack of enthusiasm for required PD (Al Asmari, 2016; Herman, 2012). Faculty need and want choice in determining what is right for them as adult learners. This choice is a fundamental part of the andragogical model.

A final aspect of the internal infrastructure centers on how HEIs prioritize professional learning. Makunye and Pelser (2012) suggested that the needs of faculty and their eventual gains from professional learning should to be considered in how ED is viewed within an organization. The professional learning that takes place on campus should not be done in isolation, because the wider learning community can benefit from the broad application of ED (Condon et al., 2015; Niehaus & Williams, 2016). However, the needs of faculty are often seen as being in competition with the university's short and long-term goals. This lack of focus on faculty as a major supporting factor in the HEI's mission demonstrates a lack of understanding of the role of faculty and the role of

professional learning within the organization. Some institutions do not make the time and space available for ED, making some faculty feel as if they do not have time to participate (Steinert et al., 2009).

Educational institutions have a fundamental duty to meet the needs of those in the organization (Gappa & Austin, 2010; Tan, 1986). Beckhard (2006) suggested that a healthy organization is one that is focused on being a learning organization, and this notion of learning should be incorporated into the very nature of the institution's mission. Without a culture of acceptance and promotion of individual development, ED will not be a major priority within the organization (Clair & Adger, 1999; Condon et al., 2015; Whitworth & Chiu, 2014). To fully understand the culture within an organization, it is important that the infrastructure allow for learning to take place (Beckhard, 2006) including the support of all stakeholders (Khong & Saito, 2014). Professional learning within an organization is made better by incorporating multiple strategies to provide a focused and tailored learning experience to faculty. The key to effective ED is a holistic approach that examines the practices and organizational structure surrounding ED.

Summary

Andragogy's principles lead to a conceptual design for adult learning in an ED context that serves as a model for professional learning. This systematic model points to elements that are required to ensure that learning is maximized and sustained, with a focus on the individuals involved in the learning experience. To tap into an individual's abilities, the principles of andragogy must be honored and incorporated into the learning experience. With andragogy as an element within a larger framework of ED, the wider

learning experiences of faculty within academe can be maximized and revolutionized. Figure 1 illustrates this aggregate model based upon the cited literature.

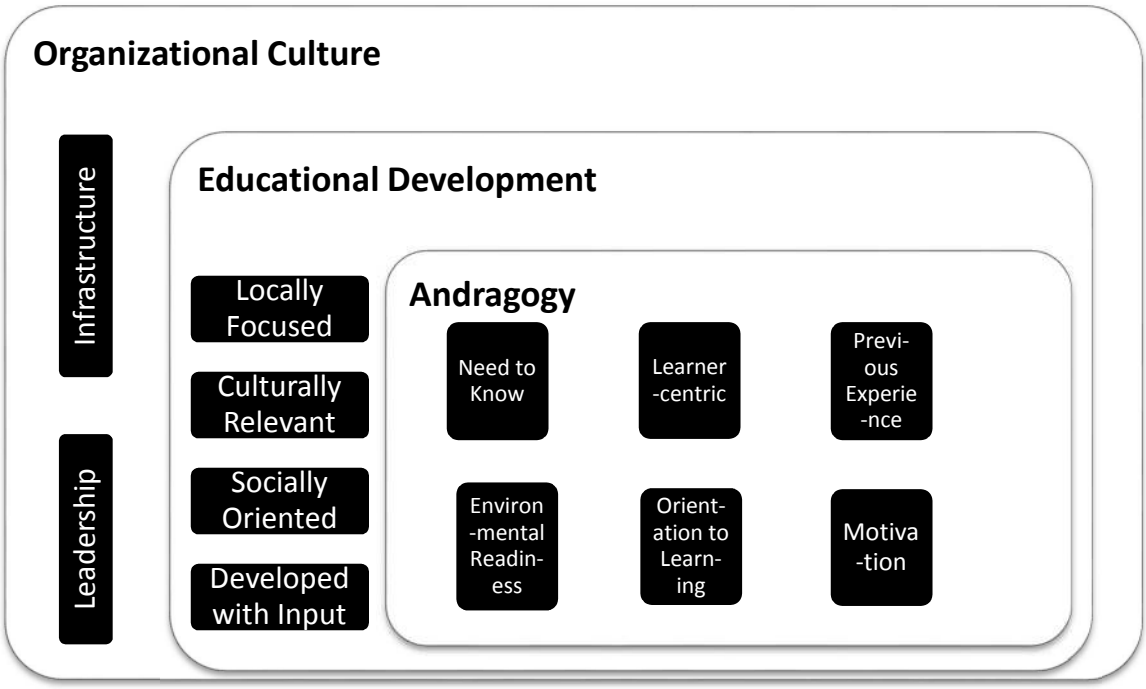

Figure 1. An educational development model for professional learning.

For an ED program to be sustainable, it needs to incorporate each of the elements outlined in Figure 1. This model allows for a contextualization and decontextualization of topics and content focused on the individual and group needs. Without a clear and sustainable plan, ED risks either failing or not being implemented. This model allows for a systematic understanding of what is necessary to build and sustain an ED program. However, one element not completely elaborated upon yet is the content to be covered in the actual ED activities. Knowles et al. (2015) suggested that andragogy is a framework on which the content is added. The following sections work toward understanding the content of ED as it pertains to improving instructional practices for faculty with ELLs.

Constructs of the Study in Relation to Andragogy

The search for what makes ED effective centers on the concepts inherent in the model of andragogy: the need to know, learner-centric learning experiences, the maximization of previous experience, an environment that promotes learning, a learner who is primed for the learning experience, and a learner who is motivated to learn. Further expanding the ED framework includes the notion of being locally focused, culturally relevant, socially oriented, and developed with learner input, as well as the larger system in which these concepts are housed. As these concepts emerge, it is possible to make connections to the teacher as an adult learner by defining the streams of knowledge and skills to be incorporated into the learning experience. This begins by defining and understanding the self-perceived role of the faculty to address the learning needs of ELLs. This is addressed through the first research question:

RQ1: Are there significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources?

Secondly, it is important to understand the efficacy and existence of ED already in place to equip faculty to meet the unique learning needs of ELLs.

RQ2: Are there significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources?

Finally, better understanding the impact of factors like institutional context (RQ3 a and b) and faculty demographics (RQ4) are essential to identifying where the greatest needs might exist:

RQ3a: Are there significant mean differences in the self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

RQ3b: Are there significant mean differences in the self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

RQ4a: Are there significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

RQ4b: Are there significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

The remainder of this chapter explores the literature with a focus on the needs of faculty in relation to working with ELLs. As these concepts are narrowed down, an emergent picture of the potential ED content is extrapolated from the major themes in the literature. These needs determined the content included in the survey for this study.

The following sections develop the notions required to understand the realities of the instructor as a continually developing professional. The focus of these sections includes a look at the realities of existing ED (strengths, weaknesses, and gaps), an

exploration of why it is important to focus on ELLs as a population, the role of the teacher in the learning experience, and the unique learning needs of ELLs. These concepts create a picture of the needs of HE faculty working with ELLs.

The Realities of Educational Development

Seminal literature related to ED (Knight, 2007; Knowles, Holton, & Swanson, 2015; Wenger, 1998) suggest that the preponderance of PD is not actually implemented. This is often because many PD activities lack direct connection to the daily-lived realities of the faculty (Knight, 2007). Unless professional learning activities are directly and significantly related to the daily tasks of the adult learner, they are unlikely to be meaningfully adopted.

The New Teacher Project (TNTP) (2015) found that 30% of K-12 teachers made improvement over a two-year period as a result of PD, but 50% remained unchanged, and 20% actually declined in their abilities. New teachers made significant improvements in the first year, but the learning curve declined dramatically after years two and three. This suggests that not all ED is worthwhile in terms of the time, money, energy, and effort applied to it. This appears to confirm Richardson's (2003) suggestion that PD is sometimes taught with an idealized teacher in mind without taking into account the depth and breadth of knowledge, and gaps in knowledge.

There are many studies that focus on how much of the ED employed in schools is simply ineffective (see Campbell, 2017; Yoon, Duncan, Lee, Scarlos, & Shapley, 2006). Guskey and Yoon (2009) suggested that many of the issues found within ED are linked to a lack of wider data on the efficacy of PD activities, a lack of accountability on the part

of ED/PD leaders, and a lack of pilot studies on PD prior to implementation. Brown (2016), Condon et al. (2016) and DiPaola and Hoy (2014) suggested that a one-time PD workshop is not enough to make long-term decisions about the efficacy of ED. Guskey (2009) suggested that what is crucially lacking in the literature of ED and PD is scientific evidence of what makes them effective. Stes, Min-Leliveld, Gijbels, and Van Petegem (2010) suggested that much of the published literature on ED does not effectively describe the ED/PD practices described in the studies. Amundsen and Wilson (2012) suggested that the existing literature is scattered across various disciplines with little interaction between professionals working on ED. Without sufficient data and descriptions of what makes ED effective in its various forms and structures across disciplines, it is not possible to make effective connections around what works.

The TNTP (2015) and Yoon et al. (2006) studies demonstrate the immediate need for identifying and improving upon existing ED by highlighting what makes learning experiences effective for adult learners. This is echoed by Guskey (1997) who suggested that so much of the ED/PD literature focuses on what is wrong, as opposed to what is effective. These mixed results are likely a consequence of a lack of codified measurements and universal understandings of what effective ED looks like (Desimone, 2009; Webster-Wright, 2009). Very little is known about the implications of effective ED and more of a focus needs to be put on scientific evidence from research (Guskey, 2009). Desimone and Garet (2015) suggested that taking ED to the next level requires understanding and addressing the specifics of successful ED within a variety of contexts.

Although there is lack of agreement on the measures to use in PD/ED, ED is a significant contributor to the learning and development of faculty's teaching skills (Condon et al, 2016; Desimone, 2009; Desimone, Smith, & Phillips, 2013; Henderson et al., 2011; Meng, Takaroensuk, & Seepho, 2013). Shaha, Glasett, Copas, and Huddleston, 2016) suggested that a variety of learning experiences are most effective for professional growth. This is supported by Kennedy (2016) who suggested that only focusing on content knowledge, as opposed to a wide variety of skills in addition to content, tended to lead to less student learning. In addition to affecting change in instructional practices, ED is an effective means of addressing noninstructional aspects like attitudes and beliefs (Arce et al., 2014; Condon et al., 2016; Hobbs, 2012; McDonald, 2012; McKeown et al., 2016; Niehaus & Williams, 2016; Potter, Kustra, Ackerson, & Prada, 2015; Reeves, 2006; Steinert et al., 2006). This emphasizes the transformational nature of ED as a tool to affect pedagogy and perspectives alike (Niehaus & Williams, 2016). ED provides a means for targeted, individualized learning experiences, but more information is needed to understand what makes professional learning experiences effective.

Although ED exists in the HEI and has been a major focus since the 1960s, the kind, type, and distribution of ED services differ widely across HEIs (Erikson, 1986; Peyton et al., 2007; Magda, Poulin, & Clinefelter, 2015; O'Neil & Taylor, 2001). Existing ED often lacks the significant and direct focus needed to address the individual needs of faculty. Felder and Brent (2010; 2016) suggested that most colleges do not actually teach their faculty how to teach. This is a problem, as many faculty members come to the HEI without formal training in instructional methods and learn these in

service (Condon et al., 2016). Jaschik and Lederman (2017) found that among chief academic officers across the United States, a growing reliance on tenure is expected in the coming years, and that earning tenure requires a reliance on good teaching skills in addition to research capability. Condon et al. (2016) suggested that many faculty are hired for their experience and knowledge of the wider field more so than their teaching skills (Condon et al., 2016). Such a fact can become problematic given that 50% of faculty in a national survey in 2011 were classified as adjuncts (Caruth & Caruth, 2013) who are not always able to engage in ED as actively as their full-time counterparts, or are not provided the same opportunities for ED as their full-time counterparts (Kezar & Maxey, 2016). This is coupled with the fact that online learning is increasing, and an additional non-local faculty population needs continuing PD (Elliott, Rhoades, Jackson, & Mandernach, 2015).

Resources often exist for the faculty members, but their distribution and access are varied across institutions (Herman, 2012), with some faculty being left with more gaps in knowledge than others (Magda et al., 2015). Institutions that do not offer ED opportunities have faculty, especially adjuncts, who have less learner-centered teaching practices (Kezar & Maxey, 2016). Time to engage in ED can sometimes be the biggest detractor for faculty especially when other competing factors keep them from their professional learning (Curwood, Tomitsch, Thomson, & Hendry, 2015; Engin & Atkinson, 2015; Steinert et al., 2009). Mulford and Silins (2003) suggested that the most effective institutions employ a strategy of holistic leadership emphasizing deliberate and intentional learning. These institutions provide the tools, resources, and space necessary

for success by making learning a prime focus of the organization. Such institutions embody the andragogical model including collaboration among individuals, flexible content, real-world examples, dedicated time devoted to ED, and a space for experimentation (Fitzmaurice, 2016; Mokhele, 2013).

Andragogy is fundamentally a learner-centered approach that taps into the lived-experiences of individuals as a starting point for the process. It is a framework for providing development that is focused on the individual. For effective ED, it is necessary to understand the faculty member and his or her individual context (Condon et al., 2016; Felton, 2013). Without meaningfully making connections to a faculty member's individual context, it is not likely that it will be successfully implemented. This is likely part of the reason why TNTP (2015) found that many teachers failed to improve over time. By starting with the needs of individual faculty, it is possible to develop a learning experience that is individualized and focused on the actual contexts in which the faculty member operates on a daily basis.

Condon et al. (2016) introduced a simplified logic model that characterizes the realities of modern ED and its eventual impact upon student learning. Their model, The Direct Path Model, emphasizes how ED can impact students by affecting change in faculty's knowledge and abilities. Their model inherently includes a focus on the faculty and the potential result of focused ED, but misses a key aspect of the ED process – identifying faculty needs. Figure 2 expands upon and adapts the Condon et al. (2016, p. 49) model to include this crucial aspect more explicitly. Adding in this level provides a better characterization of the Direct Path Model by making the needs of the faculty more

pronounced. As the goal of ED is to improve specific skills and abilities related to the exact context of the faculty, the Direct Path Model is strengthened with this more overt representation.

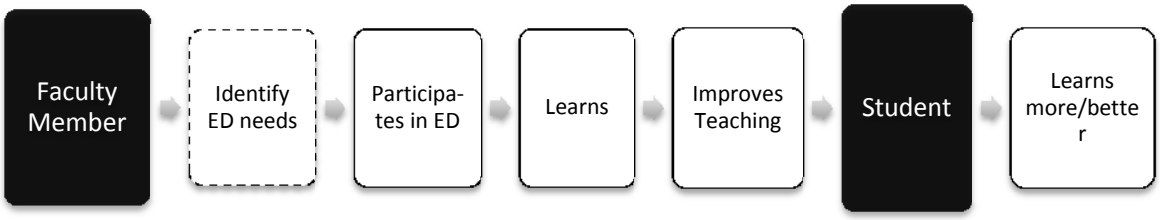

Figure 2. The Direct Path Model for faculty professional learning and its impact upon student learning.

This study was conducted to understand and develop a picture of the needs of the faculty member in terms of their specific institutional context (Felton, 2013). By developing an understanding of the needs of the faculty, it is possible to help them to foster and scaffold their ELLs (Peyton et al., 2007). The fundamental concept behind this study is that if faculty are provided adequate learning opportunities centered on the specific populations in their classrooms, they will be better able to meet the needs of their students (Master et al., 2016; McDonald, 2012; Tong et al., 2015; Wilkinson et al., 2017). ED is intended to help faculty meet the needs of their learners by enhancing instructional capabilities, which in turn enhances student performance (Babinski et al., 2018; Condon et al, 2016; Holloway, 2006; Liebowitz, Bozalek, Schalkwyk, & Winberg, 2015; Patton, Parker, & Tannehill, 2015; Meng et al., 2013; Tong et al., 2015; Wilkinson et al., 2017). A cascade of benefits follows within the institution through innovation and leadership (Steinert, 2012) as faculty implement their new knowledge (McDonald, 2012) and become leaders in their institutions (Alsalahi, 2015; Farooq, 2016).

By shifting the focus of the professional learning to specific contexts and populations, the realities of the content needs become clearer. The focus of the ED needs of faculty is directly related to their individual teaching environments, including the content and the learners in that environment. The specific learners and their needs inform the practices that take place in delivering and assessing the content, because students are the ultimate beneficiaries of improvements in the faculty (Condon et al., 2016; Meng et al., 2013). ELLs need to be a focus for the faculty members in their short and long-term development (Peyton et al, 2007), since ED fundamentally leads to improvement in student learning (Patton et al., 2015).

Helping Those Working with ELLs

The Institute of International Education's Open Doors report (Farrugia & Bhandari, 2016; IIE, 2017) found that there is an ongoing rise in international students studying in the United States. Data collected by the IIE (Farrugia & Bhandari, 2016) found that undergraduate international student enrollment was up an average of 7.1% and graduate international student enrollment was up an average of 6.0% from the 2014-2015 to 2015-2016 AYs. Most of these international students studied at the undergraduate level (40.9%), with 7.5% at the associate's level, and 33.4% at the bachelor's level. The graduate-level comprised 36.8% of the total population with 22.4% at the master's level, and 11.8% of the total at the doctoral level. The data also showed that the nondegree seeking, intensive English population was down by 14.5% for the same period, but still had 39,444 total students. This suggests that there is a steady population with the potential to enter undergraduate or graduate studies. Data from Jaschik and Lederman

(2015) also suggested that international students would be a major focus of admission officers in the coming years.

Of the population of international students studying in the United States in the 2015-2016 AY, 59.1% come from four major sources: China (31.5%), India (15.9%), Saudi Arabia (5.9%), and South Korea (5.8%) (Farrugia & Bhandari, 2016). With such diversity in geographic origins, there are accompanying linguistic differences as well. English is not a widely spoken language in at least three of the four major countries of origin (China, South Korea, and Saudi Arabia). The fourth country, India, has adopted English as an official language, but the distribution of English across the country is not consistent. Of the 1.25 trillion people in India, only .03% of the population spoke English as an L1, and only 16.0% spoke English as an L2 (Ethnologue: Languages of the World, 2015); therefore, not all students coming from India are indeed strong in academic English proficiency. Thus, 59.1% of international students from the 2015/2016 AY came from countries where English was not an official language or major medium of communication.

The HEI often misses the basic needs of the international student (Pineheiro, 2001) because these students are typically a small population in the HEI (Evans & Andrade, 2015), and their needs are not widely understood. These HEIs often prioritize recruitment of international students over providing PD for faculty to work effectively with them (Helms, Brajkovic, & Struthers, 2017). Funding for resources directed at addressing the needs of international students sometimes go to other services that provide more perceived value for the institution, like faculty research (Forbes-Mewett & Nyland,

2012). This suggests that although the goal of increasing international students is a priority, addressing their needs is outweighed by other factors. International students make up a small part of the overall institution's population (roughly 5% of the total population) (IIE, 2017), although they do make a significant financial contribution to the institution (Hegarty, 2014). Helms, Brajkovic, and Struthers (2017) surveyed institutions about their strategies for internationalization on campus, which included survey items on the PD in regard to internationalization. They found that only 28% of HEIs in the survey offered workshops on teaching international students. Additionally, staff development related to internationalization outpaced similar types of PD for the faculty.

In addition to little existing PD at the HEI related to working with international students, the unique learning needs of ELLs are overlooked or are misunderstood in the typical HE classroom. HE faculty are more focused on teaching their content area, than fulfilling the individual learning needs of the ELLs in their classrooms (Harklau, 1994). Once fully admitted to their programs, ELLs spend the remainder of their formal education in a mainstream classroom, and faculty should be aware of the process of L2 development and the individual needs related to language learning (de Jong, 2014; Harper & de Jong, 2009; Harper & de Jong, 2004). Meeting the needs of this population goes beyond simply good teaching, requiring a more nuanced understanding of the needs of this learner population (de Jong, 2014; Show Mei, 2015). For colleges and universities to effectively address the needs of this population, ED needs to take into account concepts related to adult learning theory, as well as the individual needs of the faculty

members themselves (Baker, 2016). By putting the faculty in focus, HEIs position themselves to better understand and address the needs of the ELL population.

Faculty often want to help their international students, but feel as if they are insufficiently able to do so (Craighead & Ramanathan, 2007; Perry & Hart, 2012; Trice, 2003). When faculty do ask for help, they struggle to identify specific areas in which they need help (Perry & Hart, 2012), suggesting that faculty may lack the ability to clearly articulate areas for PD. There are also a variety of misconceptions that faculty have about their ELLs including the notion that ELLs have all of their linguistic needs fulfilled prior to entering their courses (Blachowicz, Fisher, & Ogle, 2006; Iwai, 2008). These faculty members often lack an understanding of what is required for successful language learning and the amount of time and effort that it takes to learn a language (Evans & Andrade, 2015; Karathanos, 2010; Pettit, 2011; Reeves, 2006). There are many individual differences and distinctions in the acquisition of a language among learners including a variety linguistic issues and varied length of time of the acquisition process. Cummins (2008) suggested that it takes around 2-3 years to acquire basic interpersonal communication skills (BICS) and 5-7 years to acquire cognitive academic language proficiency (CALP).

ELLs continue to need support even after receiving sufficient scores on an English proficiency exam (for example, TOEFL, IELTS, or CEFR), or after placing out of their ESL, ESOL, or EFL classes (Barrett-Lennard et al., 2015; Blachowicz et al., 2006; Kokhan, 2013; Iwai, 2008). Successfully completing an ESOL program or achieving high enough scores on standardized examinations does not always guarantee

that students have the necessary English proficiency (Bifuh-Ambe, 2011; Kokhan, 2013; Iwai, 2008). Even though these students may have completed their ESOL or EFL course work, they often still have linguistic deficiencies because they never actually stop being language learners (Lardiere, 2007).

Echevarria, Short, and Powers (2006) suggested that a deep understanding of one's content area is required for effective teaching, but it is not enough to effectively address the needs of ELLs (Liton, 2016). There are a variety of non-linguistic issues that international students broadly, and ELL students specifically, have when they enter the U.S.-based HEI (Liton, 2016; Smith Mei, 2015). This is because there are a variety of academic and non-academic factors surrounding the success of this learner population. Kanno and Gromley (2013) found that non-ELLs attained degrees at rates below their non-ELL peers. Furthermore, the HEI often lacks the direct supports and resources designed to specifically target these learners (August, McCardle, & Shanahan, 2014; Cheatle, 2016; Kanno & Cromley, 2015; Khong & Saito, 2014). While understanding and addressing the learning needs of ELLs in PK-12 is a constitutional right (Rubinstein-Avila & Lee, 2014), there are no equivalent protections or mandates in HE. Although a multifacetted approach is needed to address these needs (Martin, 2017), this study is focused on the learning and teaching approaches that faculty can undertake through their own ED to help this learner population.

Pettit (2011) suggested that the more professional learning that faculty have on addressing the needs of their ELLs, the more likely they are to be effective and confident in their ability to assist their ELLs. Peyton et al. (2007) suggested that the first step in

effective ED is to understand the students, teachers, and contexts surrounding the school and classroom experiences. Providing ED for teachers helps them to be more conscious and actively address the needs of their ELLs (Andrade et al., 2015; Babinski et al., 2018; Craighead & Ramanathan, 2007; Gandara, Maxwell-Jolly, & Driscoll, 2005; Young-Scholten, 2015). Additionally, ED helps faculty to be conscious of negative beliefs and general assumptions related to their ELLs (Song & Samimy, 2015). ED can have a significant impact upon attitudes, beliefs, and practices of faculty working with ELLs by increasing confidence and fostering leadership and collaboration among faculty members (Hansen-Thomas, Dunlap, Casey, & Starrett, 2014; McDonald, 2012). Additionally, understanding the language acquisition process can help faculty to tailor the learning experience around the needs of ELLs without disrupting the overall class (Concario, 2016; Lombardi, Mendes, & Salgado, 2016). In order to understand the professional learning needs of faculty, it is important to identify areas in which the faculty struggle. With these identified, it is possible to understand existing ED and what additional support and resources could be offered.

Two interrelated aspects that still need to be explored in relation to working with ELLs include the role of the faculty in the learning experience and their specific learning needs. These two elements are broken down in the following section in order to identify the potential gap in knowledge explored in the research design. What emerges is a nuanced analysis of the individual learning needs of the faculty through a targeted needs analysis. The following sections analyze the role of the HE faculty member in the mainstream classroom, followed by a look at the needs of the ELLs in the classroom, and

then an analysis at the needs of the faculty to be further explored as key variables in the study.

The Role of the Teacher in the Classroom

Learning is a fundamentally social process whereby interactions within the environment shape the larger learning process (Bandura, 1977; Knowles et al., 2015; Piaget, 1997; Piaget & Inhelder, 1966/9; Vygotsky, 1978; Vygotsky, 2012; Wenger, 2008). The individuals involved in the teaching and learning experience are fundamental to shaping the trajectory of the learning process. Vygotsky (1978; 2012) characterized the role of the teacher in terms of the Zone of Proximal Development (ZPD). Through the ZPD, it is suggested that learners acquire knowledge when they are presented with information that is just beyond their existing level of understanding (Vygotsky, 1978; Vygotsky, 2012). The ZPD emphasizes the role of the teacher as an architect of the learning experience, and is an essential part of the role of someone guiding the ED experience for faculty. This exploration into the role of the teacher focuses on the methods and teaching strategies that teachers use, the teacher's role in establishing the learning environment, and the needs of the learners in the classroom. By briefly focusing on these aspects, the foundational aspects of what teachers need to know to address their ELLs emerges. This analysis establishes what the foundational aspects of ED activities are in terms of a focus on both classroom and learner issues.

Methods and Teaching Strategies

Learners make connections to previous learning experiences and to new learning experiences to develop new conceptions of the world (Bandura, 1977; Knowles et al.,

2015). By collecting experiences over time, the learner builds an understanding of the world (Bandura, 1977; Piaget, 1997; Piaget & Inhelder, 1966/9; Vygotsky, 1978; Vygotsky, 2012) and learns what is acceptable in that learning environment (Bandura, 1977; Vygotsky, 1978). Exposure to the world through a variety of different scenarios allows learners to build a complex understanding of how to operate in the environment. Bandura (1977) suggested that learning can occur via direct exposure through trial and error, direct observation of others, or exposure to information from those who have already experienced something.

Following along the lines of Vygotsky (1978; 2012) and Bandura (1977), the teacher serves as a primary source for experience and exposure to new elements in the environment. Vygotsky (1978; 2012) suggested that the ZPD serves as a primary conduit for learning in which more experienced individuals in the environment are able to provide exposure to new things. Through the ZPD, the experienced individual can provide learning experiences that are just beyond the learner's existing abilities, priming the learning experience using the learner's existing knowledge and skill set to advance to the next level of learning. Teachers are major contributors to the development of learners because they help to determine and influence what is learned. A faculty member's ability to address the individual learning needs of ELLs goes beyond simply addressing just teaching skills (de Jong, 2014) to a targeted focus on the ways in which teachers can actively address the needs of ELLs through their daily practices in the classroom (Perry & Hart, 2012). This is done in a variety of ways related to teaching methods and strategies explored in the following section.

Lesson planning and implementation. Through the planning process, teachers develop their eventual learning objectives and learning trajectories for classroom-based activities (Andres, 2012). Teachers conceptualize their lessons considering the actual and potential learning goals and obstacles that could arise. This requires significant effort to understand the students to make sure that the lesson is effectively developed to scaffold the learning experience by anticipating areas that may cause problems (August et al., 2014; Cheatham, Jimenez-Silva, Wodrich, & Kasai, 2013; Park & Kim, 2015;). The development of a clear progression of learning objectives is key to ensuring that the learning process is smooth (Hong-Nam & Leavell, 2009). This is done by understanding where students are in relation to the target and identifying resources that they might need to achieve the learning objective. Successful planning can increase learning, interaction, and the potential for critical engagement with content (Murugaiah & Ming, 2010); however, it also requires significant time to develop materials, activities, and resources for the learners (Andres, 2012; Bahrani & Shu, 2012; Khong & Saito, 2014).

The lesson plan serves as a framework for a progression of learning for the specific learners in the classroom. Lesson plans can be designed in a way that allows for individualization by providing a variety of options for learners who might vary in their abilities (Courey, Tappe, Siker, & LePage, 2012). The ability to differentiate instruction is essential for learners who might be slower or faster than others. Since ELLs often need additional supports, lesson planning provides the ability for the faculty member to consider and plan ahead for issues that might be faced. This process focuses on

identifying the existing state of the learners and then exposing them to new content in a way that anticipates their individual needs.

Once developed, lesson plans still require implementation in the classroom. Not all lessons go as intended and require some adjustments (Murugaiah & Ming, 2010). If teachers keep their learners in mind in the creation of lessons, it is likely that the learning experience will be smooth; however, not all factors can be planned ahead of time. In this case, students can be scaffolded to meet the learning objectives through support and resources provided by the teacher (Gagne & Parks, 2013; Tong et al., 2015). Scaffolding requires the teacher to be attentive to the needs and potential gaps in the learner's background (August et al., 2014; Park & Kim, 2015). Scaffolding allows for an individualized learning experience to bring the student to the level at which s/he can achieve the information. Scaffolding is a representation of the ZPD in action. Successful scaffolding requires a fundamental understanding of the specific learners and their needs in the classroom.

Designing content. Teachers are essential in the design and selection of course content. Because teachers choose materials that provide the foundation for learning, the actual implementation of a lesson requires solid material to help the learner be successful. The quality of the content directly influences how and what is learned (Bahrani & Shu, 2009). In this way, the teacher is essential to providing the basic building blocks of the learning experience for the variety of learners in the classroom.

Facilitating interactions. In a constructivist approach, peer-to-peer interaction is an essential part of the learning experience. Without effective collaboration, students can

encounter problems in acquiring content. Effective peer-to-peer interaction requires establishing expectations for students and providing the necessary framework for the lesson. Effective peer-to-peer interaction, established through the teacher's planning, allows for learners to fill in knowledge gaps (Gagne & Parks, 2013) and to learn and grow from these interactions. To successfully establish such a learning environment, the teacher needs to effectively plan and execute the lesson.

Keeping on track. Teachers are essential to ensuring that students are accurately employing and using course content. Wendt and Rockinson (2014) found that students sometimes promote misconceptions about content to their peers. They suggested that teachers are essential in keeping students on track during the learning process, because the teacher's feedback and participation with students allows for correction of misconceptions and supplementing gaps in knowledge. Keeping students on track requires an understanding of learners' deficiencies by intervening in the learning experience if misconceptions arise.

Source of resources. The teacher is also a primary source of resources. As Knowles et al. (2015) suggested, teachers identify potential resources for their students with a focus on what the learner needs to meet the existing and future learning goals. By finding and helping students connect to resources, the teacher helps learners to supplement their knowledge for current and future needs (Nam & Beckett, 2015). For this reason, teachers are essential in identifying potential resources for students to use in the short and long-term.

Providing feedback. Getting feedback is an essential part of the learning process, as it allows students to know where they are in terms of their own learning. The depth and quality of feedback is important to ensuring that students are able to work on areas that are of immediate need to them (Amoraga-Pigueras, Comas-Quinn, & Southgate, 2010). Walker (2007) suggested that there are three layers that can be given in feedback including the indication of errors, correction of errors, and correction of errors with an explanation. The sophistication and potential for learning at each level is different, with more potential for learning taking place when an error is corrected and explained. Because ELLs are focusing on learning the content of the course and linguistic content, they need a different kind of feedback. Specifically, ELLs need to understand both errors in content and errors in linguistic accuracy (Amoraga-Pigueras et al., 2010).

Establishing the Learning Environment

Teachers are essential in creating course content and implementing lessons, but they are also crucial to creating the environment in which learning is able to take place. The teacher helps to create and facilitate the learning environment, and s/he is an important aspect to ensuring that the actual learning environment is one that is supportive and nurturing. This section explores this concept in more detail.

The culture of the classroom environment. Teachers are essential factors in determining the culture of the classroom. By clearly establishing classroom expectations, teachers can mitigate issues related to differing cultural expectations that can often derail a lesson (Zhang, 2008). Only by establishing clear guidelines and expectations can the teacher fully prepare students for the learning experiences that will take place in the

classroom (Gagne & Parks, 2013). Learning experiences are maximized when the teacher's presence is felt in the learning activities (Gagne & Parks, 2013). By creating rules and practices of respect within the classroom, teachers are able to influence interactions with and among students. Even in the physical absence of the teacher, these rules and practices linger and influence the overall flow and function of the classroom. This creates an environment of respect and collegiality for all participants in the classroom.

The teacher's lived experience. A teacher's lived experiences have a considerable influence upon how s/he contributes to the classroom experience (Ajayi, 2011). By bringing new perspectives and experiences to the learning experience, teachers are able to influence the learning environment in unique ways. As Bandura (1977) suggested, teachers can bring their experiences to learners so that the learner can gain insights without actually being required to participate in them. By bringing diverse lived-experiences to students, it is possible to gain insights from backgrounds and experiences that might otherwise be missed without the teacher. The teacher is an essential element in bringing diverse perspectives into the classroom including diverse backgrounds, experiences, and exposure to content.

Pedagogical orientations. The teacher's classroom pedagogical orientation also influences the environment. Classrooms that are student-centered and constructivist in nature are able to better address the needs of learners (Murugaiah & Ming, 2010). Through the active creation and engagement with content, learners are able to engage within one another to effectively meet the learning objectives collectively. When students

are the center of instruction, the learning experiences are more meaningful and the learners are more likely to participate (Lee & Ng, 2009). To bring the learners into a collective learning experience, the teacher must first understand the diverse learners in the classroom and ways in which they can be included in the learning process.

Meeting the Needs of the Learners

Knowing what content to cover and how to cover it requires that the teacher fully understanding his or her student. This includes potential gaps in knowledge or experience for the learner. To adequately address the needs of the learners, teachers need to understand the existing level of knowledge of the learner and his or her existing experiences, as well as future trajectories (short and long-term). This requires understanding the learner from a holistic perspective.

Existing experiences. Teachers need to provide learning experiences that include a variety of methods, requiring an understanding the initial state of the learner before teaching. Crucial to the notion of the ZPD (Vygotsky, 1978; Vygotsky, 2012) is the pacing of exposure to information to learn new content. The progression of learning needs to keep in mind where the student begins and how the lesson attempts to get the student to the ultimate goal(s). The initial state of a learner is an essential part of creating a learning progression to achieve the learning goal(s) (Hong-Nam & Leavell, 2009).

Noncurricular considerations. Understanding the state of the learner means understanding the gaps in content, but also the noncurricular considerations that affect the learner or his or her ability to achieve the content. These can include noncontent related needs of the learners like linguistic and cultural gaps. Not having an understanding of a

student's cultural expectations can cause issues with getting students engaged in the content (Zhang, 2008). This can include issues related to expectations for interacting in the classroom with partners, engaging with the teacher, and participating in class (among others). The teacher's role in the classroom includes noncontent related aspects in addition to actual content-related areas. As the teacher's role is to cater to the individual differences among the learners (Knowles et al., 2015), it is important for the teacher to have an understanding of what differences exist in order to effectively address them. The teacher is a fact-finder in addition to facilitator of content.

Future trajectories. Learning is intended to advance learners along a personal learning trajectory (Knowles et al., 2015; Wenger, 2008). By working toward specific trajectories, learners are able to actively better themselves and to achieve their goals. The role of the teacher is to identify the learning objectives for the content and to identify other personal learning objectives and needs that learners might want or need to achieve (Hong-Nam & Leavell, 2009). In this way, the teacher is a master architect in designing beginning, intermediate, and long-term goals to satisfy the needs of the learner, all of which require understanding the learner.

Summary

The role of the teacher in the learning process is multifaceted and complex. It includes fully understanding the needs of learners including short and long-term goals, creating the necessary environment for learning to take place, and providing the necessary experiences to guide learners along the path toward lesson objectives and

course learning outcomes. All teachers work to address these needs in their course planning and in-class teaching.

An added layer of complexity is provided in the addition of other, noncontent related aspects, such as those faced by ELLs. These specific populations have unique needs to be accounted for by the mainstream classroom teacher (de Jong, 2014; Show Mei, 2015). These mainstream teachers are more focused on their content than meeting the noncontent related needs of their learners (Harklau, 1994). The following section establishes aspects that need to be accounted for when dealing with ELL populations. By identifying these needs, it is possible to develop ED for mainstream HE faculty focused on helping them to meet the needs of their learners.

Establishing an Inventory of Needs

To effectively address the ED needs of HE faculty, it is important to understand the scenarios and specific student needs that will be encountered in the classroom. This section serves as a foundation for the kind of issues that HE faculty likely experience by understanding the unique learning needs that ELLs bring to their HE experiences. By exploring the potential deficiencies some ELLs bring to the HE classroom, it is possible to extrapolate potential areas of important focus for ED for HE faculty. When faculty understand the unique learning needs of their ELL learners, they can better address their academic and language needs (Concario, 2016; Lombardi et al., 2016). Therefore, this section creates a literature-based explanation of what aspects would likely be issues that HE faculty could encounter. These areas also serve as the basis for the development of

the survey used in this analysis, since these area could serve as potential gaps in needs of the faculty in the study.

ELLs come to their degree courses with a variety of needs that are different from their non-ELL counterparts including aspects like language skills, cultural expectations, and previous educational experience (Staehr Fenner, 2014). ELLs become assimilated in a population catered to learners who are native speakers. Gaddy (2008) found a similar scenario with students who have learning disabilities and are effectively assimilated into the general population without specific supports built in for them to succeed. As Gaddy's population demonstrated, learners with special needs (needs and supports beyond what the actual course or program provides) are often left to fend for themselves in a general population that does not necessarily require these supports. Assuming that all students have the same language abilities in a course can create a difficult learning environment for all students (Harrison & Shi, 2016).

Second language learners never fully stop being second language learners (Lardiere, 2007). There may always be aspects of their adopted language and environment that may never fully be the same as their native-speaking counterparts. Although it is possible for learners to mimic characteristics of the language to appear native-like, the second language learner will always remain as such –a second language learner. The grammatical representations in the mind grow and change over time with exposure to and practice with the language (White, 2007); however, the ultimate end state is often varied based upon the specific learner (Lardiere, 2007). There are a variety of factors involved in the understanding of what language and communication require,

including, but not limited to, grammatical knowledge. To truly understand a language means that one is able to use a variety of linguistic forms (grammar, syntax, and morphology) and understand specific linguistic use (pragmatics) of these forms, and meaning (semantics) of these uses (Larsen-Freeman, & Celce-Murcia, 2015).

This section addresses some of the likely gaps that ELLs have when entering their degree programs in order to establish areas for consideration when developing ED for content-area teachers in HE. The reason for this exploration is grounded in the premise of Clair and Adger (1999) that ED for teachers who have ELLs in their classes must address the specific learning needs of ELLs. The needs of an ELL population are unique and require interventions and teaching practices that are specific to the needs of the individual learners (Show Mei, 2015). Furthermore, de Jong and Harper (2005) suggested that mainstream teachers need an awareness of how second languages are learned, the influence of language and culture on the learning experience, and the need to set linguistic and cultural goals for their learners. This is further characterized by understanding how linguistic and cultural representations translate into how ELLs acquire new knowledge in content area courses (de Jong, 2014).

Identifying the needs of learners is an important aspect of developing an ED program or intervention because this helps to establish the possible needs of the teachers who teach these students. Addressing the needs of ELLS would require significant work to address their individualized needs (Khong & Saito, 2014), and understanding the gaps that these student shave is an essential first step to understanding the potential ED needs of faculty. With knowledge about the needs of these students in the classroom, it is

possible to create interventions for teachers to help them more effectively address the learning needs of ELLs in the classroom. The aim of this study was to elaborate upon the likely needs of this population of HE faculty members.

The State of the English Language Learning

The learning of an additional language is a complex process that is determined in part through a learner's experiences and previous exposure to the language, but also on many internal factors (aptitude, ability, memory capacity, age of acquisition, and other cognitive abilities) (Saito, Suzukida, & Sun, 2018). These varied, individualized factors make for a classroom environment that includes students with different individual needs. Although it would be difficult for a faculty member to address all of these individual needs, they need to have a general understanding of some of these factors that make up the reality of the ELL in the classroom. The following section focuses on understanding some of HE education classroom.

The modern adult language classroom is focused on language learning through communicative practices (Ellis, 2003). The term applied by linguists focusing on the language learning environment is that of communicative language learning (CLL) or communicative language teaching (CLT) (Ellis, 2003; Mackey, Gass, & McDonough, 2000). The goal of this strategy is to get students learning the language by using it in context with authentic resources (Al Darwish, 2014). Through interaction with the content, the learner is able to acquire the complex linguistic elements (syntax, phonology, morphology, morphosyntax, and lexical items) through their use in context, leading to the complex understanding of how to use them effectively (Ellis, 2003). To fully understand

the state of the learner, one must understand his or her developing understanding of the language (including its form, use, and meaning in context).

The teachers in this study were mainstream faculty in HE, with little or no formal training on linguistic structure, function, and use. Even without training in methods like CLT, the mainstream classrooms are already communicative in nature as they are actively focused on using linguistic and communicative tools simultaneously. What is missing in the mainstream classroom is a fundamental understanding of what the developing language learner actually needs outside of the content. Although faculty address the actual content of their courses, they lack formal training to identify linguistic and sociocultural needs of the language learner beyond the content.

This section identifies some of these areas to consider when working with ELLs in a mainstream classroom. Aspects that need to be considered in regard to working with ELLs include the experiences and backgrounds of ELLs, the linguistic needs of ELLs, and cultural expectations of ELLs about the classroom and the learning environment. Exploring these aspects highlighted areas for focus in the survey instrument for this study.

Linguistic needs of ELLs. Successfully being admitted to an academic program requires satisfactory passing scores on a language exam that are often still below what is necessary for success in a monolingual environment (Akanwa, 2015; Kokhan, 2013; McDonald, 2012; Sadykova & Dautermann, 2009). Students with high scores on such exams struggle to interact appropriately and meaningfully in the target language (Iwai, 2008), even though they may be highly proficient in social interactions (Olsen, 2010).

Students often struggle to understand meaningful, communicative strategies, phrases, and idioms in context (Sadykova & Dautermann, 2009). The struggles faced by ELLs can translate into issues acquiring course content. Roessingh and Douglas (2012) found that the ELLs in their study tended to have lower GPAs than their native-speaking counterparts.

Standardized English proficiency exams, like TOEFL or IELTS, do not always provide a full picture of a learner's English proficiency and his or her potential for success (Iwai, 2008) and may even inaccurately place students 40% of the time (Kokhan, 2013). Standardized placement exams are not perfect determiners of linguistic proficiency for all academic contexts (Barrett-Lennard, Dunworth, & Harris, 2011; Bifuh-Ambe, 2011). These placement exams may also be more indicative of economic status than just language proficiency (Callahan, Wilkinson, & Muller, 2010). Exams like the TOEFL or IELTS were not specifically designed for placement testing (Kokhan, 2013). Even students with sufficient English as determined by such exams still need support (Blachowicz et al., 2006; Evans & Andrade, 2015; Iwai, 2008). Furthermore, some institutions develop liberal admission practices, policies, and tracking that allow some students to get around taking ESL courses prior to full admission into their degree programs (Andrade et al., 2015; Andrade, Evans, & Hartshorn, 2014).

Complicating the situation is the fact that ELL students are a very diverse population with varied abilities in linguistic domains (Evans & Andrade, 2015; Lawrick, 2013; Myles, 2015). With learners coming from varied backgrounds and linguistic representations, the ability for an organization to specifically target individualized needs

of learners becomes difficult. Cummins (2008) suggested that the time to adequately learn a language often depends on contextualized differences in language background of students and the age at which they began learning the language. The following sections highlight areas in which ELLs still struggle or need additional support beyond their language learning courses.

Linguistic resources. In the language classroom, the teacher serves as the primary linguistic resource for the students (Yunus, Zalehi, & Chenzi, 2012). However, a fundamental question emerges as to who provides the linguistic input once a student leaves an ESOL class, especially given that this population still has continued need for linguistic improvement. Often times, students have little recourse other than to consult dictionaries or other ELLs, who may also struggle, to gain an understanding. Because these resources require a significant amount of time to find a translation and might not always be accurate, students still rely on the mainstream content area teacher as a primary linguistics source.

Students also bring significant linguistic resources to the classroom with the L1 as an asset. Miller, Maxckiewicz, and Correa (2017) found that when students were allowed to use their L1 as a support to their use of English, that significant literacy gains resulted. This suggests that there may be learning benefits for faculty to encourage the use of the L1. To do so, faculty need to be equipped with the knowledge of how to effectively do so.

Grammatical knowledge. Even with formal instruction, students sometimes lack the grammatical knowledge for success. Harklau (2000) found that even when ELLs

graduated from U.S.-based high school settings, they lacked formal grammatical understandings of English. The students had strong implicit understandings of the language (form and use), but they lacked some of the basic syntactic and morphological understandings necessary to succeed in an academic setting. These students struggled to articulate metalinguistic knowledge (including identifying parts of speech and sentence structure). Similar findings were seen in Iwai (2008) who found that ELLs in their degree programs spent far more time focusing on trying to understand the grammatical structure than they did understanding the overall content.

ELLs spend extra time parsing the word order, grammatical content, and vocabulary as individual units or small phrases, without being able to fully understand the larger meaning and contextual cues. For many of these learners, the focus of their time and mental energy is at the level of individual words and phrases, detracting from learning the specific content of the course. The ELLs in these studies still had significant gaps in their grammatical knowledge, delaying or detracting from the development of other academic reading and writing skills.

Language use in context. Students also struggle to function in their new learning environments as a result of not understanding the accent or slang of their professors (Lin, 2012; Show Mei, 2015). Macgregor and Folinazzo (2017) also found that international students struggle with the pace of instruction, even when they do understand their instructors. This is a result of not having a rich enough experience to gain exposure to differing accents and terminology, or coming from a sterile environment where the language of instruction is too rigidly systematic and focused on “proper” English.

Coming from such environments, learners are often left to figure out more than just general meaning, and must learn new phonological patterns or pronunciations, adding more complexity into their learning experience.

Bang (2011) found that teachers have to actively incorporate language learning into the homework assignments of immigrant newcomers who are acquiring English proficiency. Such a practice aids in learning course content because ELLs are still learning linguistic content. By scaffolding the linguistic content into the homework, ELLs are better able to learn the course content through structured exposure to necessary linguistic cues. This requires going beyond focusing on content alone to individualizing the homework in a way that makes it meaningful and engaging for learners.

Academic English. Successfully navigating the academic environment requires learners to understand when and where to use the proper tone, voice, and register in the proper sociocultural setting (Anstrom et al., 2010). For school, students are expected to use proper academic English to varying degrees including more formal representations on paper, to less formal conversational uses (Mancilla-Martinez & Lesaux, 2011; Scanlan & Lopez, 2012). ELLs need specific supports to be able to use proper academic English skills, especially if they have placed out of an ESL program with standardized test scores (Kokhan, 2013; Show Mei 2015). Many ESL programs do not directly teach the kind of academic English required for success in the post-secondary institution (Evans & Andrade, 2015). To effectively initiate learners into proper use of academic English, faculty need to know and understand the variety of uses of the language and their various applications.

Vocabulary skills. ELLs struggle to comprehend the technical vocabulary of their degree fields much more than their native-speaking counterparts (Blachowicz et al., 2006). This is in large part as a result of a lack of linguistic sophistication to know what is technical language that all students must learn, as opposed to words that are simply new second language words, which must be acquired by ELLs only (Smith-Walters, Bass, & Manigone, 2016). ELLs struggle to comprehend technical and nontechnical vocabulary, providing a further complication to their learning. ELLs benefit from direct instruction aimed at learning vocabulary and word learning strategies (Lesaux, Kieffer, Faller, & Kelley, 2010; Show Mei, 2015). This requires the cognitive process of developing an internal network within the mind in order for a more elaborate and connected mental lexicon to emerge (Zhang & Yang, 2016). Faculty need to understand some basic learning strategies that can help their ELLs manage acquisition of required vocabulary (technical and nontechnical), but they also need to understand that it takes time for these learners to develop their skills.

Oral skills and reading and writing Skills. ELLs are often less equipped to master the academic reading and writing expectations of HE courses than their teachers might assume. ELLs still need a focus on improving reading comprehension and writing skills after leaving their ESOL classes (Lesaux & Geva, 2008; Show Mei, 2015). Oral skills have a direct relationship to the kind, type, and variety of academic vocabulary words and general proficiency with content (Lesaux & Geva, 2008; Lesaux, Crosson, Kieffer, & Pierce, 2011; Miller, Mackiewicz, & Correa, 2017). Show Mei (2015) found that ELLs in her study needed instruction on writing and composition skills that included

direct linguistic instruction, but also instruction on the psychological and emotional, and the sociocultural aspects of writing. By focusing on improving a broad set of skills including oral and written skills, teachers are able to help their learners grow in their language knowledge, as well as acquiring the necessary content. Furthermore, ELLs need direct instruction that goes beyond the mechanics of language alone, to include cultural and psychological teaching.

Text-based learning. In many contexts around the world, learning occurs via classroom-based lectures in which information is disseminated to students; whereas, text based learning requires students to learn new information largely on their own. Text-based learning is a common mechanism for the education system in the U.S. (Decapua & Marshall, 2011). Many international students struggle to understand the basic purpose of reading for school and basic reading strategies (Iwai, 2008). Many of these learners tend to focus on words outside of their context without fully understanding the broader scope and context of the reading itself (Iwai, 2008). From this perspective, text-based learning is both new and complex for the L2 learner.

Differing teaching and pedagogical expectations. Many of the practices that teachers employ in their classrooms are centered on a style and system that does not always match that of the ELL (Evans & Andrade, 2015; Lin & Scherz, 2014). These expectations can sometimes vary minimally, or can be fundamentally different. Identifying these differences and understanding the implications that they have on the classroom environment is an important aspect of addressing the differences. This section explores some of these aspects.

Western-style education. International students studying in the U.S. often struggle to acclimate and adjust to their new education environment. This is because the settings of their academic institutions back home differ significantly from the system in the United States. U.S.-based institutions assume a Western-style of education that does not always match the background from which students emerge (Bifuh-Ambe, 2011; Phuong-Mai, Terlouw, & Pilot, 2005; Rowntree, Suffrey, & King, 2016; Wong, Indiatsi, & Wong, 2016; Yassin, 2015). The Western-style education focuses on an analytical model in which problems are identified and systematically and scientifically, worked through to a solution (Decapua & Marshall, 2011) and focuses on student-centered tasks that might seem foreign for some learners (Cheng, Myles, & Curtis, 2004). Without graduating from a system that enforces such expectations on academic rigor and personal effort, students are left to figure out how they are supposed to navigate in a foreign learning experience. Instead, learners tend to focus on differences in teaching strategies, as opposed to acquiring the course content (Allen, 2014). For a variety of reasons, these students are often left to catch up with the rest of the more proficient population.

Social adjustment. Students coming from abroad often lack a basic social network in the country where they are learning (Schneeweis, 2011). This is largely the result of not having their family network in the setting where they are studying (Lin, 2012). There is also a degree of alienation that occurs in the new environment because of a lack of ability to successfully navigate in the target language. Some of this alienation results from real or self-perceived lack of ability in English (Schneeweis, 2011), with others being imposed from the outside.

The lack of successful social adjustment can also impact integration into the wider learning community (Nam & Beckett, 2011). Newly arrived ELLs sometimes lack the knowledge of how to integrate within the learning community (Baklashova, 2016; Chilvers, 2016). Without successfully transitioning as a full member within a learning community, ELLs take longer to learn the institutional and practical resources available to them (Nam & Beckett, 2011). This often means not knowing what resources are available and how to access them, resulting in broader implications including lack of use of academic resources.

Expectations about workload. Students coming from backgrounds outside of the U.S. often struggle with the amount of work associated with their courses. The backgrounds of students expecting to only do a major summative assessment at the end of the school year, would find the weekly expectations for work for a class daunting (Sadykova & Dautermann, 2009). International students had different expectations of the supports that teachers would provide, including reviewing and providing comments on drafts of work (Crisp et al., 2009). These differences in expectations demonstrate a major disjoint between educational systems, as opposed to speaking to the character of the student population. Faculty should understand that students lack a fundamental understanding of the expectations of the U.S.-based educational experience.

Grades. Grading systems across the world differ in their use and function. The numerical values, letter grades, and percentages are sometimes arbitrary and unnecessarily confusing for students that are unaccustomed to them (Sadykova & Dautermann, 2009). The grading systems employed in the U.S. often do not match

students' assumptions of the grading schemata (Sadykova & Dautermann, 2009). Because learners typically grow up with a single grading system and tend to be exposed to it throughout their lives, transitioning to new systems can require completely foreign ways of looking at evaluation.

Cultural expectations of ELLs. Decapua and Marshall (2010) described the most effective teachers as those who are able to be culturally and emotionally responsive to the needs of their learners. This means that teachers need to be able to identify cultural issues in the classroom that might otherwise manifest in grades or actions in the classroom. This means working to identify the actual needs of the learners and understanding the "whys" in interactions to meeting the expectations of the learner. Addressing these needs often means building a strong relationship with the learner (Decapua & Marshall, 2010).

Pedagogy. The often-employed U.S.-based experience of constructivist pedagogical practices often differ from the experiences in which international students are accustomed. Constructivist principles, although prevalent in many U.S.-based institutions, are not commonly shared around the world. Students from non-U.S. institutions often expect test-driven, summative assessments (Sadykova & Dautermann, 2009), which do not perfectly align to the kind and type of activities found in a constructivist classroom. Students from such backgrounds would struggle to achieve in a more open-ended, student-driven system because of differing cultural expectations.

Differing practices. Some of the actual classroom-based practices that teachers employ can be in direct conflict with expectations that students have about how classrooms and interactions in the classroom should look. This is a result of differing

expectations of practices of the student and the teacher. Many of these aspects involve practices related to participating in the learning environment. The need to understand these cultural and academic differences is important for both students and faculty (Quan, He, & Sloan, 2016).

Student and teacher interactions. In the United States, teachers may use different practices than those that are employed by teachers in the students' home countries. In U.S.-based institutions, students are expected to rely on their teachers by asking questions and collaborating directly with the instructor (Lin, 2012). In many environments, it is not expected that students will have such interactions in class or with the instructor because the students assume that there will be one-way communication (teacher to students) (Chenowith, 2014; Valdez, 2015). When the teaching styles do not match expectations, students can be caught off guard and lack a true understanding of the exact nature of the relationship with the teacher (either assuming too close of a relationship, or by being put off by it).

Student to student interaction. Students coming from different backgrounds are likely used to differing methods of operating in the classroom environment (Sadykova, 2014) and suffer alienation (Foster, 2012; Valdez, 2015). Decapua and Marshall (2011) contended that students often struggled to adapt in an individualistic classroom when they come from a collectivist orientation. Students from collectivist societies focus on the greater good of the group, as opposed to an individualist society focused on self-actualization and success (Phuong-Mai et al., 2005), and would struggle to understand how to successfully navigate the classroom environment. Compounding these issues is

also the fact that some ELLs feel insecurities about their language skills (Lin & Scherz, 2014). The modern, U.S.-based classroom is focused on the individual, even if only looking at the seating arrangement of the physical classroom itself (Toohey, 1998). Students expecting a collectivist understanding of the learning experience would find it hard to know how to interact among peers in the classroom.

Teamwork is a valued aspect in the modern, Western classroom, but is often not fully understood by international students (Sadykova & Dautermann, 2009). This is because the teamwork-based model often allows for a select few to lead the group who might be more domineering than others. Cultural leanings would likely dictate whether a member of the group would interact actively with others based upon a variety of factors including societal imprints of hierarchy (age, social level, or other factors) (Zhang & Kenny, 2010). Because a shared understanding of how groups should operate in a Western context is lacking, the group can be hijacked by more dominant cultural orientations.

Othering. Simply being identified as an ELL often leads to students being ostracized. Harklau (2000) found that students would often be identified as being ELLs by their teachers and would have an identity forced upon them as nonnative speakers of English. This kind of "othering" can make students feel inferior and stigmatized (Chenowith, 2014). Alienation and depression are often results of such practices by teachers, coupled with the lack of a solid social network for support (Baklashova, 2016; Lin, 2012), backlash and resistance from the ELLs can sometimes erupt in bad behavior in the classroom (Harklau, 2000).

One potential for labeling ELLs as foreigners and cultural novices is that teachers sometimes feel the need to provide socialization for their students that does not respect their autonomy. Harklau (2000) found that some mainstream teachers would provide learning activities that were intended to teach the student how to act and acculturate in the U.S., even if the learner had been in the U.S. for long periods of time. When viewing students as a collective of novices or newcomers, teachers can categorize their learners as homogenous. International students are often not given the benefit of their individual situations, backgrounds, and lived-experiences (Lesaux & Geva, 2008; Ryan, 2011; Valdez, 2015).

Many of the issues of othering come from teachers' attitudes and beliefs about the ELLs in their classrooms. Because teachers are influenced by a variety of factors including personal biases and judgments, and societal issues or expectations, teachers may view their ELLs through a variety of personal or societal lenses. These include varied concepts about the length of time it takes to learn a language, what is required for the acquisition of a language, and the role that the mainstream classroom teacher plays in influencing the student (Andrade et al., 2015; Pettit, 2011; Reeves, 2006). These perspectives often have to do with a teacher's own background including their exposure to other languages, ELL populations, and ED (Karathanos, 2010; Pettit, 2011). Negative attitudes toward ELLs can arise when faculty are underprepared to deal with the issues of this population, often leading to a solidification of these negative beliefs over time (Walker, Shafer, & Iiams, 2004). Increased exposure to language, rudimentary linguistics, and ELLs or other language learners, helps to influence how the teacher

works with and incorporates students into the classroom experience. With more exposure to such areas, the teacher is more likely to include the ELL as an active member of the learning community (Guskey, 2002; Reeves, 2006).

Clearly Identifiable Needs

Because the ED needs of HE faculty working with ELLs is a growing area of knowledge, it is important to identify certain aspects that would directly affect in-service teachers in the mainstream classroom. From this analysis, three general categories have emerged that affect ELLs including:

- linguistic needs (linguistic resources; grammatical knowledge; language in use and context; vocabulary; oral, reading, and writing skills; and text-based learning expectations);
- differing teaching and pedagogical expectations (Western vs. non-Western education styles; social adjustment; expectations of workload; grading; cultural expectations; and pedagogical expectations);
- dissonance in classroom-based practices (student and teacher interaction; student and student interaction; and othering).

These three general areas provide clear streams in which the typical learning environment and experience differs from what the typical ELL student might encounter in their home education system. For this reason, these general areas provide enough insight into where ED might be needed to start for teachers to better address their ELLs.

Additionally, three general streams have also emerged in terms of the role of the faculty member:

- understand the realities surrounding the needs of the learners from a variety of angles (the expectations of students, their future trajectories, and non-curricular considerations –social and cultural realities);
- identify methods and teaching strategies that will address the needs of learners (lesson planning, designing content, facilitating interactions, keeping students on track, and serving as a source of resources);
- establish the learning environment (establish the culture of the classroom, incorporate lived-experiences, and understand the impact of a variety of methodological orientations).

Each of these areas represent a significant way in which faculty serve to facilitate and create the learning experience. These general areas serve as a view of where ED can start to help faculty be more effective in their own environments.

Tying it All Together: Addressing the Needs

There are increasingly more L2 learners entering U.S.-based HEIs (Ballantyne et al., 2008; Farrugia & Bhandari, 2016; IIE, 2017; Jaschik & Lederman, 2015). As these learners finish high school and prepare to enter HEIs, or arrive to the United States from abroad, it is important that HEIs begin to address their needs. These learners often receive special services as supplements to their K-12 experience or in their ESOL classes, but are typically not provided such support in HEIs, mimicking other populations with special needs (see Gaddy, 2008). It is important to fully understand how equipped mainstream content area teachers are to address second language learner issues that might arise in their classrooms. Mainstream content area teachers are often students' primary contact

and source of both content and non-content information at the HEI (Khong & Saito, 2014; Yunus et al., 2012).

The typical mainstream learning environment is designed for the specific content area being taught and often assumes a monolingual English speaking idealized student (de Jong, 2014; Sadykova & Dautermann, 2009), a Western-based style of education (Decapua & Marshall, 2011; Rowntree, Suffrey, & King, 2016), a presumed linguistic end state representative of the academic skills required for success, shared understandings of the expectations of interactions in the classroom (Chenowith, 2014; Decapua & Marshall, 2011; Lin, 2012; Valdez, 2015), and practices that favor othering of students (Harklau, 2000; Lesaux & Geva, 2008, Lin, 2012). Without fully understanding the differences that exist between the expectations of faculty and students, it is not possible to target the needs of ELLs. Identifying and addressing these differences through ED can have a major impact on the efficiency of instruction and planning in relation to meeting the needs of the ELLs in the mainstream classroom.

The role of the teacher goes beyond simply providing content to the students. This role requires understanding the scope and magnitude of teaching and learning and the individual needs of the learners (Miller et al., 2017). This also requires understanding that language skills can be taught through and with the course content (Lombardi et al. 2016; Park & Kim, 2015). The teacher's role includes providing the right context for learning to take place in addition to providing content that is at the right pace and level. The teacher must also understand the implications of non-content aspects to develop an understanding of the ELLs in the classroom. However, if faculty are expected to work outside of their

content-area domain, they need ED on how to make their teaching practices more adaptable to the needs of the students (Hobbs, 2012). Because ELLs sometimes differ in their understandings and expectations in the classroom, and because their learning of the language (English) is not yet complete (and may never fully be complete), the role of the mainstream teacher requires moving beyond just the course content to ensure the success of his or her students. Faculty who know how to use student-centered approaches in the classroom can allow for faculty to understand and address the unique needs of their students (generally) and their ELLs (specifically) (Jaffe, 2016; Weimer, 2013).

What emerges is a picture of two potentially competing sets of interests and expectations: 1) the teacher's own orientations and expectations of the content needs of the learners, methods of teaching and classroom practices, and expectations for the learning environment, and 2) the non-content related needs of ELL students (linguistic, emotional), expectations for teaching and classroom practices, and an environment that potential conflicts with expectations and the valuing of personal worth. Where these two interests and expectations meet, there is an experience oriented toward deep and meaningful learning. Where the two interests diverge, there is a learning experience that has more potential to be in conflict than in harmony. Figure 3 illustrates this relationship.

The learning experience is an amalgamation of expectations of the teacher and the students. The teacher expectations include his/her orientations to teaching, understandings of what the learners need, and role within the learning environment. The students expect that their needs will also be met to include their linguist needs, their own expectations of the academic aspects of the class, and the practices used by the teacher

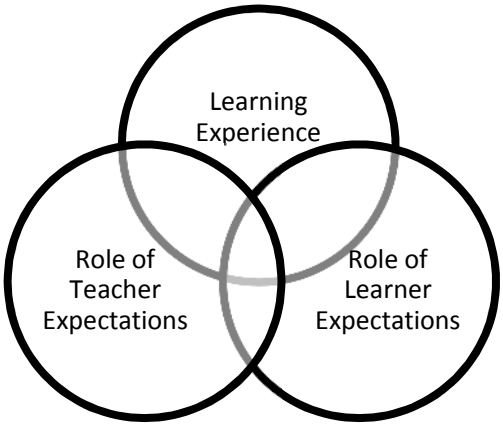

Figure 3. Converging themes for professional learning.

and students within the class. All of these converge to create the lived, learning experience that takes place in the classroom.

Any ED intervention should focus on understanding and addressing needs and expectations of faculty and students as a means of promoting a pedagogical dialogue about faculty and student needs (Miller et al., 2017; Murphy, 2008; Ross, 2014). The goal of improving teaching practices is a continual process that adapts to the needs of the teacher as s/he grows as a professional. Continuing ED works to deepen the knowledge of the teacher, to extend and refine instructional practices, learn new skills and deepen in an understanding of existing research to develop long-term professional trajectories (Feiman-Nemser, 2001; Wenger, 2008). With this perspective, it is impossible to ignore the fact that teachers are influenced by their surroundings, and the need to grow and learn depends upon factors like the students in the environment.

The starting point of any ED program requires an understanding of the needs of the students to serve as a foundation for faculty learning. By working with faculty members, and by identifying their needs, it is possible to develop ways of addressing

their actual day-to-day needs. There is no one-size-fits-all strategy for addressing the needs of ELLs, and it is likely the case that strategies should differ even across different content-areas (Coates, 2016). To help teachers to achieve their long-term and short-term goals, it is important to involve them in the process of identifying their own needs. This creates the meaningful space for learning that is required for ultimate success (Knowles et al., 2015; Wenger, 2008).

Summary and Conclusion

The lack of a holistic perspective on ED gets to what Guskey (1997) suggested was the real problem with ED: There is little connection between development activities and student learning. Guskey's premise that so much is known about ED, but so much is still left to learn motivated this inquiry. The results of this study were used to promote the notion that HE mainstream faculty should be equipped to address the unique learning needs of ELLs (Clair & Adger, 1999; Concario, 2016; de Jong, 2014; Harper & de Jong, 2009; Lin & Scherz, 2014; Lombardi et al. 2016; Show Mei, 2015). ELLs are an asset to the HE classroom, providing diverse perspectives and viewpoints that might otherwise be missing (Ecochard & Fotheringham, 2017; Khong & Saito, 2014). In order to provide these students with the tools that they need for success, a deeper understanding of the knowledge gaps for HE faculty working with ELLs was needed. These results of this study were used to identify these potential professional gaps in order to promote meaningful changes that can help address and impacting the needs of students studying in HEIs who can be classified as former ELL students.

The needs of students should be made central in any discussion on ED focused on improving teaching practices. With students as variables in ED, it is possible to improve their learning by focusing on helping teachers be more effective. Focusing on a macropicture of the learning experience by thinking of students' needs as a means of informing ED helps to create a holistic learning experience for faculty as continual professional learners.

Through this study, I sought to identify areas for improving ED by focusing on the ED needs of HE faculty working with ELLs. By focusing on faculty working with ELLs, it is possible to start to understand the needs of teachers and how ED is working to address these needs. Because the ELL population still requires support and assistance post-ESOL or EFL classroom (Iwai, 2008) and because the faculty member serves as the primary source of knowledge for the learner (Khong & Saito, 2014; Yunus et al., 2012), the needs of the ELL population is a prime target for ED for HE faculty. Through a concentrated discussion on one target population, ELLs, it is possible to work beyond thinking of ED as a catchall to address problems, and more as a means of helping faculty grow in deeper understandings about their specific populations, as Feiman-Nemser (2001) suggested. Only by understanding the needs of faculty can ED begin to help faculty deepen their knowledge and awareness of their ELLs. In this study, I focused on analyzing the needs of faculty by comparing and contrasting individuals across a broad population of faculty working in HEIs. To achieve this goal, a quantitative analysis was employed using a cross-sectional survey method. Chapter 3 outlines the methods and procedures related to the collection of and analysis of the data.

Chapter 3: Research Method

The purpose of this quantitative study was to identify and analyze the instructional needs of mainstream HE faculty in U.S. colleges and universities who work with ELLs but who have no formal training in teaching these students. This was done through a quantitative comparative analysis of the needs of an HE faculty population including: The contexts (faculty demographics and institutional contexts), faculty members' self-perceived needs to effectively address the learning needs of their ELLs, and the existence and efficacy of existing ED specifically targeting skills aimed at working with ELLs. The organization of this chapter is as follows: (a) the rationale for the chosen research design, (b) the sampling strategy and sample size in the study, (c) the instrument and procedures, (d) the statistical analysis used, and (e) ethical procedures.

Research Design and Rationale

A cross-sectional design was employed in this study, allowing for an exploration of the data from multiple angles to understand the existing states of faculty members; therefore, an experimental design would not be appropriate for this investigation. By investigating the existing realities of HE faculty to inform future ED, the data and scenarios were not being manipulated, making a before and after analysis unnecessary. A cross-sectional design was best suited for this study because I had no control over the variables, and it allowed for the collection of data that come from a variety of people with varying experience and backgrounds not bound to just one institution or context. A cross-sectional design allowed for the simulation of longitudinal research with a varied population at different stages in their careers and PD.

Research Questions and Hypotheses

The research questions and hypotheses for this study are repeated in this section:

RQ1: Are there significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources?

H_O1: There are no significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources.

H_A1: There are significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources.

RQ2: Are there significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources?

H_O2: There are no significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources.

H_A2: There are significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources.

RQ3a: Are there significant mean differences in the self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

H_O3a: There are no significant mean differences in the self-perceived ED needs of HE faculty who work with ELLs based upon the institutional context.

H_A3a: There are significant mean differences in the self-perceived ED needs of HE faculty who work with ELLs based upon the institutional context.

RQ3b: Are there significant mean differences in the self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

H_O3a: There are no significant mean differences in the self-perceived responsibilities of HE faculty who work with ELLs based upon the institutional context.

H_A3a: There are significant mean differences in the self-perceived responsibilities of HE faculty who work with ELLs based upon the institutional context.

RQ4a: Are there significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

H_O4a: There are no significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

H_A4a: There are significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

RQ4b: Are there significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

H_O4b: There are no significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

H_A4b: There are significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

These research questions allowed for a breakdown of characteristics of faculty and their individual contexts. These questions were amendable to cross-sectional analysis because they relied upon a comparison of ED needs and practices of participants. Cross-sectional research also allowed me to explore a wide variety of variables across the population.

Research Design

To answer the research questions, a survey was used as this data collection method allows for a researcher to capture a range of issues and topics from a broad population. Such use of surveys can serve as a fundamental and preliminary basis for describing and analyzing the ED needs of faculty working with ELLs. This analysis focused on understanding the needs of faculty in terms of the independent variables of the environment context (IV-Context), available ED (IV-ED), and faculty demographics (IV-Demographics). The dependent variables allowed for an analysis of attitudes and beliefs of faculty related to ELLs in their classes (DV-Faculty Role), and faculty self-perceived needs related to working with this population (DV-Faculty Needs). Collecting this information allowed for a comparative understanding of the ED needs of HE faculty working with ELLs.

A descriptive analysis of survey data allowed for an exploration of the variety of pedagogical areas in which ED may be of use to faculty members. A survey method helped maintain consistency from participant to participant. If the questions were altered each time (as in an interview), it would have been more difficult to make comparisons between participants and their responses.

I employed an online survey in this study, giving me the ability to collect data from participants who otherwise might not be easily accessible geographically or practically (Sue & Ritter, 2012; Trochim, 2006), with standardized questions to reach a wide, heterogeneous population (Singleton & Straights, 2010). An online survey allowed for quick and simplified collection of data that ensured that the data maintained their

original content and context (Gunn, 2002). This allowed me to aggregate data based upon the self-identified responses. Data were collected quickly and efficiently, anonymity can encourage participation, and it was economical (Kraut et al., 2004; Patten, 2014). To reach enough of a population to make generalizable predications about other faculty, paper-based surveys and personal interviews would take too long to gather and code the information. Because of the ease of collection of data, and the potential for collecting information from faculty in a wide array of circumstances, an online survey was the most effective means of data collection.

Other researchers on ED have also employed surveys in their methodology. For example, much of the existing literature on ED focuses on implementation of surveys to gather information from faculty (Al Asmari, 2016; Bakah et al., 2011; Gallluci, Van Lare, Yook, & Boatright, 2010; Ingvarson et al., 2005; MacVicar et al., 2013; Makunye, & Pelser, 2012; Nandan, & Nandan, 2012; Reeves, 2006; Shortland, 2010; Wang et al., 2013). Other surveys have been used to collect data on supervisors and their perspectives (Bowen, & Schofield, 2013; Esterhuizen et al., 2013; Hasan, 2011; Zwart et al., 2009), and on institutional measures and areas for institutional development (Drew & Klopper, 2014; Herman, 2012). The choice of a survey method was well aligned with existing literature on this topic.

The online survey was created using Google Forms, available through the Gmail platform because of its easy accessibility across multiple formats including Mac, PC, or mobile devises. There was no requirement for participants to log in to take the survey, and participants only needed a link to access the survey. Because of the ease of

distribution and no need for monetary input, this type of survey was used. With an electronic survey, there was no requirement for me to physically administer the survey instrument or wait on responses through the mail.

Methodology

Population

The population in this study included HE faculty who had ELLs in their classes but were not ELL specialists (a background in linguistics, TESOL, ESL pedagogy, or other similar area). The reason for excluding faculty with formal backgrounds or specializations in working with ELLs was because they likely already had the professional background or exposure to the areas explored in the study. The selection of faculty in the study is done through self-selection.

Sampling and Sampling Procedures

To achieve a high enough sample for the study, I employed multiple sampling strategies. My overall goal was to have enough strategies that I could oversample. These strategies are defined in the following subsections.

Criteria for sampling frame. To effectively establish the backgrounds of the participants of the survey and where they taught, a section of the survey collected data on the demographics and professional backgrounds of the faculty. The faculty contexts were characterized in terms of two criteria: 1) the institutional context (IV-Context); and 2) the demographics of the faculty (IV-Demographics). The classification of faculty in terms of their demographics was important to understanding how demographics shaped the DVs.

Only participants that were above the age of 18 were sought for this study, as the expectation is that participants have completed an advanced degree in their content area. Self selection questions asked participants if they were above the age of 18. Possible participants who indicated that they were not 18 were taken to an exit page with instructions asking them to quit the survey/

Sample Size. For data recorded in 2015 from the National Center for Education Statistics (NCES) ([NCES], 2015l), there were 1,551,015 faculty working in HEI in the United States. Using a sample size calculator from the Australian Bureau of Statistics (n.d.) with a confidence level of 95%, a population size of 1,551,015, and confidence interval of .05, a sample size of 385 would be the ideal number of participants for this study. Therefore, every effort was made to work to achieve this sample size.

Power Analysis. Field (2014) suggested that a minimum of 300 participants in a survey would be sufficient to provide a large enough effect size to demonstrate potential applicability of the data to a larger population. Effect size is a means of testing how likely it would be that the null hypothesis would be rejected, when it should not be (Mertler & Vannatta Reinhart, 2017). Effect sizes can be measured using Pearson's *r*, where an $r = .20$ demonstrates a small effect, an $r = .50$ is a medium effect, and an $r = .80$ is a large effect (Cohen, 1988; Laureate Education, Inc. [Executive Producer], 2009). The smaller the effect size, the more likely it would be that the null hypothesis is appropriately rejected or maintained (Cohen, 1988; Mertler & Vannatta Reinhart, 2017). Effect sizes are often not set to zero because it would decrease the likelihood that a null hypothesis would be rejected that should be (Mertler & Vannatta Reinhart, 2017). Therefore, to

determine the sample size, a small effect size is often used, but the value is typically higher than zero. Using Cohen's (1988) suggestion for a small effect size, an $r = .20$ was used as the lower limit for the power analysis. Using G*Power to determine the minimum sample size for the study with a power of .95, an $\alpha = .05$, and an $r = .20$, it was determined that a minimum of 314 participants would be required for the analysis to see a small effect size. Table 3 represents the estimated effect size calculation used for this study:

Table 3

Estimated Effect Size Calculation

Source	Analysis	Result
Model	Tail(s)	2 tails
	Effect size	.20
	α err prob	.05
	Power (1-β err prob)	0.95
	Noncentrality parameter	3.6170891
	Critical t	1.9675965
	Df	312
	Total sample size	314
	Actual power	0.9501149

The idealized sample as shown using the power analysis in Table 3 showed that, using a small effect size of $r = .2$, would likely require around 314 participants. In addition to the fact that it was possible that other effect sizes could be observed, and especially punctuated by the fact that the sample in this study did not achieve $N = 314$, knowing how many participants would be required for a medium and large effect size was important.

Using G*Power to calculate other possible sample sizes, to see a medium effect size of $r = .5$, 42 participants would be required; to observe a large effect size with an $r = .8$, 10 participants would be required. Therefore, sample sizes of $N = 314$ (small effect), $N = 42$ (medium effect), and $N = 10$ (large effect) would have been required in order to observe these effect sizes. The goal of the study was to achieve as small an effect size as possible, with roughly 314 making it likely that an effect size of $r = .2$ could be achieved in order to ensure that the smallest acceptable effect size could be observed.

Given both the sample size calculation of $N = 385$ from the Australian Bureau of Statistics, and the effect size calculation with $r = .20$ suggesting a sample of $N = 314$, every attempt was made to achieve the higher standard of $N = 385$. Therefore, the total sample size sought for this study was determined to be $N = 385$ *a priori*. Achieving a sample of $N = 385$ also would have made it likely to yield effect sizes of $r < .2$.

Despite attempts at oversampling through multiple means of recruitment described in later sections, the number of final participants in the study did not achieve the goal of $N = 385$ participants. The sample achieved in this study was $N = 66$. Although this sample size was not the idealized sample for this population ($N = 385$), the total participants in the observed sample were enough to still detect a small to medium effect size at around $r = .41$, with a power of .95, and an $\alpha = .05$. This was determined using again using G*Power to find the estimated effect size for a population of $N = 66$. This sample size still allowed for an observed effect that was between a small and medium effect. Although the idealized sample size ($N = 385$) was not achieved, effect sizes are reported in all data in Chapter 4 in order to demonstrate the power of the observation.

Olejnik (1984) and Gall, Gall, and Borg (2007) provided required sample sizes in order to see small, medium, and large effect sizes for various statistical tests. They reported that, in order to see a medium effect for a partial correlation like the Cronbach's α, a minimum of 44 participants (with α=.05 and a statistical power of .7), and a small effect would require 312 (with α=.05 and a statistical power of .7). This matches the calculated effect sizes in Table 3, suggesting that with an N = 66, at least a medium effect size could be observed from the sample achieved in this study. Therefore, although the sample was not the idealized N = 385, the actual sample size of N = 66 in this study, was large enough to detect a small-medium effect. Throughout this analysis, effect sizes were reported to understand the power of the results in order to show how generalizable the results were beyond the sample.

Procedures for Recruitment, Participation, and Data Collection

Recruitment was done via a variety of listservs and direct emailing. The listservs covered a wide variety of potential fields and specialties to achieve a varied population of HE faculty members. These included the following:

- American Education Research Association J-List Postsecondary Education Forum
- American Education Research Association K-List Teaching and Teacher Education
- ASSESS (assessment in higher education) (Listserv@lsv.uky.edu)
- American Evaluation Association Discussion List (evaltalk@listserv.ua.edu)
- Association for Higher Education Effectiveness (AHEE's listserv)

- First year assessment-LIST (fya-list@listserv.sc.edu)
- First year experience -LIST (fye-list@listserv.sc.edu)
- Graduate year experience-LIST (grad-listserv@listserv.sc.edu)
- GULinguist Listserv
- H-Net Discussion Networks
- Higher Education Adjunct Faculty Group (LinkedIn)
- Higher Education Administrators Group (LinkedIn)
- Higher Education Innovators (Google group)
- Higher Education Management Group (LinkedIn)
- Higher Education Teaching and Learning Group (LinkedIn)
- Kappa Delta Pi International Honor Society in Education (discussion board)
- LRNASST-L (lrnasst-l@lists.ufl.edu)
- NASPAA Listserv
- Professional and Organizational Development Network (Google group [POD])
- TYE-LIST (TYE-LIST@listserv.sc.edu)

The listservs cater to a wide variety of HE faculty members, and allow for a wide variety of potential participants. Each of the listservs were chosen because they were open-access listservs, which allow members to subscribe and post to a general listserv as a general member. Therefore, no special access was required other than the initial approval by the listserv moderator. The rules of the chosen listservs allow for posting to the listserv without any restrictions; therefore, upon joining the listserv, participants in the listserv

agree to receiving communication through the listserv that other members post (Kraut et al., 2004). Upon joining the listservs, members agree to receive (and post) content that might be interesting/relevant to the wider readership audience. This is because, through routine membership, members can post directly to the listserv, or the listserv administrator can approve content to go out to the wider readership without seeking additional approval from the organizations in order to post. As a general member of the listservs, I have no direct access to anyone's email address and never saw the emails of any of the members of the lists. Being a member of the listserv allows me to post to the entire listserv without knowing who is a member, or directly seeing any member's information (I cannot see the names of the members, their emails, affiliations, or any other personally identifiable information). Therefore, posting to the listservs is blind to me. All of the listservs were open access or ones that a moderator allowed me to post my call for participants (AHEE was the only one that require a moderator to approve the post). I only posted to such listservs that allow members to openly post to the list. The content of the recruitment posting directed potential participants to the survey instrument (see Appendix D: Final Study Listserv Communication Emails).

Direct email was also a strategy used to communicate with potential ED professionals at universities with high populations of international students. Table 4 is an unduplicated list of the top institutions with international students for the 2015-2016 AY. This included a listing of all colleges and universities identified by the IIE as the top 25 destination institutions where international students studied, the top five institutions where international students study in the 10 states with the highest population of

international students, and the top five institutions in states with the highest percentage of international students as compared to the total population according to the IIE (Farrugia & Bhandari, 2016).

Table 4

Top Institutions for International Students 2015-2016 AY

Institution	City	State	# Int'l Students
New York University	New York	NY	15,543
University of Southern California	Los Angeles	CA	13,340
Arizona State University – Tempe	Tempe	AZ	12,751
Columbia University	New York	NY	12,740
University of Illinois – Urbana-Champaign	Urbana	IL	12,085
Northeastern University – Boston	Boston	MA	11,702
University of California – Los Angeles	Los Angeles	CA	11,513
Purdue University – West Lafayette	West Lafayette	IN	10,563
Boston University	Boston	MA	8,455
University of Washington	Seattle	WA	8,259
Michigan State University	East Lansing	MI	8,256
University of Texas – Dallas	Dallas	TX	8,145
Pennsylvania State University – University Park	University Park	PA	8,084
University of Michigan – Ann Arbor	Ann Arbor	MI	7,630
University of California – San Diego	La Jolla	CA	7,556
University of California – Berkeley	Berkeley	CA	7,313
Indiana University – Bloomington	Bloomington	IN	7,159
Ohio State University – Columbus	Columbus	OH	7,117
Carnegie Mellon University	Pittsburgh	PA	7,051
University of Minnesota – Twin Cities	Minneapolis	MN	7,037
SUNY University at Buffalo	Buffalo	NY	7,026
Texas A&M University	College Station	TX	6,940
Texas A&M University – College Station	College Station	TX	6,940
University of Florida	Gainesville	FL	6,751
University of Wisconsin – Madison	Madison	WI	6,440
University of Pennsylvania	Philadelphia	PA	6,221
University of Texas – Arlington	Arlington	TX	6,169
University of Texas – Austin	Austin	TX	6,069
Cornell University	Ithaca	NY	6,008
Harvard University	Cambridge	MA	5,679
Houston Community College System	Houston	TX	5,649

(table continued)

(table continued)

Institution	City	State	# Int'l Students
University of California – Irvine	Irvine	CA	5,647
SUNY Stony Brook University	Stony Brook	NY	5,609
Illinois Institute of Technology	Chicago	IL	5,362
University of South Florida – Tampa	Tampa	FL	5,203
Northwestern University	Evanston	IL	5,062
George Washington University	Washington, DC	DC	5,038
Massachusetts Institute of Technology	Cambridge	MA	4,575
University of Illinois – Chicago	Chicago	IL	4,558
Drexel University	Philadelphia	PA	3,984
University of Pittsburgh – Pittsburgh	Pittsburgh	PA	3,946
University of Cincinnati	Cincinnati	OH	3,932
University of Chicago	Chicago	IL	3,869
Florida International University	Miami	FL	3,563
University of Miami	Miami	FL	3,459
Kent State University – Kent	Kent	OH	3,397
University of Delaware	Newark	DE	3,272
Wayne State University	Detroit	MI	3,076
Georgetown University	Washington, DC	DC	3,047
University of Massachusetts – Amherst	Amherst	MA	2,897
Florida Institute of Technology	Melbourne	FL	2,572
Case Western Reserve University	Cleveland	OH	2,447
Wright State University – Dayton	Dayton	OH	2,439
Indiana University – Purdue Univ. Indianapolis	Indianapolis	IN	2,366
Washington State University	Pullman	WA	2,297
Western Michigan University	Kalamazoo	MI	2,022
Seattle Central College	Seattle	WA	1,848
Green River College	Auburn	WA	1,750
Michigan Technological University	Houghton	MI	1,574
Edmonds Community College	Lynwood	WA	1,524
American University	Washington, DC	DC	1,517
University of Notre Dame	Notre Dame	IN	1,271
Indiana State University	Terre Haute	IN	1,210
Wilmington University	New Castle	DE	1,090
Howard University	Washington, DC	DC	703
Catholic University of America	Washington, DC	DC	575

Note. Int'l = international.

The presumption was that these universities would have a stake in understanding and improving the ability for faculty to adequately address the needs of international students

at their institutions. Following IRB-approved protocols from Walden University, I contacted these universities by identifying the office responsible for ED activities for faculty and emailed the primary contact for this office (see Appendix E: Direct Email to Potential Institutions). Most of the contacts with these institutions went without a response from the ED professional at these institutions. On one occasion, the ED professional that I contacted said that their universities had policies against them forwarding on such requests; another said that they were unable to specifically identify the type of faculty that should receive the survey. I received three suggestions to contact another person at the university, which I did as suggested. Although I was prepared to seek specific IRB permission from these individual institutions if instructed to do so, none of the responses that I received said that I would need to seek permission from their institution's IRB. I presumed, given the lack of communication, that my email was simply disregarded by the majority of the recipients.

To expand the variety of participants, a portion of the recruitment was also done via social media. I posted information about the survey through various social media sites (such as Facebook, Twitter, and LinkedIn) with information on how to access the survey. Given the public nature of social media, it was possible that posts would result in a snowballing of participants, potentially helping to increase the number of participants.

Given the variety in recruitment methods, an open-ended question on the survey allowed me to find out how participants had heard about the survey ("*How did you find out about this survey? Fill un the textbox*"). The following show responses from participants:

- American Education Research Association - 1
- American Evaluation Association Discussion List - 1
- ASSESS – 1
- Association for Higher Education Effectiveness - 2
- Colleague - 9
- Email – 14
- Pilot Recruitment Email - 6
- Facebook – 1
- First year assessment -LIST - 2
- First year experience –LIST - 6
- H-Net Discussion Network– 1
- Kappa Delta Pi International Honor Society in Education – 4
- LinkedIn – 1
- Listserv - 3
- LRNASST-L - 7
- NASPAA Listserv- 4
- Professional and Organizational Development Network - 3

Because six of the participants were recruited via the pilot study, I was able to differentiate between an "email" that came from the pilot recruitment, and that of someone who was recruited from an email in the final study. It appears that the majority of participants (N = 35) occurred as a result of posting to one of the open-lists that I submitted to. Only two participants were recruited via social media (one from LinkedIn

and one from Facebook). Nine participants came from hearing about the survey from a colleague.

Although participants could live in countries other than the United States, every effort was made to collect data only from faculty directly working in a U.S.-based context. A question directly asked if participants worked in or were affiliated with a U.S.-based college or university in the collected demographic information. If someone indicated that they were not affiliated with a U.S.-based college or university, their responses were not used for the purposes of this study.

To determine if any overlap existed in the population sample, a question on the survey asked participants if they had completed the survey more than once: "*Is this the first time that you are completing the survey?"* Because IP addresses can be shared, as in the case of a shared computer or terminal, this question was used to screen out any candidates who may have taken the survey already. This helped me to know what potential overlaps might have existed, and if a participant had been recruited multiple times. The assumption was that potential participants would take the survey only once. Any participant who indicated that s/he had taken the survey more than once would be excluded from the final analysis. As an added measure, I evaluated the data in terms of whether or not a participant had repeatedly taken the survey (i.e., multiple same or similar responses). Data that appeared to be too similar would have been discarded. Since no participants indicated that they took the survey multiple times, and since there were no sets of responses that appeared to overlap, there was no need to discard any of the responses.

Relationship of Pilot Study to Main Study

A pilot study was conducted as a means of improving the survey and procedures. A university in the Mid-Atlantic was chosen because of its diversity in programs and faculty, program sizes, modalities in which courses were offered (on-campus and online), and this institution had a large international student population (around 97% in the year before this pilot was conducted based upon the university's website). To gain access to my pilot site, I sought IRB approval from both Walden University and the pilot site. The IRB procedures are expounded upon in the remainder of this section.

The pilot study was conducted as a pre-test of the survey with three major exceptions: 1) I was available in the room or via a web-based communication service (i.e., Skype) while pilot participants took the survey in case there were questions or concerns while taking the survey, 2) faculty at a specific university in the Mid-Atlantic area were recruited for the pilot, and 3) follow-up questions were asked about the survey. The final instrument used for the study was informed by comments, questions, and suggestions of pilot participants. This helped to reduce problems or issues associated with the instrument before final implementation.

Pilot study participants were sought who represent a broad range demographic backgrounds (aligning with the constructs sought in the IV-Demographics). Since the pilot university had a broad range of programs and degree types, a variety of program sizes, and classes offered in a variety of formats including on-campus and online, participants provided good indicators of aspects being sought for the IV-Context. With such diversity, I was able to see important aspects related to the central IVs.

The pilot study helped to contribute to improvement of the reliability and validity of the instrument in that it served as a preliminary evaluation of the instrument, the procedures, and methods of communication (Singleton & Straits, 2010). By working to vet and improve the instrument and procedures through the pilot, I was able to minimize potential for confusing words or phrasing that could have contributed to weak validity (Gall et al., 2007). I also gained feedback from faculty who taught in a wide variety of content areas (including business, computer science, history, mathematics, and others), had a variety of years of teaching experience (from just a few years to several decades), and who had taught a wide variety of students from both U.S. contexts and abroad. Using a varied sample in the pilot allowed for me to work to improve the reliability of the results by capturing responses from the varied backgrounds that might be contained in the final study (Gall et al., 2007).

Instrumentation and Operationalization of Constructs

A web-based survey was used for this study including the three major parts being explored: (a) faculty demographic and institutional context information of HE faculty members working with ELLs, (b) areas for development on the part of the faculty members in terms of working with ELLs, and (c) existing ED. The final survey instrument for the study included an adaptation of a survey instrument used in Reeves (2006) and items based upon specific areas identified in the literature review. The reason for using self-created items in addition to adapting Reeves' instrument was because no single survey instrument had been identified that addressed all of the variables.

Identification of Variables

The variables identified for this study were derived from the available ED literature. To perform a comparative analysis, it was necessary to identify and explore the related variables. This section explores the main IVs and DVs that were used in the creation of the survey instrument, and in the eventual analysis of data.

Independent variables. For the purpose of this study, the main independent variables are denoted as follows: independent variable context (IV-Context), independent variable ED (IV-ED), and independent variable demographics (IV-Demographics). Data were collected via closed survey questions. Table 5 highlights the variables, the subcategories, and the predictor types associated with those variables.

These IVs represented parametric information that fit into clear categories. For example, asking about institutional size would elicit clear categorical representations yielding clear distinctions between institutions based upon the number of student studying there. Asking these questions allowed for a better understanding of the population taking the survey (IV-Demographics and IV-Context), as well as the available ED/PD resources (IV-ED). By eliciting parametric data, it was possible to identify clear cross sections within the population that allowed for strong comparisons along these IVs.

Dependent variables. The DVs focused on three major areas highlighted in the literature including: linguistic needs, differing teaching and pedagogical expectations, and dissonance in classroom-based practices. In this study, these variables were categorized into two sets of dependent variables: dependent variable faculty role (DV-Faculty Role academic skills and language skills) and dependent variable faculty needs

Table 5

Independent Variables and Predictor Types

Variable	Subvariable	Type of predictor
Current institutional context (IV-Context)	Primary modality of courses	Categorical/nominal
	Public/private status of the institution	Categorical/nominal
	Highest degree offered	Categorical/ordinal
	Institutional size	Categorical/ordinal
	Primary academic area teaching in	Categorical/nominal
	Location of the institution	Categorical/nominal
	ELLS studying in bridge program	Categorical/nominal
	Students primarily FT/PT at institution	Categorical/nominal
	Students primarily live on/off campus	Categorical/nominal
Existing ED (IV-ED)	ED resources available	Categorical/nominal
	ED resources Used	Categorical/nominal
	PD activities available	Categorical/nominal
	PD activities taken	Categorical/nominal
Faculty demographics (IV-Demographics)	Degree level	Categorical/nominal
	Area of academic preparation	Categorical/nominal
	Years since degree completion	Categorical/ordinal
	Age Group	Categorical/ordinal
	Gender	Categorical/nominal
	Ethnicity	Categorical/ordinal
	Years of teaching experience	Categorical/ordinal
	Primary modality teaching in	Categorical/ordinal
	Language(s) spoken	Categorical/nominal
	Where from	Categorical/nominal
	Time living in the U.S.	Categorical/ordinal
	Degree level primarily teaching	Categorical/nominal
	N. of students taught each semester	Categorical/nominal
	Experience with ELLs	Categorical/ordinal
	Faculty rank	Categorical/nominal

Note. PT =part time; FT = full time; IV = independent variable.

(DV-Faculty Needs academic skills and language skills). Each of these DVs included a breakdown of the academic skills and language skills of the faculty's ELLs. The academic skills variable was broken down as follows: ability to comprehend lectures, contribute to in-class discussions, take accurate notes, deliver presentation, understand

varying rhetorical styles in speech, read technical writing, understand abstract language, and write at the expected academic level. The language skills variable was broken down as follows: grammar, sentence structure, pronunciation, general oral skills, word choice, academic vocabulary, academic writing, reading skills, development strategies for improving English, and making connections between the first language and English.

Data were collected through Likert-scale responses. Table 6 highlights the variables, the subcategories, and the predictor types associated with those variables.

Table 6

Dependent Variables and Types

Variable	Subvariable	Type
Dependent variable faculty role (DV-Faculty Role)	Self-perceived responsibility in ELL success: academic skills	Continuous/interval
	Self-perceived responsibility in ELL success: language skills	Continuous/interval
Dependent variable faculty needs (DV-Faculty Needs)	Self-perceived needs in addressing ELL gaps: academic skills	Continuous/interval
	Self-perceived needs in addressing ELL gaps: language skills	Continuous/interval

Note. DV = dependent variable.

The DVs elicited parametric information about self-perceptions of faculty in key areas identified in the literature. The data were collected along a quantifiable continuum using Likert scale choices. For this survey, I used a 5-point Likert scale. The rationale for use of a 5-point scale as opposed to a 7-point scale had to do with the type of questions and the length of the survey. Since the survey was lengthy, requiring reading and remembering multiple subquestions, having a shorter scaling option allowed for the survey taker to easily remember what the scale was and how it should be applied

(Frankfort-Nachmias & Nachmias, 2010; Groves et al., 2009). Respondents chose 1 for a strongly negative response (strongly disagree or never), 3 for a neutral response, and 5 for a strongly positive response (strongly agree or all of the time). These questions allowed me to quantify positive and negative opinions, providing data that could be compared across the IVs.

Creation of Survey Instrument Content

Using andragogy as the theoretical framework in this study, several key questions and related variables were identified in Chapter 1. The questions in Table 2 helped to codify the content covered in the survey instrument and alignment with the theoretical framework. Based upon the literature identified in Chapter 2, I designed survey items around aspects specifically designed to seek input into the IVs and DVs.

Reeves (2006) conducted a survey of K-12 teachers on their attitudes and practices related to ELLs in their mainstream classrooms. Reeves's instrument was a likely candidate to collect data related to attitudes that faculty have related to ELLs in the classroom. Specifically, sections A and B of Reeves's instrument largely lined up with the DV-Faculty variables. (see Appendix C for excerpts of the original survey) As a result, a modified version of this survey instrument was incorporated into the survey for this study. Reeves's survey underwent pilot testing prior to implementation, and it was noted that changes were made to the final instrument prior to implementation. However, Reeves did not provide data on the reliability of the instrument in her study. For a variety of reasons, even having this data would not have been of use for this study, because significant modification of the survey took place for this study. As a result, the survey

would have required additional reliability testing prior to use in this study, which is explored in detail in Chapter 4. As an example, the Likert-scale options in Reeves' original survey only employed three categories, which were expanded to five categories for this study. Additionally, Reeves' original survey (the pilot and the final survey) were conducted on K-12 teachers, and the participants in this survey were HE faculty, thus the participants were not similar enough to use Reeves' original reliability statistic. For these reasons, additional reliability testing was conducted (see Chapter 4 for the full analysis).

In additional to the reliability issues, Reeves's survey instrument did not address all of the variables identified from the literature review for this study, it would not have sufficed as the sole instrument in this study in its original form. As a result, the original survey was modified in wording for a HE population, and to conform to the formatting of the other survey questions. Because the original Reeves instrument was modified, an expert panel review and piloting were conducted in order to validate the survey. Additionally, because the sample population was different than the original population that Reeves conducted her study on, reliability statistics needed to be determined for the sample population used in this study. Therefore, for the final study, reliability statistics were calculated using a Cronbach's Alpha analysis. The reliability statistics are reported on in Chapter 4 of this study.

Every effort was made to secure the use of Reeves's (2006) survey instrument. I requested and was granted permission via email from Dr. Reeves to use or adapt the survey for the purposes of this dissertation (see Appendix G: Email to Dr. Reeves). Having received permission, I incorporated relevant questions into my survey.

Question types. Some items on the survey were single response items in which only one potential response is possible. For example, a question on the survey asks, "In the past 12 months, did you participate in PD offered by your place of work?" Potential responses to this item included *yes*, *no*, or *other*. Wherever a limited range of potential responses was possible, options were provided.

Other questions elicited the strength of a respondent's thoughts, feelings, or attitudes about a statement (Frankfort-Nachmias & Nachmias, 2010). In these types of questions, Likert scale options were given. For this survey, I used a five-point scale.

Sample questions used in the survey are provided:

1. Respond to the following statements on a scale of 1-5 (1 being strongly disagree and 5 being strongly agree).
    a. I am completely responsible for the success of ELLs in my course(s).
    b. An ELL student is completely responsible for their own success.
    c. An ELL student and I are jointly responsible for the success of ELLs in my course(s).
2. Respond to the following statements on a scale of 1-5 (1 being strongly disagree and 5 being strongly agree) about accommodations for ELLs.
    a. ELLs need more time to complete their coursework.
    b. ELLs should receive less coursework than other students.
    c. ELLs should be permitted to use their native language in my class.
    d. ELLs should be provided materials in their native languages.

To increase the quality of the analysis of data, respondents were offered the ability to answer open-ended questions at the end of sections related to the IVs in the survey. These responses were used to interpret any inconsistencies or anomalies in the data. An example of such a question is, "Are there any comments or suggestions that you would like to add to any of your responses or other ideas related to this section?" These responses were not used in the statistical analysis, but were used to help in explaining and interpreting the results.

Evaluating the Survey

As Groves et al. (2009) suggested, a survey instrument should go through a series of steps to arrive at the final instrument to have a variety of perspectives vet the questions and potential responses. This section describes how the instrument was evaluated to ensure reliability and validity of the data.

Validity. One of the major concerns of using a self-created survey instruments is that of the validity. To ensure that the instrument was valid, several key steps were taken. These included the vetting of questions on the survey instrument via a formal review panel, and a pilot study with diverse participants. This helped to ensure that the instrument measured what it was designed to measure by critiquing the operationalizations and concepts, adding to improved construct validity.

My goal with this study was to examine self-perception of faculty along the lines of the DV-Faculty Role and DV-Faculty Needs. Because perceptions cannot be easily observed, a survey eliciting these perceptions was best to extract the self-perceived realities of participants. As a result of aligning survey items to the type of data that would

be best to answer my RQs, it was more likely that the results would be able to accurately reflect these perceptions.

Since the survey allowed for participating faculty across the United States, it was more likely that the results would represent the kind of diversity in thought and action captured across a variety of HEIs. Because this had the potential to lead to potential low internal validity, I expanded the variables in the study to look at subgroupings of the two major IVs (demographics and institutional context). By looking at group differences, I was able to increase the validity by comparing the results of diverse participants. Additionally, looking at a variety of IVs and subquestions related to each, I improved the internal validity by identifying the degree to which subelements of the IVs influenced the DVs. Questions gathering the IVs allowed for participants to indicate fine-grained information about their demographics and institutional context. By collecting such detailed responses, I had the ability to examine populations across a wide variety of factors, also increasing external validity.

Reliability. Once I created and vetted the survey items, I recruited a review panel of diverse experts from areas including education and linguistics who reviewed the questions and provided feedback for items that might need to be reworded or removed (see Appendix H: Expert Review Panel Communication Emails). Survey questions were to be evaluated for overall clarity, flow, and understandability, as well as the structure and flow of individual questions. The review panel helped to ensure that questions were well understood by participants. I also anticipated that the review panel would be able to provide unique perspectives on how questions were worded, and the kind of data that

could be elicited from these questions. This helped to ensure that questions and potential responses were understood from a variety of angles. This panel additionally reviewed correspondences to monitor for any biases or confusing wording or terminology.

Another component of improving reliability was done via means of a pilot study. By pilot testing my questions and asking follow-up questions, I was able to determine if instructions, terminology, and the questions themselves were easily understood by participants. A pilot study allowed me to determine if there were confusing items to be addressed in the finalization of the survey instrument.

The more participants there are in the sample, the more likely that anomalies in the data (i.e., a single participant not understanding the terminology used in the survey instrument) would be minimized in the final pool of data. My goal was to have a large enough sample size to observe a small effect size, which would also contribute to increased the reliability (Singleton & Straits, 2010). Although I did not achieve the sample size that I had hoped for, I conducted power analyses throughout to have an understanding of the reliability of the data.

I also used a variety of statistical tests in my analysis that contributed to understanding how reliable the data were. I first ran the descriptive statistics to understand the distribution of the data and to look for outliers. After conducting a preliminary analysis of the data, I conducted a Cronbach's α to understand the reliability of specific questions within the survey. Out of an abundance of caution, I removed some questions from the final analysis that showed low reliability prior to completing the main statistical analysis for the study.

Pilot Study Procedures

For the pilot study, I used a community partner, a university in the Mid-Atlantic of the United States. That university required me to complete its IRB process in addition to Walden University's own IRB process. Once receiving conditional approval to conduct my study from Walden University, I submitted a separate IRB application to the university in the Mid-Atlantic. Once IRB approval was received from the university in the Mid-Atlantic, I submitted the approval to Walden University, who fully approved me to conduct my pilot and final study.

After seeking IRB approval from a university in the Mid-Atlantic region as well as from Walden University, I recruited participants that represented the kind of diversity of individuals sought in the final study. The goal of having a diverse population to participate in the pilot was to try to mimic the likely diversity found in the final implementation of the study. Upon receiving IRB approval from the university in the Mid-Atlantic, I sought pilot participation via means of a call for participants through direct emails to faculty (see Appendix F: Pilot Recruitment Emails).

For the pilot study, I administered the full survey in an online format similar to how it was to be done for the final survey, with the exception that I was available in the room. The reason for the variation in piloting procedures was that participants were encouraged to ask questions during the survey or comment on any areas that were confusing or needed editing. The interview protocol for the pilot study is included in Appendix I. The interview portion of the pilot study helped me to ascertain any areas that needed to be addressed before the final study was conducted. Upon completion of the

main portion of the survey, I asked pilot participants several follow-up questions, adapted from Reeves (2006):

1. What, if any, items were confusing or unclear to you? Please explain.
2. Were there any items that were difficult to answer?
3. What might you do to improve any questions in the survey?
4. Did any items display any bias on the part of the researcher?
5. Are there any other comments that you would like to make about the survey instrument?

A sixth question was added:

6. When you first saw the title of the survey, what was your first reaction? What would make the title of the survey more appealing to you upon first glance?

The post questions from the pilot study provided information used to inform the final survey. The information gleaned from participants was used to refine any issues in wording, format, question order, or other crucial aspects. By refining these elements, the final survey allowed for a more accurate pool of data from participants.

I also timed how long it took participants to complete the survey to determine an average approximate time required to complete it. A discussion of the average completion time is included in the discussion of the pilot in Chapter 4 of this study.

Final Survey Procedures

An electronic survey entitled *Professional Development in Higher Education: Working with English Language Learners* was employed. Survey content was created, reviewed by an expert panel, and was informed by a pilot study conducted prior to final

implementation of the survey. After the pilot study was completed, participants were invited to complete the survey, which remained open for a period of 6 weeks to allow participants enough time to access and complete the survey. Since it was an online survey, participants had the ability to start, complete, and exit the survey at their own convenience. At the completion of the survey, participants saw a message thanking them for their participation. This message included my email address in case they wish to contact me, and a link to my personal website where they could find an executive summary of the results after the analysis was completed.

Data Analysis Plan

I analyzed data from the final survey instrument using SPSS 24. I downloaded the data after the survey was completed. I screened and cleaned the data. This section highlights how the statistical analysis and data cleaning were to be conducted.

Research Questions

The research questions and hypotheses for this study are repeated in this section:

RQ1: Are there significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources?

H_O1: There are no significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources.

H_A1: There are significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources.

RQ2: Are there significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources?

H_O2: There are no significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources.

H_A2: There are significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources.

RQ3a: Are there significant mean differences in the self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

H_O3a: There are no significant mean differences in the self-perceived ED needs of HE faculty who work with ELLs based upon the institutional context.

H_A3a: There are significant mean differences in the self-perceived ED needs of HE faculty who work with ELLs based upon the institutional context.

RQ3b: Are there significant mean differences in the self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

H_O3a: There are no significant mean differences in the self-perceived responsibilities of HE faculty who work with ELLs based upon the institutional context.

H_A3a: There are significant mean differences in the self-perceived responsibilities of HE faculty who work with ELLs based upon the institutional context.

RQ4a: Are there significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

H_O4a: There are no significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

H_A4a: There are significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

RQ4b: Are there significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

H_O4b: There are no significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

H_A4b: There are significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

Analysis of Variables

The first two research questions aimed at examining the relationships between available ED (IV-ED) and faculty attitudes and beliefs (DV-Faculty Role) and potential ED needs in relation to working with ELLs (DV-Faculty Needs). The results for this section focused on what ED has been offered to faculty, and how it related to responses to the DV-Faculty Role and DV-Faculty Needs. The IV-ED had multiple subvariables including ED/PD resources available, and ED/PD resources used, and were all analyzed as covariates as they had the potential to influence the DVs. The results were used to demonstrate what affect the IV-ED had on the two DVs (IV-ED vs. DV-Faculty Needs, and IV-ED vs. DV-Faculty Role).

In addition to the descriptive analysis provided by examining IV-ED and the relationship to the DVs, I also focused on the interaction among the DVs (DV-Faculty Role and DV-Faculty Needs) in relation to IV-Context and IV-Demographics separately. RQ3 provided insights into the relationship of IV-Context to the DVs faculty needs and DV-Faculty Role. IV-Context had multiple subvariables including primary institution, school or academic division, primary program teaching in, degree level of class, institutional size, nature of institution, and location of institution. Given the wide scope of the IV-Institution subvariables, I used multiple subgroupings of the variables with different main and covariates, as described in Chapter 4. This method provided

information regarding how the context affected both DV-Faculty Role and DV-Faculty Needs.

RQ4 analyzed the relationship between IV-Demographics and the DVs faculty role and faculty needs. IV-Demographics also had subvariables including degree level, area of academic preparation, years of teaching since degree completion, age group, gender identification, years of teaching experience, language(s) spoken, where the faculty was from, number of years living in the U.S., degree level primarily teaching, and experience teaching ELLs, these were analyzed as covariates. Again, given the breadth of the IV-Demographics subvariables, the variables were grouped with like variables, and different main and covariates were used, as described in Chapter 4.

The assumption was that IV-Context and IV-Demographics likely had influence on both of the IVs. Analyzing the multiple subvariables allowed for an exploration of which one(s) had the most significant influence on the DVs.

Data Cleaning and Screening

Upon downloading the results, I screened the data for missing information and outliers. The data were evaluated in terms of the extent of what was missing, as certain kinds of omissions would have been be more problematic than others. Missing data related to the IVs would not have been useable because these were the primary means by which data were compared. If all responses were completed for entire sections, they were included in the final analysis. If data were missing in individual sections, I analyzed the extent of the missing data to see if the integrity of the data were not undermined by the missing responses. All missing data were given a value of 999.

I also screened the data for any repeated responses to ensure that unique participants had taken the survey. I look to see if anyone indicated that they took the survey more than once, and removed anyone who indicated "yes". I evaluated the data to see if there were any strings of repeated answers (i.e., if someone took the survey more than once). Sets of responses that appeared to be duplicated from someone indicating that they took the survey more than once, or if it appeared that there were repeated responses, were to be eliminated. These strategies would ensure the integrity of the data and that no overlaps in data have occurred.

Significant outliers have an influence on the final interpretation of the results. Field (2014) suggested that there are acceptable amounts of variance in the data, but that too much variance can be overly problematic. I run the descriptive statistics to look for any standard deviations greater than |2.00SD|. Additionally, I explored the outliers to determine if there were items that should be removed from the final analysis.

Upon completion of the cleaning of data, statistical analysis was used to determine the reliability of questions. To do so, a Cronbach's α was conducted. A Cronbach's α allows for the calculation of split-half reliability of responses to conceptually related questions (Field, 2014). This was used to determine if there were entire sections or individual questions that should be omitted from the analysis. All questions were grouped thematically, as grouping questions allows for an accurate analysis for Cronbach's α. If an item was below $\alpha = 0.7$ (Field, 2014), I evaluated whether or not it should be eliminated from the analysis.

Main Statistical Analysis

Because the variables in this study were multifaceted, a variety of statistical tests were used to analyze the data. For this study, I used multivariate statistical analyses in order to include several dependent variables in comparison to the independent variable. Table 7 summarizes the variables being compared, and the statistical tests used to analyze the data:

Table 7

Research Questions, Variables, and Statistical Tests

RQ	IV ED	IV Context	IV Dem.	DV Faculty Needs	DV Faculty Role	Statistical Test
RQ1	X				X	MANOVA
RQ2	X			X		MANOVA
RQ3		X		X	X	MANCOVA
RQ4			X	X	X	MANCOVA

Note. RQ = research question.

I chose to use a MANOVA for RQs 1 and 2 because this statistical test allowed me to understand the mutifacetted nature of the various DVs, it can yield more powerful results that an ANOVA might, it reduces the Type I error rates, and the variables under the DV had some intercorrelations (Mertler & Vannatta Reinhart, 2017). By comparing the IV-ED to the various aspects of the DV-Faculty Role (RQ1), as well as the IV-ED to the DV-Faculty Needs (RQ2), I was able to understand the IV-ED variable from a variety of angles in relation to the perceived role and needs of the faculty. The results of the statistical analyses for RQ1 and RQ2 are reported in Chapter 4.

Finally, I used MANCOVA for RQs 3 and 4 because of the ability that this test has of including multiple covariates (Mertler & Vannatta Reinhart, 2017). The IV-context

had several subvariables including institutional characteristics (primary modality of courses at institution, public/private status of the institution, highest degree offered, institutional size, primary academic area teaching in, location of the institution) and student characteristics (whether ELLs partook in a bridge program, students primarily studied part-time or full-time, and students lived on or off campus). Likewise, the IV-Demographics had multiple subvariables related to faculty backgrounds including 1) degree information (faculty degree level, faculty discipline, and length of time since degree completion), 2) faculty characteristics (age, gender, ethnicity), 3) teaching experience (number of years teaching, level taught, modality experience, tenure status, and rank), 4) number of students (number of students taught each semester, number of ELLs taught each semester, and number of ELLs taught over career), and 5) international experiences (faculty's L1, language used at home currently, foreign language learned beyond the intermediate level , where faculty spent their childhood, where faculty grew up, and if they lived outside of the U.S. for longer than at least 1 year). By analyzing the covariates in relation to the DVs, it was possible to understand the minute differences between groups, also reducing the potential of error by detecting more variability between groups. The inclusion of the multiple covariates served to increase the statistical power of the ultimate analysis.

Threats to Validity

Cross-sectional designs have the chance to be weak in internal validity (Frankfort-Nachmias & Nachmias, 2008). To minimize the chance of internal validity issues, statistical analyses were run on the variables (IV-Context/IV-ED/IV-Demographic, and

the DVs) to understand the relationship among the variables. A variety of statistical tests were used to explore these relationships.

In order to improve external validity, I attempted to have a large sample population that would account for a small effect size of $N = 314$. This result would have allowed for detection of differences at a small effective size. Although the actual sample size of $N = 66$ was not the targeted goal, it was still large enough to see a medium effect size. The intent was to seek participants from a wide variety of demographic, contextual, and ED-related backgrounds. By getting data from faculty across a variety of backgrounds, it was possible to expand the data to have more applicability across academic populations, disciplines, and institutions. To do so, I employed a variety of options for disseminating the survey.

Because the survey instrument used in Reeves (2006) did not include specific details on reliability and validity statistics, it was incumbent upon me to conduct additional procedures in order to evaluate the reliability and validity of the instrument used in this study. As noted earlier, Reeves' study was conducted on a different population than that used in this study. Her study was focused on mainstream K-12 teachers; whereas, the population in this study were mainstream HE faculty. In order to mitigate this potential threat to the reliability of the instrument, a Cronbach's α was conducted on the final instrument. Using conventions suggested by Field (2014), α values between .7 and .8 and corrected item-total correlation above .3 were determined to represent good reliability of items in thematic groupings. Results of the Cronbach's α are provided in detail in Chapter 4 of this study.

I worked to minimize issues of validity in the survey instrument by ensuring that it was well vetted. To do so, I employed an expert review panel to get feedback on the question structure, thematic groupings, and overall formatting of the survey prior to piloting and final implementation of the survey. Using an expert panel to vet the content of the survey, the flow of questions, and possible responses helped to ensure that the instrument was professional, non-biased, and clear to potential participants, helping to improve the validity of the instrument (Groves et al., 2009).

In addition to employing an expert review panel for my survey instrument, I also asked the panel to review correspondences used for participant recruitment. I did so because potential respondents make choices about whether or not to take a survey based on first impressions (Andres, 2012). The panel was asked to review correspondences for issues of professional, bias, and clarity. By focusing on all potential communications, in addition to the survey instrument, I helped to ensure that all aspects of both communication and the survey itself were professional.

A final aspect relates to the terminology used in the study related to defining an ELL. There is disagreement in the literature on the precise term to use for defining a student who has learned English as an additional language (Garcia, Kleifgen, & Falchi, 2008; Garcia, 2009; NCTE, 2008). For this reason, and to attempt to avoid bias on the part of the survey taker, I defined an ELL as someone who learned English as an additional language beyond their native language (i.e., English is not the student's first language). I redefined the term in each new section to solidify the terminology for the participants. This ensured that participants have a common definition.

Ethical Procedures

Because this study involved the collection of data from human subjects, all federal and university expectations for compliance were ensured. I sought approval from the Institutional Review Board (IRB) of Walden University to ensure that all potential safeguards were in place for the protection of human subjects. Since the University in the Mid-Atlantic, where the pilot study took place, required an additional IRB application internal to that university, this was also done after preliminary approval was received from a review by Walden's IRB. No data were collected until approval was granted by both required IRBs. Once I received approval from the Mid-Atlantic university, I submitted the approval to the Walden University IRB and was then fully approved to conduct my study. As a process of working to meet the IRB requirements, I minimized the risk to participants, ensured that any risks were reasonable, ensured that the acceptance of participants is equitable, and achieved electronic informed consent.

An IRB approved informed consent was used detailing the scope, background, procedures, potential risks of the participants partaking in the study, the voluntary nature of the study, how I intended to use the data, and details about me and my status as a doctoral candidate. The informed consent was made available electronically as a component of the survey itself, which is an acceptable form of consent when conducting studies with minimal risk in a virtual format (Kraut et al., 2004). The informed consent was incorporated as a part of the survey itself, with the first screen of the survey including the full informed consent. Participants were asked to agree to the terms of the informed consent electronically prior to participating. Upon reading the informed

consent, potential participants were asked to respond to the following questions aimed at 1) screening out minors, and 2) for participants to accept the terms of the informed consent:

1. In order to participate in this survey, you must be 18 years of age or older. Are you at least 18 years of age or older? * Mark only one oval.
    a. Yes, I am at least 18.
    b. No, I am not at least 18. No responses provided will be used in this study. Please exit the survey.
2. Do you accept the conditions of this informed consent? * Mark only one oval.
    a. Yes. I have read the informed consent, and I agree to participate.
    b. No, I do not accept. No responses provided will be used in this study. Please exit the survey.

A negative response ("No….") to either of these questions would have led to the final submission with no responses to the subsequent questions being possible.

The informed consent also included information for participants on how to contact me prior via email prior to taking the survey and giving their informed consent in case there were any questions. They were also encouraged to print and maintain the informed consent for their own purposes. Information about Walden's IRB and contact information were provided as a further means of protecting the rights of participants.

The survey itself required only time and effort on the part of the participant. Based upon the pilot study, the survey itself should take a participant roughly 25-35 minutes. Participants were informed that they could experience feelings of fatigue or

stress as a result of the survey, but these would only be minor discomforts that could be encountered in everyday life or in taking a survey of similar length. Partaking in the study was not expected to pose any major safety risk or general harm to the wellbeing of participants. Because the study had the potential to benefit other HE faculty in terms of future ED offered, the benefits to the larger community outweighed the risks to participants. Participants were not paid or reimbursed for their time to take the survey. Participants were informed that they could quit the survey at any time, but that their data may still be used in the final analysis.

No personally identifiable information was elicited from participants, and there was no need to remove participant names or identifying information from the final data set. However, potential participants were informed that loss of anonymity could occur if they were to give unsolicited personally identifiable information. Although no participants in the study actually provided any personally identifiable information, they were told in the informed consent that any personal identifying markers would not be included in the analysis of the data or any write-ups. For the purposes of the final write-up of the data, every effort was made to conceal the identities of individuals who took the survey. Although the survey was confidential, because participants could include unsolicited personally identifiable information, I was the only one reviewing the raw data for analysis.

Data were stored electronically on the Google Forms site requiring my username and logon information to set up and retrieve the data. Because only I know this information, I was the only one who could access it. The data will be stored on my

computer for a minimum of 5 years, as is required by Walden's research ethics and compliance regulations.

When creating a Google Form, the creator has the ability to collect email addresses from participants in order to keep them from participating multiple times. Because I wanted to ensure confidentiality of the participants, I did not collect any of this information, and thus I turned off this feature (see Appendix K Survey Collection Settings) (Kraut et al., 2004). As a result, the survey form did not elicit any personally identifiable information (neither IP addresses, nor email addresses). This was used to ensure that participants could freely express themselves without fear of their response being connected to them. Additional measures like use of encrypted submissions, passwords, or other means of protection were not required given the anonymous nature of the survey (Kraut et al., 2004). Because I had the concern of participants possible taking the survey more than once, I included a question that asked if they had taken the survey multiple times ("Is this the first time that you are completing the survey?"). Although no participants did so, anyone who indicated that they had taken the survey multiple times would have been excluded.

Summary

For this study, I employed a quantitative, cross-sectional method using a survey instrument. This survey instrument helped to identify the needs of HE faculty members along three lines:

- the ED needs of faculty working with ELLS;
- the efficacy of existing ED to help the faculty work with ELLs; and

- the demographic and contextual backgrounds of the faculty members.

Because little was known about HE faculty needs in terms of working with ELLs, the results of this study add to filling the gap in knowledge about what the needs of this population are. The results can be used to help inform ED practices of current and future HE faculty members to better meet the needs of the ELL population. Chapter 4 will analyze the results of this study.

Chapter 4: Results

Introduction

This chapter reports on the results and analysis of data associated with the pilot study and the final study. The purpose of this quantitative study was to identify and analyze the instructional needs of mainstream HE faculty in U.S. colleges and universities who work with ELLs but who have no formal training in teaching these students. This was done through the use of the survey entitled *Professional Development in Higher Education: Working with English Language Learners*. This study was guided by the following research questions:

RQ1: Are there significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources?

H_O1*:* There are no significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources.

H_A1*:* There are significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources.

RQ2: Are there significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the

combination of academic skills or language skills) based upon the presence of currently available ED resources?

H_O2: There are no significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources.

H_A2: There are significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources.

RQ3a: Are there significant mean differences in the self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

H_O3a: There are no significant mean differences in the self-perceived ED needs of HE faculty who work with ELLs based upon the institutional context.

H_A3a: There are significant mean differences in the self-perceived ED needs of HE faculty who work with ELLs based upon the institutional context.

RQ3b: Are there significant mean differences in the self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

H_O3a: There are no significant mean differences in the self-perceived responsibilities of HE faculty who work with ELLs based upon the institutional context.

H_A3a: There are significant mean differences in the self-perceived responsibilities of HE faculty who work with ELLs based upon the institutional context.

RQ4a: Are there significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

H_O4a: There are no significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

H_A4a: There are significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

RQ4b: Are there significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

H_O4b: There are no significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

H_A4b: There are significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

This chapter includes results of the expert review panel recommendations, results of the pilot study and their impact upon the final survey instrument, and results of the

final study. In the sections that follow, I provide a detailed explanation of the pilot study and expert review panels and how they affected the final survey instrument. I then explore the data related to the final study.

Expert Review Panel Results

After receiving IRB approval from Walden University (IRB approval 03-20-17-0439955) and the site where the pilot took place, I began formally seeking participants for the expert review panel. In June 2017, four possible panelists were recruited to review and comment upon the survey instrument with special attention to the survey questions, content, and flow. Three panelists agreed to review the survey instrument and serve as expert reviewers. All panelists held terminal degrees at the time of the panel review, one holding a doctoral degree in the field of linguistics, one in HE administration, and one in educational leadership. All panelists have conducted a variety of research projects including qualitative, quantitative, and mixed methods approaches. Each of them had experience in creating and validating survey instruments. The panelists were also selected because of their ability to provide critical and constructive criticism.

The panelists were asked to review the electronic version of the survey with special focus on any potential issues with confusing wording or terminology, potential bias, or other aspects that might hinder the validity of the instrument. Each panel member had 2 weeks to complete his or her review. Panelists were encouraged to provide feedback in whatever format was most convenient for them including face-to-face, email narrative, or in open-ended questions on the survey itself. All three panelists provided

feedback electronically, with two providing additional comments via email, and one via the survey form itself.

Some comments focused on the actual questions themselves and the options available in the questions. One major suggestion from the reviewers was that some questions could be streamlined to improve readability and flow. An example of a change made to the survey instrument was to move an explanation of the rating system used (i.e., "Respond to the following questions on a scale of 1-5 [with 1 being 'strongly disagree' and 5 being 'strongly agree']") that was common to all Likert-scale questions from individual questions to the overall survey directions. Similar comments related to removing redundant phrases like "I feel that" or "I think that." Since these phrases did not significantly add to the intent of questions, such phrases were removed. One reviewer suggested that the removal of redundant phrasing and repeated content would speed up the ability for participants to complete sections.

An additional suggestion from reviewers was to reorder the survey instrument to place bio-data at the end of the survey. One reviewer remarked that placing these questions at the end would allow those participants who experienced survey fatigue to complete questions that required less intense thinking at the end of the survey. This would free up mental space for the longer, harder questions at the beginning. In addition to these suggestions, another reviewer remarked that the survey was quite long, but that the content was crucial to the goal of the survey. For these reasons, the bio-data questions were transferred to the end of the survey, since this was a common sentiment from reviewers.

Questions that were noted to be somewhat confusing by the panelists were reworked. One panelist agreed to discuss some of the wording changes prior to finalization of the questions, and offered some suggestions on improving the wording of individual questions. This feedback was used to reword the questions.

One reviewer said that the open-ended comment boxes were unlikely to garner significant information, and that I should try to reduce the potential length of responses. In particular, one question asking "If you could change three things about the professional development options at your college/university, what would they be?", the reviewer said that I would be unlikely to get more than one response, and that I should consider just asking for participants to provide one thing that they would change. I did not remove this question from the survey for the pilot, but I did monitor it closely in the pilot study.

Some questions arose about terminology used in the survey. In particular, one panelist suggested that the term ELL might not be shared among all participants, and that the term might have an association with K-12 environments. Another similar term of interest was the term "mainstream", which one reviewer also suggested seemed to be a term more likely identified with as a term relevant to the K-12 environment. These terms are indeed prevalent in the literature from the K-12 environment (see operational definitions from Chapter 1). For the reasons noted by the reviewers, I monitored the terminology closely for the pilot study.

Finally, a suggestion of note from a panelist was to change the Likert-scale items from 5-scale items to 6- or 7-scale items. The reviewer suggested that changing the scale

would allow for more room for agreement or disagreement. Additionally, a 6-point scale with three options for agreement and three for disagreement would force participants to choose a side (with degrees of agreement or disagreement and no neutral option). Because there is no general assumption of how participants should feel or respond, a neutral option is deemed to be useful, because it does not assume that respondents feel a certain way in either direction. Therefore, a 5- or 7-scale item would be more preferable. A 5-point scale was used in the survey instead of a 7-point scale because of the length of the survey to allow for respondents to more quickly answer questions.

Pilot Study Results

Following feedback from the expert review panel, a university in the Mid-Atlantic was selected for possible consideration as a pilot study site. After making initial inquiries to the potential pilot university's IRB, I was instructed that I would need to seek both approval from the IRB at Walden University, and then the IRB at the pilot site. After receiving conditional approval from Walden University's IRB, I completed the IRB process at the university in the Mid-Atlantic to conduct my pilot study there. Once I received IRB approval from the university in the Mid-Atlantic, I was granted full approval to conduct my study by Walden's IRB.

As part of my IRB-approved procedures (from Walden and the university in the Mid-Atlantic), I sent email invitations to faculty at the university in the Mid-Atlantic via their institutional email addresses available on the publicly available list of faculty from the human resource's directory. Invitations for participation in the pilot study were emailed to faculty (see Appendix F: Pilot Recruitment Emails) in July 2017, following

IRB approval from the university in the Mid-Atlantic and from Walden University. The pilot study occurred between July 17th and August 4th, 2017. Since the pilot study took place face-to-face, all data were kept confidential, since I knew who the participants were. Interested pilot study participants were requested to email days and times that were convenient for them. In total, 94 invitations were sent to all individuals indicated as faculty at the institution, to which 10 responded to the initial email, and eight participated in the pilot study.

Pilot Study Data Collection

Following the pilot recruitment emails, individual appointments were established with faculty based upon their availability for 45-minute sessions. All participants opted to participate in the pilot study in a face-to-face format. Therefore, all sessions took place on campus at the Mid-Atlantic institution where recruitment occurred. The room in which the pilot occurred was a small study room in the library, large enough for multiple people to fit in, with a large table and wifi. I provided a laptop with wireless internet access for all participants and had the survey already loaded. I sat approximately three feet from each participant as s/he took the survey but offered each participant the opportunity to move around the room for their maximum comfort. As each participant arrived in the room, I followed the pilot study interview protocol (Appendix I). This included a brief script outlining what my study was about and how the pilot would be conducted. Once I completed the script for Part I, I asked each participant if they wished to continue with the study. If they agreed, they would then complete an informed consent and then complete the entire electronic survey. I recorded the time it took participants to complete

survey, as was announced in the interview protocol. Following the completion of the survey, I then conducted a brief interview following Part II of the pilot study interview protocol. The questions used in Part II of the pilot interview protocol and the responses are explored in the following section.

Pilot Study Interview Question Results

Following pilot study interview protocol (Appendix I), participants in the pilot were asked follow-up questions at the completion of the survey. These questions focused on the survey instrument and possible areas to further refine the survey prior to implementation in the final study. The following interview questions were asked to each pilot study participant:

1. What, if any, items were confusing or unclear to you? Please explain.
2. Were there any items that were difficult to answer?
3. What might you do to improve any questions in the survey?
4. Did any items display any bias on the part of the researcher?
5. Are there any other comments that you would like to make about the survey instrument?
6. When you first saw the title of the survey, what was your first reaction? What would make the title of the survey more appealing to you upon first glance?

The following sections provide aggregated comments from participants. To provide further protection for participants in the pilot, both gender phrases are used to mask the potential identities of participants (i.e., “s/he said…”, as opposed to “she said…” or “he said…”).

Confusing survey items. One participant indicated the s/he was not sure what the intent of the question, "I have a good understanding of how long it would take someone to learn a second language to be able to succeed in university courses." This participant was not sure if the question was asking him/her to indicate the amount of time required to learn a second language, or if it was asking him/her to rate his or her understanding of the processes. Because the instructions indicated that the participant should agree or disagree with the question along the Likert-scale, the confusion was likely as a result of the participant not fully reading the question and the instructions. Since no other participants indicated that they had problems with this question, there was no change made.

Difficult survey items to answer. One participant indicated that s/he was unsure about how to answer the question, "The size of the institution in which I primarily teach is approximately…" in the *Your Teaching Context* section of the survey. When I asked the participant which response s/he would have chosen if I were not in the room, the respondent indicated the correct response based upon my own knowledge of the institution in which s/he worked. For a variety of reasons, I chose to leave the question as is on the survey including: a) no other person had difficulty answering this question, b) the participant did indeed have an accurate approximation of the number of students at his institution, c) each study participant would have the ability to look this information up on the internet while completing the survey, and d) there is an "I'm not sure" option for participants who might choose not to look up this information.

Another respondent indicated that the question asking participants to complete the sentence and rate their responses for "Relative to their own personal academic abilities,

_____can be successful in my course with normal effort." was difficult to answer as it was written. When asked for clarification, this respondent said that s/he would have liked to have had more context when answering the question. For example, a course that requires heavy emphasis on reading and writing versus one that is more focused on performing practical skills like in an internship. Because the question is already focused on the faculty member's specific course(s), the question would likely be interpreted by a faculty member in light of how they approach their courses academically. Therefore, the question was likely already able to capture more nuanced views of particular types of courses. Additionally, there was an open-ended section that optionally allowed faculty to explain any responses that might need more context immediately following this question. The question was left as is given these factors.

Several respondents indicated that their university did not flag the ELLs in their courses, and they might not know if a student were an ELL. One participant indicated that s/he would be very unlikely to know if there were ELLs in a large class, but that it would be more likely for him/her to do so in a smaller class with more interaction. Based upon this feedback, it was possible that some participants might not have elected to participate in the survey because they might not have known if they have/had ELLs in their classes.

Ways to improve survey questions. One respondent indicated that for questions in the *Working with English Language Learners* section, s/he would have liked to elaborate more on how s/he views his or her role in terms of working with this population. Many of the questions in that section focused on whether or not the faculty

member provided additional time or services to ELLs. This particular participant indicated that s/he felt that s/he needed to further explain how s/he views his or her role in working with these students, and that an additional open-ended question might have helped him or her to do this. S/he used terms like "coach" and "mentor" to describe himself or herself, indicating that s/he too was once an ELL studying in a U.S.-based HE program when s/he first came to the U.S. Therefore, s/he felt a special affinity to this student population and wanted to express that in relation to his or her responses.

Three respondents indicated that having more comment opportunities would have been useful. When asked about whether having comment boxes with every question would be useful, one respondent said that the comment boxes would not be necessary on every question. Rather, additional comment boxes would be useful on a select few questions. Although there is a comment box at the end of each section for participants to "add to any of [their] responses", having additional comment boxes following the more difficult questions, or those questions requiring some context would be useful.

One respondent said that some of the questions were repeated. I reviewed the survey after receiving this comment to look for possible redundant or repeated questions, but was unable to find any. The particular respondent said that s/he might have misread some of the headings for the questions. Because another participant indicated that there were similar questions throughout, but that s/he recognized that there were nuanced differences between them (as indicated with some portions of the questions in all capital letters to highlight the differences), it is likely that the comment about repeated questions might be a result of not recalling that some questions had the same structure, but with

small differences in wording. Additionally, another participant indicated that the all capital letters in the questions used to highlight keywords for participants was quite useful for him/her. Because no other participants indicated that there were repeated questions, and I could not find any, there were no changes made as a result of this comment.

Survey items displaying bias. Based upon one participant's responses, it was clear that the participant viewed the questions in the survey as assuming a deficit model for ELL students. Based upon the literature review, there is evidence that some ELLs do indeed struggle as they come into their HE degree courses. However, my intent in the survey was not to suggest that ELLs are incapable of succeeding, rather to highlight some areas in which ELLs do struggle. When I explained this to the participant, this participant indicated that this notion was clear throughout survey, but s/he wanted me to know that s/he was aware of this distinction. Since this participant understood the intent of the definition of ELLs given in the survey, and that the definition of ELL was not intended to be a wider statement on the possibility that ELLs can be successful, no changes were made.

Another participant indicated that s/he did not see any bias in the survey, and that s/he felt that the researcher went out of his way to ensure that there was no bias in the questions.

Additional comments about the survey. Several participants said that the survey was thought-provoking to them, highlighting things that they might not have thought about previously when working with this population. A sentiment echoed by several

participants was that the results of the study would likely have a practical impact on them and their university because of the large number of ELLs at the university. All participants suggested that they wanted to learn more as a result of the study, and that they were interested in seeing the final results.

One respondent said that the inclusion of the pilot interview questions in the informed consent for the pilot study was very useful to him/her, as s/he was thinking of these questions while taking the survey. Because the interview is not included in the final study, this information will help me in future studies.

One respondent said that the informed consent was rather lengthy. Because the informed consent is an important part of the research process, I made note of the comment, but did not take further action on it.

One respondent indicated that this was one of the easier surveys that s/he has taken. This respondent said that s/he has created surveys for his or her own research, and that it was comprehensive, but easy to answer.

Several participants indicated that the survey was long, but that it was thorough. One respondent said that I should consider reducing the number of questions to promote participation, but that all of the questions were appropriate for the survey. One participant who said that s/he has used survey methods in his or her own research, and that s/he did not feel that the number of questions would keep people from participating. Several participants also said that because the recruitment email includes the approximate length of time, that possible participants have enough information about whether or not they would want or be able to dedicate time to the survey. Finally, one participant said at the

end of the interview that although the survey was long, it was constructed in such a way that s/he did not feel tired at the end. Given these various perspectives, the length of the survey may be an issue for participant recruitment, but that it would not be overly burdensome for participants.

Improving the title of the survey. One participant said that s/he thought that the survey would have been more about what s/he needed in terms of PD based upon the title (i.e., Do you need X, or Y?). When asked about possible ways to change the title of the survey to make it more appealing to a wider audience, this respondent said that the title was sufficient. Upon further thinking, this participant suggested that if I were to change something, I could move "working with ELLs" more to the front of the title, but that s/he felt that the title was fine as is.

One participant thought that the title might seem appealing to potential specialists who were trained to working with ELLs, but that the informed consent and the email invitation were clear in their indication that these possible participants were not being sought for this particular study. This participant said that the addition of "for non-specialists" in the title might make this clearer for possible participants, but that it was likely not necessary given that specialists are indicated as not being recruited.

Another respondent indicated that the survey was very relevant to him/her because the university where s/he teaches has a very high number of ELLs. This same respondent said that the university where s/he now works is much more diverse, and with many more ELLs than any other place that s/he had worked previously. Therefore, this participant's reaction to the title of the survey was that it was very relevant to him/her.

When asked whether this participant would have taken the survey prior to his or her current work experience, s/he said that it was highly likely.

Another participant said that s/he felt that the title was clear, and that s/he knew what to expect from both the title and the explanation in the email about the intent of the study. Because a similar email would accompany final study recruitment, the title and the email explanation likely sufficiently encompass the scope of the study.

Based upon the totality of responses, the title seems to be appropriate for the study. There were only a few recommendations on changes, with most participants saying that the title was appropriate.

Pilot Study Survey Results

Because there were few participants in the pilot, a full statistical analysis could not be performed on the data in a way that would lend to making generalizations. However, based upon the data from the pilot, I set up the categories and value settings in SPSS. This gave me the opportunity to sort out the various settings in SPSS before conducting the final study.

As part of the pilot, I monitored the time required for participants to complete the survey to obtain an average time that participants would need to take the survey. It took pilot study participants an average of 36 minutes to complete the survey. The least amount of time required to complete the survey was 23 minutes, and the maximum was 56 minutes. The remaining participants took 36 minutes, 27 minutes, 38 minutes, 43 minutes, 36 minutes, and 30 minutes to complete the survey. My initial estimates were that participants would need around 25-35 minutes to complete the survey. Most of the

pilot study participants were within this timeframe, therefore this estimate was included in the informed consent.

Pilot Study Summary and Impact on the Main Study

The use of the expert review panel prior to the launch of the pilot study was an important step in improving the survey. In particular, one of the panelist's comments helped to improve question wording and the survey flow in a way that greatly improved it. Many of the comments from the pilot participants were that the survey was professional and easy to take.

Some review panelist concerns that were left outstanding prior to the launch of the pilot were centered around two major areas including the suggestion that the Likert-scale items be increased from a 5-point scale to 6-point or 7-point scale. Because several participants made comments about the length of the survey, I chose to stay with the 5-point scale items to improve the speed of taking the survey. Additionally, because some of the questions were rather long, including several subcategories or subquestions, having fewer scale options allows for the participant retain the information contained in the questions more easily (Groves et al., 2009; Singleton & Straits, 2010).

Another outstanding question from one of the expert review panelists related to the terminology in the survey. Participants seemed to have a good command of the definition of an ELL based upon the interview questions. All participants used the term "ELL" in responses to questions, indicating that they had familiarity with the term by the end of the survey. Another term that one of the reviewers commented on was the term "mainstream," which might be construed as a term relevant to the K-12 environment.

Although the interview protocol did not specifically ask about this term, none of the participants raised it as a confusing term in the interviews. Additionally, the term did not appear to stand out to the participants as odd, since the participants did not bring it up. For this reason, the term was maintained for the final study.

A new open-ended question was added to the final survey instrument based upon feedback from a pilot study participant: “If you had to describe your role with respect to working with ELLs, what words or phrases come to mind?” Since more than one participant indicated that they did seem to have an understanding of what they view their role as beyond just teaching content, this question would help to provide some context for interpreting responses.

Several pilot participants indicated that they would liked to have had more space for comments to particular questions. In balancing the need for more information from participants, and the fact that nearly all participants said that the survey was long, I chose to not add more comment boxes throughout. In particular, the one question that came up more than once as something that participants would liked to have given more context was the question, "Relative to their own personal academic abilities, _____ can be successful in my course with normal effort." Since the question immediately preceded an optional comment box, the desire for participants to add additional comments was already likely to happen given the construction of the survey.

Furthermore, in reviewing the data for the open-ended responses, nearly all pilot participants actually provided comments. In particular, for the question about what three things the participants might change about PD in their institutions, all but one participant

provided something in the box, and five out of the remaining seven gave three suggestions for change; two participants gave just one suggestion. The fact that participants gave responses to questions asking for their suggestions, and that participants also gave some additional comments in the optional comments section suggest that these questions were effective to keep. Although several participants requested more open-ended comment boxes, I wanted to ensure that participants were not overly slowed down by too many open-ended questions. Therefore, open-ended questions were provided at the end of every section to collect any feedback or points of clarification on that entire section. The survey instructions reminded participants at the beginning of each section that "Optionally, space is provided at the end of this section for any comments or concerns that you might wish elaborate on any of your responses."

Because there were only eight participants in the study, a full statistically analysis on the reliability of the instrument was not conducted. Instead, a Cronbach's α was conducted after the data were collected for the final study, but before the full data analysis. The reliability analysis is included in Chapter 4 of this study.

Data Collection

Final Study Data Collection

Between August 2017 and September 2017, the survey was opened, and possible participants were invited to participate in the study. As defined in Chapter 3, recruitment took place through a variety of means including social media, listservs, and direct recruitment through ED offices at HEIs with high international student populations.

Through these recruitment strategies, a total number of 66 participants who met the recruitment criteria completed the survey.

All 66 participants provided answers to the demographic questions, which were used to analyze the data, and were all included. The Google form used did not allow for partial submission of data; therefore, all participants were required to complete the survey through the final submission page. A total of 12 skipped responses occurred across all data points. Because these skipped responses were minor, and spread out over multiple respondents, there was no need to eliminate any individual participant.

The survey instrument collected data related to two major characteristic groupings of participants including the demographics of participants and the institutional characteristics of where they work. The collection of these results aided in understanding the realities of the ED available across these two broad categories. In the following sections, the results of these characteristics are reported.

Demographic characteristics of participants. The distribution of faculty demographics is described in this section. These demographics included information regarding the backgrounds of the faculty in the study. Wherever possible, comparative data for the sample to historical data available from the National Center for Education Statistics (NCES) (NCES, 2015a) were provided for a comparison. While some of the data from the NCES was more than 10 years old, the data are assumed to be still similar to the data represented in the AY encompassing the sample (AY 2017-2018). Although limited data is available from the NCES for other years, the 2003 data were used for consistency across the data for these comparisons.

The distribution of faculty in terms of their highest degree achieved is described in Table 8 as compared to NCES data (2015b) on full and part-time faculty for 2003.

Table 8

Faculty Highest Degree

Degree Level	Sample Population	Sample Percentage	2003 Total U.S. Faculty	2003 Total U.S. Percentage
Less than a bachelor's	1	1.5%	51,000	4.22%
Bachelor's	0	0%	113,000	9.34%
Post-baccalaureate certificate	0	0%	NR	NR
Master's	18	27.3%	453,000	37.37%
Post-master's	5	7.6%	95,000	7.81%
Doctorate	42	63.6%	500,000	41.27%

Note: For data that were not reported, the notation "NR" is used.

The sample had similarities to the data reported by the NCES. The population in the sample had more people with doctorates than the NCES data and slightly fewer master's degree holders.

The faculty participants in the sample received their degrees across the following disciplines, areas, and specializations as described in Table 9 as compared to NCES data (2015b) on full and part-time faculty for 2003. The population in the sample reflected a higher number of participants who held their highest degree in education (28.8% in the sample versus 9.44% in the NCES data). Some categories had no representation in the sample including agriculture and home economics, and law. Of the remaining population in the sample, there were lower numbers of degree holders in the fine arts and health sciences as compared to the NCES data, and higher than typical numbers of degree holders in the social sciences.

Table 9

Faculty Discipline

Discipline	Sample Population	Sample Percentage	2003 Total U.S. Faculty	2003 Total U.S. Percentage
Agriculture and home economics	0	0.0%	24,200	2.00%
Business	8	12.1%	88,100	7.27%
Communications	1	1.5%	29,600	2.44
Education	19	28.8%	114,400	9.44%
Engineering	3	4.5%	47,500	3.92%
Fine arts	1	1.5%	91,000	7.51%
Health sciences	2	3.0%	151,700	12.52%
Humanities	7	10.6%	117,700	9.71%
Law	0	0.0%	20900	1.72%
Natural sciences	10	15.2%	190,900	15.75%
Social sciences	10	15.2%	141,700	11.69%
Other	5	7.6%	194,200	16.03%

Note. Natural sciences = biological sciences, physical sciences, mathematics, computer sciences; Social sciences = (economics, political science, psychology, sociology, social work).

Participants in the study were asked how long it had been since they completed their highest degree. This is described in Table 10.

Table 10

Length of Time Since Degree Completion

Years	Sample Population	Sample Percentage
0-5 years	16	24.2%
6-9 years	13	19.7%
10-15 years	10	15.2%
16-19 years	9	13.6%
20-25 years	6	9.1%
26-29 years	4	6.1%
30-35 years	7	10.6%
36-39 years	0	0.00%
40-45 years	1	1.5%
46-49 years	0	0.00%
50 years or more	0	0.00%

The sample represented a variety of range of experience, with a majority (59.1%) having received their degrees in the past 15 years. Comparable data were not available from the NCES.

The age distribution of faculty in the sample is described in Table 11 as compared to NCES data (2015c) on full and part-time faculty for 2003. The NCES data were reported slightly differently than the characterization in the sample. Data in the sample were collected starting at the beginning of a decade (30-39 years old), but the data from NCES were reported beginning with the middle of a decade (35-44 years old).

Table 11

Faculty Age

Age	Sample Population	Sample Percentage	2003 Total U.S. Faculty	2003 Total U.S. Percentage
30-39 years old (< 35)	16	24.2%	59,100	10.34%
40-49 years old (35-44)	13	19.7%	169,800	23.55%
50-59 years old (45-54)	12	18.2%	219,700	31.27%
60-69 years old (55-64)	20	30.3%	190,000	26.29%
70+ years old (65+)	5	7.6%	43,300	8.55%

Note. The table reflects how the data were collected in the sample, with comparable data for how the NCES reported its data in parentheses in the age column.

Because the NCES data and the sample data are not reported in exactly the same way, it was not possible to determine if the differences between the sample and the NCES data were comparable. However, there are some similarities in the distribution of percentages of faculty across the various age groupings.

The gender categories of participants in the sample is described in Table 12 as compared to NCES data (2015c) on full and part-time faculty for 2003. Survey data collected more fine-grained details than did the NCES data.

Table 12

Faculty Gender

Gender	Sample Population	Sample Percentage	2003 Total U.S. Faculty	2003 Total U.S. Percentage
Male	26	39.4%	696,300	57.46%
Female	40	60.6%	515,500	42.54%
Other	0	0.0%	NR	NR
Choose not to say	0	0.0%	NR	NR

Note: For data that were not reported, the notation "NR" is used.

The sample represented more women than men versus the NCES data.

The ethnicities of participants are described in Table 13 as compared to NCES data (2015c) on full and part-time faculty for 2003.

Table 13

Faculty Ethnicity

Ethnicity	Sample Population	Sample Percentage	2003 Total U.S. Faculty	2003 Total U.S. Percentage
White	47	71.2%	999,400	82.47%
Black	6	9.1%	67,700	5.59%
Hispanic or Latino	2	3.0%	42,500	3.51%
Asian/Pacific Islander	2	3.0%	82,600	6.81%
American Indian/Alaska Native	0	0.0%	19,700	1.62%
Two or more races	4	6.1%	NR	NR
Other	2	3.0%	NR	NR
Choose not to say	0	0.0%	NR	NR

Note: For data that were not reported, the notation "NR" is used.

The sample represented similar tendencies as the NCES data, with a very large percentage of white participants (71.2%), and single digit percentages for all other categories.

Participants were asked to describe if they spoke a language other than English in their homes when they were growing up. This is described in Table 14.

Table 14

Faculty Language Spoken at Home When Growing Up

Language(s)	Sample Population	Sample Percentage
Only English	44	66.7%
Primarily English and another language	5	7.6%
Equally English and another language	2	3.0%
Primarily another language and English	4	6.1%
Only a language other than English	11	16.7%

The majority of respondents grew up in households where English was the primary language. Furthermore, participants were asked if they speak a language other than English in their homes currently. Table 15 provides these results:

Table 15

Faculty Language Spoken at Home Currently

Language(s)	Sample Population	Sample Percentage
Only English	52	78.8%
Primarily English and another language	5	7.6%
Equally English and another language	5	7.6%
Primarily another language and English	4	6.1%
Only a language other than English	0	0.0%

The faculty in the sample largely spoke English at home as the primary language at the time that they took the survey. Comparable data were not available from the NCES.

The faculty participants were asked if they ever studied a foreign language beyond the intermediate level as described in Table 16. A majority of faculty in the sample learned a language other than English at least to the intermediate level. Comparable data from the NCES were not available.

Table 16

Faculty Studied Foreign Language Beyond Intermediate Level

Response	Sample Population	Sample Percentage
Yes	44	66.7%
No	22	33.3%

The faculty in the sample were also asked if they spent the majority of their childhood in the U.S. This is described in Table 17. Most of the faculty in the sample grew up in the U.S. (72.3%). Comparable data from the NCES were not available.

Table 17

Faculty Spent Childhood in U.S.

Response	Sample Population	Sample Percentage
Yes	48	72.7%
No	18	27.3%

Table 18 shows where faculty participants in the sample grew up mostly in the north America (77.3%). Other participants came from Europe (6.5%), the Middle East (4.5%), northern Africa (4.5%), southern Asia (3.0%), Russia and the former Soviet republics (1.5%), western Africa (1.5%), and other (1.5%). While the sample represents a significant number of participants who grew up in north America, there are a variety of backgrounds represented in the sample. Of the sample, 22.7% of the participants grew up outside of North America. While comparable data from the NCES were not available, it is possible to say that the sample included a variety of diverse participants who grew up in different countries.

Table 18

Faculty Grew Up in Part of World

Part of the World	Sample Population	Sample Percentage
North America	51	77.3%
South America	0	0.0%
Central America	0	0.0%
Europe	1	6.1%
Russia and the former Soviet republics	1	1.5%
Southern Asia (example: Afghanistan, India, Nepal)	2	3.0%
East Asia (examples: China, South Korea, Japan, Mongolia)	0	0.0%
Southeast Asia (examples: Malaysia, Singapore, Thailand)	0	0.0%
Middle East (examples: Jordan, Saudi Arabia, Turkey)	3	4.5%
Northern Africa (examples: Morocco, Libya, Egypt)	3	4.5%
Western Africa (examples: Nigeria, Mali, Liberia)	1	1.5%
Central Africa (examples: Angola, Chad, Cameroon)	0	0.0%
Eastern Africa (examples: Ethiopia, Kenya, Zimbabwe)	0	0.0%
Australia	0	0.0%
Other	1	1.5%

Of the participants in the study, Table 19 shows how long (if at all) they had lived outside of the U.S.

Table 19

Faculty Spent Time Outside of the U.S.

Years	Sample Population	Sample Percentage
I have lived in the U.S. my entire life	32	48.5%
Less than 1 year	10	15.2%
1-4 years	9	13.6%
5-9 years	3	4.5%
10-14 years	0	0.0%
15-19 years	0	0.0%
20-24 years	10	15.2%
25-29 years	2	3.0%
More than 29 years	0	0.0%

In the sample, 51.5% had spent some time living outside of the U.S. Of these participants, their purpose for doing so is described in Table 20.

Table 20

Faculty Reason for Living Abroad

Reason	Sample Population	Sample Percentage
An expatriated worker.	5	15.6%
Short-term study abroad.	5	15.6%
Long-term study abroad.	3	9.4%
Living abroad not associated with school or work.	12	37.5%
I am a citizen of another country and was living abroad.	7	21.9%

Faculty in the sample had been teaching at the college or university level for the length of time shown in Table 21.

Table 21

Faculty Length of Time Teaching at College or University

Years	Sample Population	Sample Percentage
Less than 6 months	0	0.0%
6 months to 1 year	2	3.0%
1-4 years	10	15.2%
5-9 years	15	22.7%
10-14 years	8	12.1%
15-19 years	10	15.2%
20-24 years	6	9.1%
25-29 years	12	18.2%
More than 29 years	3	4.5%

The sample showed that there was considerable experience beyond having taught at least 5 years at the college or university level (81.8%). Comparable data were not available from the NCES.

Participants in the sample primarily taught at the following academic levels shown in Table 22 as compared to NCES data (2015l) for number of faculty teaching at intuitions with 2-year programs (associate's degrees or vocational education) and 2-year degree programs (undergraduate or graduate-level programs).

Table 22

Institution where Faculty Teach Academic Level

Academic Level	Sample Population by Institution Type	Sample Percentage	2013 Total U.S. Faculty	2013 Total U.S. Percentage
2-year institutions or vocational	4	6.2%	393,743	25.48%
4-year institution or graduate	61	93.8%	1,151,638	74.52%

The sample population largely taught at 4-year institutions.

The participants primarily taught in the modalities shown in Table 23.

Table 23

Institution where Faculty Teach Primary Modality

Modality	Sample Population by Institution Type	Sample Percentage
On campus	52	78.8%
Online	4	6.1%
Equally online and on campus	10	15.2%

A large percentage of faculty in the sample primarily taught on campus (78.8%), with small percentages teaching mostly online (6.1%) or equally online and on campus (15.2%).

The tenure status of the faculty in the sample is described in Table 24 as compared to NCES data (2015k) for faculty tenure status of faculty. Data from NCES

represented a binary "have tenure" or "do not have tenure." Data collected from the survey asked more nuanced questions about the tenure status. Therefore, the NCES data in the table only indicate the percentage of faculty who had tenure, as more nuanced data were not available for the "do not have tenure" categories.

Table 24

Faculty Tenure Status

Tenure Status	Sample Population	Sample Percentage	2013-2014 Total U.S. Percentage
Have tenure	19	28.8%	50.70%
On a tenure track	2	3.0%	NR
Not on a tenure track, but institution does have tenure status	26	39.4%	NR
Institution does not offer tenure track	19	28.8%	NR

Note: For data that were not reported, the notation "NR" is used.

The sample largely represented non-tenured faculty (71.2%). The NCES data would suggest that more faculty should have had tenure in this sample. It is not clear if this might be a larger indication of trends in tenure, or if the sample just did not include as many tenured faculty as the NCES data reflected.

The rank or title of the faculty in the sample is shown in Table 25 as compared to NCES data (2015c) on full and part-time faculty for 2003. The population in the sample included many "other" job titles. These other job titles included teaching administrator (10.6%), adjunct or part-time (24.2%), and self-categorized "other" options. The sample population also had some variations with the NCES data in the percentage of assistant professors and instructors. Again, it is not possible to determine if these differences in titles were because of trends in tenure and faculty rank.

Table 25

Faculty Rank or Title

Rank or Title	Sample Population	Sample Percentage	2003 Total U.S. Faculty	2003 Total U.S. Percentage
Professor	16	24.2%	217,700	17.96%
Associate Professor	8	12.1%	164,200	13.55%
Assistant Professor	5	7.6%	177,900	14.68%
Instructor	5	7.6%	270,400	22.31%
Lecturer	3	4.6%	62,800	5.18%
Other	29	43.9%	318,900	26.31

Faculty in the sample typically had an average total number of students in their courses each semester as shown in Table 26 as compared to NCES data (2015i; NCES, 2015j) for the distribution of students taught. The total number of students that faculty in the sample typically had is similar to the NCES data, with 81.8% of participants in the sample having less than 25 students in class and 18.2% with typically more than 26 students; compared to the NCES data with 80.4% of faculty having less than 25 students, and 19.6% having more than 26 students per semester.

Table 26

Faculty Average Number of Student Taught in a Course

No. Students	Sample Population	Sample Percentage	2003 Total U.S. Faculty	2003 Total U.S. Percentage
Less than 25 students	53	81.8%	525,139	80.4%
More than 26 students	12	18.2%	127,651	19.6%

The faculty in the sample taught similar class sizes to those reported by the NCES.

As shown in Table 27, of the faculty in the sample, 87.7% of faculty had less than 15 ELL students in their courses each semester, with 13.8% having between 11-15,

26.2% having between 6-10, and 47.7% having between one and five ELL students each semester. Comparable data were not available from NCES.

Table 27

Faculty Number of ELLs Taught Each Semester

No. Students	Sample Population	Sample Percentage
1-5 students	31	47.7%
6-10 students	17	26.2%
11-15 students	9	13.8%
16-20 students	4	6.2%
21-25 students	1	1.5%
26 or more students	3	4.6%

The faculty in the sample estimated that they have taught the following number of ELLs over their career as shown in Table 28.

Table 28

Faculty ELLs Taught Over Career

No. Students	Sample Population	Sample Percentage
Fewer than 10	7	10.6%
Between 10-50	15	22.7%
Between 50-100	13	19.7%
100 or more	31	47.0%

Most of the faculty in the sample had some experience with teaching ELLs, with a high percentage of faculty (47.0%) having taught more than 100 ELLs in their teaching career. Comparable data were not available from the NCES.

Finally, faculty in the study were asked if they had students taking ESL coursework in addition to their content-area courses as described in Table 29. An indication of "yes" would suggest that students are dually enrolled in ESL and their

degree-areas courses (18.2%), a response of "no" would indicate that students are only enrolled in their degree-area courses (47.0%), and "not sure" would suggest that faculty are unaware of whether their students are dually enrolled in degree-area courses and ESL (34.8%).

Table 29

Faculty Have Students Studying in a Bridge Program

Students in Bridge Program	Sample Population	Sample Percentage
Yes	12	18.2%
No	31	47.0%
Not sure	23	34.8%

Institutional characteristics of participants. Participants in the survey were asked about the institutions in which they taught. The institutions where the participants primarily taught mostly offered courses across the following modalities as described in Table 30 as compared to NCES data (2015h) for institutions primarily offering courses on campus or online.

Table 30

Students Study Online or On-Campus

Modality	Sample Population Institution Type	Sample Percentage	2014 Total U.S. Institutions	2003 Total U.S. Percentage
On campus	51	77.3%	4546	98.53%
Online	2	3.0%	68	1.47%
Equally on campus and online	13	19.7%	NR	NR

Note: For data that were not reported, the notation "NR" is used.

The sample population had similar results as those of the NCES data. The NCES data were represented in a binary of online or on campus. Since it would likely be the case that

the "offered equally on campus and online" would have been grouped in the NCES data with the "on campus", the sample population taught at institutions similar to those found in the NCES data.

The faculty participants in the sample worked for institutions of the following types as described in Table 31. The institutional types of these faculty are compared to NCES data (2015c) on the number of institutions of this type across the U.S. as demonstrated in NCES data (2015c) for the 2014-2015 AY.

Table 31

Institution Public or Private Status

Status	Sample Population by Institution Type	Sample Percentage	2003 Total U.S. Institutions	2003 Total U.S. Percentage
Public institutions	33	50.0%	1,621	35.03%
Private/non-profit institutions	26	39.4%	1,672	36.14%
Private/for-profit institutions	7	10.6%	1,334	28.83%

The sample population overrepresented public institutions, while underrepresenting for-profit institutions.

The highest degree at the institution in which the faculty primarily taught is shown in Table 32.

Table 32

Institution Highest Degree Offered

Degree Level	Sample Population by Institution Type	Sample Percentage
Doctoral degree	32	48.5%
Master's degree	25	37.9%
Bachelor's degree	4	6.1%
Associate's degree	3	4.5%
Career or technical	1	1.5%

The population in the sample largely represented research institutions offering doctoral and master's degrees (86.4%).

The size of the institutions is described in Table 33 as the total number of students studying at the institution as compared to the number of U.S. institutions with that number of students in 2014 (NCES, 2015e; NCES, 2015f).

Table 33

Institution Size

No. of Students	Sample Population Institution Size	Sample Percentage	2014 Total U.S. Institutions	2014 Total U.S. Percentage
999 students or fewer	11	16.7%	2012	43.60%
1,000 to 4,999 students	15	22.7%	1,535	33.27%
5,000 to 9,999 students	13	19.7%	495	10.73%
10,000 to 19,999 students	11	16.7%	341	7.39%
20,000 to 29,999 students	7	10.6%	142	3.08%
30,000 students or more	9	13.7%	89	1.93%

The sample largely represented larger institutions, as opposed to the NCES data, which showed a larger density in smaller schools. Thus, the sample was more representative of larger populations than would be expected.

Participants in the sample were asked to indicate where the students at their college or university primarily lived as shown in Table 34.

Table 34

Students Live On-Campus or Off-Campus

Students Live	Sample Population by Institution Type	Sample Percentage
On campus	22	33.7%
Off campus	44	66.7%

Faculty in the sample indicated that the majority of students (66.7%) lived off campus. Comparable data from the NCES were not available.

The full-time or part-time status of students at these institutions is shown in Table 35 as compared to similar NCES data (2015f).

Table 35

Students Study FT or PT

Student Status	Sample Population by Institution Type	Sample Percentage	2014 Total U.S. Students	2014 Total U.S. Percentage
Full-time	58	87.9%	14,124,148	61.09%
Part-time	8	12.1%	8,997,703	38.91%

The sample represented a larger pool of full-time faculty than the NCES data indicated.

For faculty teaching on a physical campus, the institutions in which these faculty primarily taught were located in the United States or in the United States territories as described in Table 36 as compared to NCES data (2015d) on the number of institutions by state or territory. Although some states were not represented, the sample population did share similarities in the states that were represented. For example, for states representing 5% or greater of the total number of institutions by state or territory (California, Florida, Illinois, New York, Ohio, Pennsylvania, and Texas) all had representation in the sample. Many of those states that were missing in the sample also represented very small percentages of the overall universities in the NCES data. The sample did have ways in which it deviated from the NCES data in that there was a higher percentage of participants from Virginia (22.7%) than the NCES data demonstrated. Therefore, although there are similarities in the representation of the sample to the NCES

Table 36

Institution Location by State

State	Sample Population by state	Sample Percentage by state	2010-2011 Institutions by state	2010-2011 Percentage by state
Alabama	1	1.5%	9	0.36%
Alaska	0	0.0%	3	0.12%
American Samoa	0	0.0%	0	0.00%
Arizona	1	1.5%	42	1.69%
Arkansas	1	1.5%	32	1.29%
California	4	6.1%	248	9.96%
Colorado	0	0.0%	33	1.33%
Connecticut	1	1.5%	59	2.37%
Delaware	0	0.0%	8	0.32%
District of Columbia	2	3.0%	5	0.20%
Florida	2	3.0%	150	6.02%
Georgia	1	1.5%	46	1.85%
Guam	0	0.0%	0	0.00%
Hawaii	0	0.0%	5	0.20%
Idaho	0	0.0%	17	0.68%
Illinois	3	4.5%	108	4.34%
Indiana	1	1.5%	42	1.69%
Iowa	0	0.0%	26	1.04%
Kansas	0	0.0%	22	0.88%
Kentucky	0	0.0%	30	1.20%
Louisiana	0	0.0%	47	1.89%
Maine	0	0.0%	7	0.28%
Maryland	0	0.0%	32	1.29%
Massachusetts	0	0.0%	75	3.01%
Michigan	1	1.5%	89	3.57%
Minnesota	5	7.6%	26	1.04%
Mississippi	0	0.0%	20	0.80%
Missouri	0	0.0%	74	2.97%
Montana	0	0.0%	8	0.32%
Nebraska	1	1.5%	7	0.28%
Nevada	0	0.0%	18	0.72%
New Hampshire	0	0.0%	14	0.56%
New Jersey	2	3.0%	87	3.49%
New Mexico	1	1.5%	7	0.28%
New York	5	7.6%	151	6.06%
North Carolina	0	0.0%	42	1.69%

(table continued)

(table continued)

State	Sample Population by state	Sample Percentage by state	2010-2011 Institutions by state	2010-2011 Percentage by state
North Dakota	0	0.0%	8	0.32%
Northern Marianas	0	0.0%	0	0.00%
Ohio	1	1.5%	138	5.54%
Oklahoma	0	0.0%	83	3.33%
Oregon	1	1.5%	26	1.04%
Palau	0	0.0%	0	0.00%
Pennsylvania	4	6.1%	126	5.06%
Puerto Rico	0	0.0%	68	2.73%
Rhode Island	0	0.0%	11	0.44%
South Carolina	0	0.0%	27	1.08%
South Dakota	0	0.0%	6	0.24%
Tennessee	1	1.5%	66	2.65%
Texas	2	3.0%	170	6.83%
US Virgin Islands	0	0.0%	0	0.00%
Utah	0	0.0%	34	1.37%
Vermont	1	1.5%	4	0.16%
Virginia	15	22.7%	33	1.33%
Washington	2	3.0%	37	1.49%
West Virginia	0	0.0%	33	1.33%
Wisconsin	1	1.5%	30	1.20%
Wyoming	1	1.5%	1	0.04%

data, there were ways in which the sample differed.

Representativeness of the Sample. Based upon the results, the faculty who participated in the study had varied demographic backgrounds. The majority of faculty held advanced degrees with 98.5% having at least a master's degree or beyond. The NCES data for the same data from 2003 (NCES, 2015b) suggested that 86.5% of faculty had an advanced degree. Therefore, the population in the sample underrepresented faculty who have less than an advanced degree.

The sample represented a larger percentage of people with degrees in education (28.8%) than the NCES data (2015b) projected for the 2003 period. The sample population underrepresented some fields including agriculture (0.0% in the sample; 2.0% in the NCES data), fine arts (1.5% in the sample; 7.5% in the NCES data), health sciences (3.0% in the sample; 12.5% in the NCES data), and law (0.0% in the NCES data; 1.72% in the NCES data). However, other fields were represented similarly to the NCES data.

Although the NCES data (2015c) and the data from the sample for age groupings were not collected in a similar manner, there are similarities in the distribution of age. The population in the sample included 56.1% of participants who were above the age of 50. The NCES reported a similar majority of faculty above the age of 45. Therefore, the sample had some similarity, although a direct equivalence cannot be drawn because of the difference in collection.

The gender distribution in the sample showed slightly more women took the survey (60.6%) versus the NCES data on faculty from 2003 (2015c) (42.5%). The sample population was also slightly less white (71.2% in the sample data verses 82.5% in the NCES data); however, other populations were similarly represented in the sample verses the NCES data. There were some differences between the sample and the NCES data from 2003; however, the data did show that there were some similarities between the sample and the wider HE field.

The sample population also represented more 4-year or graduate institutions than the NCES data (2015l). The sample represented institutions that offered online only courses (3.0% in the sample versus 1.5% in the NCES data) and on campus or mostly on

campus (97.0% in the sample versus 98.53% in the NCES data) as compared to the NCES data (2015h). The sample overrepresented public institutions as compared to the NCES (2015c) data with 50.0% of the sample representing public institution, 39.4% representing nonprofit universities, and 10.6% representing for-profit universities, as compared to the NCES data with 35.0% for public, 36.1% for nonprofits, and 28.8% for for-profits. The sample also represented a higher proportion of faculty from larger institutions than the NCES (2015e; 2015f). Finally, the population in the sample showed some similarities to the overall data for colleges or universities by state, but did not represent all of these states, and Virginia was overrepresented in the data.

While there are some differences in both the demographics of the participants in the sample as compared to the NCES data, there were some similarities. These differences between the NCES data and the sample will be further discussed in the study's limitations.

Final Study Survey Reliability

As discussed in Chapter 3, the total faculty population in the most recent NCES data were 1,551,015 (NCES, 2015l). Using the sample size calculator on the Australian Bureau of Statistics (n.d.), using a confidence level or 95%, a population of 1,551,015 (NCES, 2015l), and confidence interval of .05, the idealized sample size for this study was $N = 285$. Additionally, the minimum number of participants to achieve a small effect size of $r = .20$ would have required 314 participants (Field, 2014). Despite attempts at oversampling, the final number of participants in this study were $N = 66$. Because the idealized population was not achieved, I conducted a power analysis to determine the

minimum number of participants that would be required to achieve between a medium and small effect. This was conducted in order to determine if the sample size achieved in the study was enough to see a small to medium effect, making it possible to still generalize to the wider population.

Using G*Power to calculate other possible sample sizes, to see a medium effect size of r = .5, 42 participants would be required; to observe a large effect size with an r = .8, 10 participants would be required. The initial goal was to have a large enough sample to be able to observe a small effect size (N= 314), with the idealized sample size being N = 385 per the sample size calculator. For the final study, a total of N = 66 participants took part in the survey. With this sample size, it would be possible to detect a medium-small effect of around r = 0.41. Although the desired N = 385 participants was not achieved, a small-medium effect size is sufficient to conduct the statistical analysis, and to still have some power to generalize beyond the sample.

Olejnik (1984) and Gall et al. (2007) reported projected sample sizes based upon small, medium, and large effect sizes for a variety of statistical tests. They reported that the minimum sample to see a medium effect for a partial correlation like the Cronbach's α would require a minimum of 44 participants (with α=.05 and a statistical power of .7), and a small effect would require 312. This matches previous predictions for sample size based upon G*Power. Therefore, it would be expected that with N = 66 in the sample, that at least a medium effect could be detected.

Furthermore, Olejnik (1984) and Gall et al. (2007) reported that an ANCOVA (a MANOVA and MANCOVA were not reported, but since the principles for the statistical

analysis have similarities, and since these tests are more robust than ANCOVA, this was used as it is closest) would require 166 participants for a medium effect size (with α=.05 and a statistical power of .7), and 27 for a large effect size. Therefore, with the sample size of N = 66, it would be possible that a large effect could be observed. Increasing sample size increases the potential standard error between the results and the actual population (Singleton & Straits, 2010), so although the results could be representative of the results of the wider population, there may be a wider variation in the actual results found in the population. In order to provide insights into the precision of these results, every effort was made to calculate the power and what sample size might be required to observe the effect to understand the power of the data.

Final Study Survey Validation

Because the number of pilot study participants was not enough to conduct a full validation of the survey instrument, this validation was conducted prior to final data analysis. This section reports on the Cronbach's $\propto$ for each section of the survey and whether questions were excluded before the final analysis of the data. Unless otherwise specified, responses are along a Likert scale between 1 to 5, with 1 indicating a strongly negative response, 3 representing a neutral response, and 5 for a strongly positive response. Table 37 shows the initial overall reliability statistics for thematically group subsections by survey section.

Cronbach's α values of between .7 and .8 and corrected item-total correlation above .3 indicate good reliability of items in the thematic grouping (Field, 2014). Alpha values below .7 indicate that sections could have problems of internal consistency, and

thus should be considered for deletion. For the majority of sections, the Cronbach's α scores were above the minimum threshold of .7. Five sections of the survey had Cronbach's α values below this threshold.

Table 37

All Items Reliability Statistics

Section and subquestion group	α	α Stand. Items	N of Items
Needs of ELLs			
ELLs academic skills	.883	.887	8
ELLs language skills	.913	.914	10
Academic settings of ELLs home countries	.936	.936	7
ELLs need	.792	.808	8
ELLs can be successful	.737	.745	6
Working with ELLs			
Language acquisition processes	.886	.887	2
Responsible for ELLs' success	.706	.713	5
Addressing academic skill gaps	.907	.908	8
Responsibility for addressing academic skill gaps	.910	.910	8
Addressing language skill gaps	.934	.936	10
Responsibility for addressing language skill gaps	.966	.966	10
Including ELLs	.325*	.479	6
Accommodations for ELLs	.773	.798	8
Professional Development Needs Working with ELLs			
Skills and Available Resources	.769	.763	15
Professional Development			
Available PD General	.462*	.499	7
Available PD specific to ELLs	.553*	.807	7
How faculty engage in PD related to their discipline	.304*	.425	8
How faculty engage in PD related to teaching	.779	.791	9
Input at Work	.449*	.449	2

*$\propto < .7$

Table 38 shows the statistics subquestions for the Needs of ELLs/Academic skills section of the survey.

Table 38

Reliability Statistics: Needs of ELLs/Academic Skills

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.883	.887	8

The overall reliability statistic was α = .883, demonstrating good reliability. The individual items are reported in Table 39.

Table 39

Item-Total Statistics: Needs of ELLs/Academic Skills

The ELL students in my courses are well-equipped to _____ common in academic settings.	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
comprehend lectures	19.74	28.352	0.683	0.579	0.866
take accurate notes	20.08	27.947	0.674	0.609	0.866
deliver presentations	19.85	29.663	0.546	0.423	0.878
understand varying rhetorical styles in speech	20.65	27.451	0.774	0.661	0.857
read technical writing	20.12	27.203	0.659	0.553	0.868
understand abstract language	20.49	27.254	0.736	0.623	0.860
write at the expected academic level	20.65	28.576	0.678	0.486	0.866
contribute to in-class discussions	19.97	28.187	0.506	0.336	0.887

All items in the corrected item-total correlation were all above .3, and all α items were above .7. Based upon these results, these questions were all maintained.

Table 40 shows the statistics subquestions for the Needs of ELLs/Language skills section of the survey.

Table 40

Reliability Statistics: Needs of ELLs/Language Skills

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.913	.914	10

The overall reliability statistic was α = .913, demonstrating good reliability. The individual items are reported in Table 41.

Table 41

Item-Total Statistics: Needs of ELLs/Language Skills

The ELL students in my courses are well-equipped with the skills required for an academic program relative to their abilities in:	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
grammar.	26.84	44.716	0.668	0.712	0.905
sentence structure.	26.95	44.240	0.732	0.766	0.902
pronunciation.	26.44	43.864	0.669	0.572	0.906
general oral skills.	26.16	44.942	0.651	0.628	0.906
word choice.	26.56	44.315	0.771	0.695	0.900
academic vocabulary.	26.59	42.214	0.802	0.737	0.897
academic writing.	27.1	45.055	0.737	0.676	0.902
reading skills.	26.08	46.203	0.562	0.437	0.911
English.	26.33	44.903	0.610	0.549	0.909
making connections between their L1 and English.	25.95	45.853	0.637	0.602	0.907

All items in the corrected item-total correlation were all above .3, and all α items were high. Based upon these results, these questions were all maintained in the final analysis.

Table 42 shows the statistics subquestions for the ELLs' home countries section of the survey:

Table 42

Reliability Statistics: Home Setting

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.936	.936	7

The overall reliability statistic was $\alpha = .936$, demonstrating good reliability. The individual items are reported in Table 43.

Table 43

Item-Total Statistics: Home Setting

I UNDERSTAND what the academic setting is like IN THE HOME COUNTRIES of my ELL students in terms of ____.	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
the style of education employed (examples: student centered, constructive, etc.)	16.22	36.859	0.734	0.685	0.931
the kind of work expected (examples: papers, essays, projects, quizzes, etc.)	16.48	35.503	0.880	0.853	0.918
the amount of work required in a typical semester	16.6	35.931	0.852	0.808	0.920
the grading system	16.8	36.694	0.755	0.636	0.929
interactions that students have with instructors in class	16.18	36.090	0.764	0.684	0.929
interactions that students have with one another in class	16.45	36.220	0.802	0.741	0.925
expectations of the instructor	16.48	36.941	0.760	0.644	0.929

All items in the corrected item-total correlation were all above .3, and all α items were high. Based upon these results, these questions were all maintained in the final analysis.

Table 44 shows the statistics subquestions for the needs of ELLs section of the survey:

Table 44

Reliability Statistics: ELLs' Needs Accommodation

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.792	.808	8

The overall reliability statistic was $\alpha = .792$, demonstrating good reliability. The individual items are reported in Table 45.

Table 45

Item-Total Statistics: ELLs' Needs Accommodation

ELLs...	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	α if Item Deleted
need additional time to complete their coursework.	15.83	27.156	0.478	0.748	0.772
need more time to complete their coursework than their non-ELL peers.	15.73	25.617	0.533	0.761	0.763
should receive less coursework than other students.	17.68	28.343	0.539	0.446	0.767
should have more simplified coursework.	17.59	27.630	0.556	0.541	0.763
should be permitted to use their native language in my course among other ELLs.	16.82	26.520	0.344	0.598	0.805
should be provided materials in their native language(s).	17.20	25.268	0.677	0.685	0.740
should be graded differently than their non-ELL peers.	17.50	26.438	0.620	0.568	0.752
require more of my time than other students require.	15.82	27.782	0.384	0.355	0.787

All items in the corrected item-total correlation were all above .3, and all α items were high. The question about whether ELLs should be allowed to use their native language in class showed that removing it would increase the reliability for the section. However, removing it would only slightly increase the reliability. Given that the corrected item-total correlation was still above .3, and the fact that the overall α with this item included was still in the acceptable range, this item was maintained. Based upon these results, these questions were all be maintained in the final analysis.

Table 46 shows the statistics subquestions for the ELLs can be successful section of the survey:

Table 46

Reliability Statistics: ELLs' Success vs. Other Students

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.737	.745	6

The overall reliability statistic was α = .737, demonstrating good reliability. The individual items are reported in Table 47.

All items in the corrected item-total correlation for this section were all above .3, and all α items were around .7. With an α = .737, and with the individual items at or around .7, these questions were all maintained in the final analysis.

Table 47

Item-Total Statistics: ELLs' Success vs. Other Students

Relative to their own personal academic abilities, ____ can be successful in my course with normal effort.	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
a NON-ELL who, even with significant effort, finds it difficult to pass most classes	16.89	14.158	0.487	0.443	0.695
a NON-ELL who, even with effort, is generally able to pass most classes	15.67	14.226	0.599	0.660	0.669
a NON-ELL who, with little effort, is generally able to pass most classes	15.92	14.225	0.433	0.640	0.712
an ELL who, even with significant effort, finds it difficult to pass most classes	16.89	15.327	0.343	0.493	0.735
an ELL who, even with effort, is generally able to pass most classes	15.89	13.942	0.582	0.689	0.670
an ELL who, with little effort, is generally able to pass most classes	16.00	13.846	0.434	0.645	0.714

Table 48 shows the statistics subquestions for the faculty's understanding of the language acquisition processes section of the survey:

Table 48

Reliability Statistics: Language Acquisition Processes

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.886	.887	2

The overall reliability statistic was α = .886, demonstrating good reliability. The individual items are reported in Table 49.

Table 49

Item-Total Statistics: Language Acquisition Processes

I have a good understanding of...	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
the processes involved in learning a second language.	3.26	1.610	.798	.636	-
how long it would take someone to learn a second language to be able to succeed in university courses.	3.39	1.381	.798	.636	-

Because there were only two items in this section, α values are not available. However, since corrected item-total correlation were all above .3, and because the $\alpha = .886$, these items were all included in the final analysis.

Table 50 shows the statistics subquestions for the Responsible for ELLs' Success section of the survey:

Table 50

Reliability Statistics: Responsible for ELLs' Success

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.706	.713	5

The overall reliability statistic was $\alpha = .706$, demonstrating good reliability. The individual items are reported in Table 51.

Table 51

Item-Total Statistics: Responsible for ELLs' Success

Who is responsible for...	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
the success of ELLs in my courses?	12.09	5.253	0.460	0.247	0.671
helping ELL students adjust to the US-based higher education experience?	11.88	3.985	0.541	0.335	0.623
assisting ELLs in improving their LANGUAGE skills?	12.55	4.559	0.426	0.334	0.673
assisting ELLs in improving their ACADEMIC skills?	11.89	4.250	0.495	0.340	0.644
assisting ELLs in improving their knowledge of COURSE CONTENT?	11.59	4.676	0.431	0.363	0.670

All items in the corrected item-total correlation were all well above .3, and all α items were around .7. Because the overall α = .706, and because all items had an α close to .7, these questions were all maintained in the final analysis.

Table 52 shows the statistics subquestions for Addressing the Academic Skills Gap section of the survey:

Table 52

Reliability Statistics: Addressing the Academic Skills Gap

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.907	.908	8

The overall reliability statistic was $\alpha = .907$, demonstrating good reliability. The individual items are reported in Table 53.

Table 53

Item-Total Statistics: Addressing the Academic Skills Gap

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
comprehend lectures.	27.42	30.248	0.695	0.601	0.896
take accurate notes.	27.73	28.909	0.735	0.607	0.892
deliver presentations.	27.35	31.954	0.642	0.521	0.901
understand varying rhetorical styles in speech.	27.88	28.447	0.727	0.649	0.893
read technical writing.	27.73	28.571	0.770	0.636	0.889
understand abstract language.	27.82	26.582	0.801	0.702	0.886
write at the expected academic level.	27.44	30.681	0.624	0.503	0.901
contribute to in-class discussions.	27.35	30.877	0.644	0.474	0.900

All items in the corrected item-total correlation were all above .3, and all α items were above .7. Based upon these results, these questions were all maintained in the final analysis.

Table 54 shows the statistics subquestions for the Comfortability Addressing Academic Skills Gap section of the survey. The overall reliability statistic was $\alpha = .910$, demonstrating good reliability.

Table 54

Reliability Statistics: Comfortable Addressing Academic Skills Gap

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.910	.910	8

The individual items are reported in Table 55.

Table 55

Item-Total Statistics: Comfortable Addressing Academic Skills Gap

IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
comprehend lectures.	25.15	33.820	0.739	0.629	0.896
take accurate notes.	25.69	33.748	0.712	0.538	0.898
deliver presentations.	25.15	34.226	0.742	0.629	0.896
understand varying rhetorical styles in speech.	25.71	33.366	0.736	0.617	0.896
read technical writing.	25.52	33.847	0.666	0.576	0.902
understand abstract language.	25.46	32.534	0.771	0.658	0.893
write at the expected academic level.	25.22	34.797	0.670	0.590	0.902
contribute to in-class discussions.	25.09	35.273	0.636	0.614	0.904

All items in the corrected item-total correlation were above .3, and all α were above .7.

Based upon these results, all questions were maintained for the final analysis.

Table 56 shows the statistics subquestions for the Addressing the Language Skills Gap section of the survey:

Table 56

Reliability Statistics: Addressing the Language Skills Gap

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.934	.936	10

The overall reliability statistic was α = .934, demonstrating good reliability. The individual items are reported in Table 57.

Table 57

Item-Total Statistics: Addressing the Language Skills Gap

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
grammar.	33.79	57.924	0.816	0.898	0.923
sentence structure.	33.74	58.379	0.837	0.916	0.922
pronunciation.	33.92	58.440	0.768	0.757	0.925
general oral skills.	33.71	61.347	0.680	0.595	0.930
word choice.	33.52	61.331	0.775	0.770	0.926
academic vocabulary.	33.47	62.038	0.702	0.725	0.929
academic writing.	33.61	60.919	0.711	0.624	0.928
reading skills.	34.02	58.446	0.759	0.702	0.926
developing strategies for improving their English.	34.09	59.715	0.657	0.544	0.931
making connections between their first language and English.	34.59	56.461	0.727	0.684	0.929

All items in the corrected item-total correlation were all above .3, and all α items were above .7. Based upon these results, these questions were all maintained in the final analysis.

Table 58 shows the statistics subquestions for the Addressing the Language Skills Gap section of the survey:

Table 58

Reliability Statistics: Comfortable Addressing the Language Skills Gap

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.966	.966	10

The overall reliability statistic was $\alpha = .966$, demonstrating good reliability. The individual items are reported in Table 59.

Table 59

Item-Total Statistics: Comfortable Addressing the Language Skills Gap

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
grammar.	29.49	98.566	0.827	0.848	0.962
sentence structure.	29.37	95.955	0.934	0.929	0.958
pronunciation.	29.42	97.809	0.901	0.872	0.960
general oral skills.	29.29	101.398	0.797	0.729	0.964
word choice.	29.25	99.095	0.846	0.839	0.962
academic vocabulary.	28.92	99.572	0.815	0.794	0.963
academic writing.	29.02	98.734	0.875	0.850	0.961
reading skills.	29.45	100.095	0.845	0.786	0.962
developing strategies for improving their English.	29.42	96.840	0.842	0.813	0.962
making connections between their first language and English.	29.65	100.076	0.753	0.758	0.965

All items in the corrected item-total correlation were all above .3, and all α items were above .7. These questions were all maintained in the final analysis.

Table 60 shows the statistics for the Inclusion of ELLs section of the survey:

Table 60

Reliability Statistics: Inclusion of ELLs

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.325	.479	6

The overall reliability statistic was α = .325, demonstrating inconsistent reliability. The individual items are reported in Table 61.

Table 61

Item-Total Statistics: Inclusion of ELLs

Question	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
I welcome the inclusion of ELLs in my courses.	19.92	6.225	0.344	0.507	0.197
The inclusion of ELLs in my courses creates a positive educational atmosphere.	20.06	5.781	0.406	0.656	0.142
The inclusion of ELLs in my courses benefits all students.	20.12	5.308	0.504	0.654	0.062
ELLs should be required to attain a minimum level of English proficiency before being included in my courses.	20.24	6.740	0.025	0.194	0.368
The inclusion of ELLs in my courses increases my workload.	20.77	6.640	-0.037	0.202	0.440
I have enough time to deal with the needs of ELLs.	21.30	6.153	-0.017	0.108	0.452

All items in the corrected item-total correlation were around or below .3, and all α items were less than .7. Because the values are so far below the .7 threshold, these questions were excluded from the final analysis.

Table 62 shows the statistics subquestions for the Accommodations for ELLs section of the survey:

Table 62

Reliability Statistics: Accommodations for ELLs

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.773	.798	8

The overall reliability statistic was α = .773, demonstrating good reliability. The individual items are reported in Table 63.

Most of the items in the corrected item-total correlation were all above .3, and all α items were above .7. Two items had corrected item-total correlations below the .3 threshold (*I allow ELLs to use their native language.* and *I provide material for ELLs in their native language[s]*); however, because both items showed α values at .820 and .776 respectively, they were maintained in the final analysis.

Table 63

Item-Total Statistics: Accommodations for ELLs

Question	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	α if Item Deleted
I allow ELLs additional time to complete their coursework.	14.39	24.919	0.520	0.639	0.740
I allow more time for ELLs to complete their work than their non-ELL peers.	14.67	23.856	0.606	0.714	0.724
I give ELLs less coursework than their non-ELL peers.	15.76	25.694	0.651	0.820	0.727
I simplify coursework for ELLs.	15.67	24.656	0.733	0.850	0.712
I allow ELLs to use their native language(s) with other ELLs.	14.36	27.435	0.164	0.156	0.820
I provide materials for ELLs in their native language(s).	16.09	30.699	0.289	0.139	0.776
I grade the work of ELLs differently than their non-ELL peers.	15.36	23.589	0.594	0.418	0.726
I give ELLs more of my time than other students.	14.39	24.242	0.485	0.316	0.748

Table 64 shows the statistics subquestions for the Skills and Available Resources for working with ELLs section of the survey:

Table 64

Reliability Statistics: Skills and Available Resources

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.769	.763	15

The overall reliability statistic was $\alpha = .769$, demonstrating good reliability. The individual items are reported in Table 65.

Table 65

Item-Total Statistics: Skills and Available Resources

Question	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
I have the necessary skills and abilities directly related to addressing the specific/unique needs of the ELLs in my courses.	23.44	58.096	0.290	0.670	0.764
I have adequate training or support to TEACH to the specific needs of ELLs.	23.74	58.040	0.272	0.743	0.766
I would like more training or support to TEACH to the specific needs of ELLs.	22.48	62.961	0.046	0.660	0.779
My institution provides the necessary training or support to TEACH the specific needs of ELLs.	24.21	54.908	0.470	0.754	0.747
I have adequate training or support to ASSESS the specific needs of ELLs.	23.98	56.415	0.359	0.564	0.758
I would like more training or support to ASSESS the specific needs of ELLs.	22.61	64.089	-0.045	0.650	0.789
My institution provides the necessary training or support to ASSESS the specific needs of ELLs.	24.21	56.354	0.429	0.721	0.751
In the past 12 months, were ELL specialists made available to you at your place of work related to working with ELLs?	25.86	57.350	0.429	0.430	0.752
In the past 12 months, was experienced peer to offer informal advice made available to you at your place of work related to working with ELLs?	25.79	56.877	0.470	0.391	0.749
In the past 12 months, were text resources (examples: books/brochures/flyers made available from your institution on teaching these students) made available to you at your place of work related to working with ELLs?	25.83	56.479	0.416	0.451	0.753

(table continued)

(table continued)

Question	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
In the past 12 months, were web resources available on your institution's website made available to you at your place of work related to working with ELLs?	25.62	54.977	0.430	0.522	0.751
In the past 12 months, were trainings/workshops/professional development about ELLs made available to you at your place of work related to working with ELLs?	25.52	53.484	0.538	0.568	0.740
In the past 12 months, was a formal professional learning community or other similar group made available to you at your place of work related to working with ELLs?	25.61	52.735	0.566	0.526	0.737
In the past 12 months, was a faculty development office (at the university, but not specific to my department/division) made available to you at your place of work related to working with ELLs?	25.52	57.761	0.332	0.586	0.760
In the past 12 months, was a faculty development office (in my department/division) made available to you at your place of work related to working with ELLs?	25.94	54.519	0.542	0.532	0.741

Most of the items in the corrected item-total correlation were all above .3, and all α items were above .7. Two items had corrected item-total correlation values less than .3 (*I would like more training or support to ASSESS the specific needs of ELLs.* and *I would like more training or support to TEACH to the specific needs of ELLs.*), suggesting some concerns of inconsistent reliability. Although the deletion of the items would improve the α value, the overall alpha is still within an acceptable range with α=.769;

therefore, they were maintained for the final analysis.

Table 66 shows the statistics subquestions for the Available General PD section.

Table 66

Reliability Statistics: Available PD General

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.462	.499	7

The overall reliability statistic was $\alpha = .462$, demonstrating inconsistent reliability. The individual items are reported in Table 67. With an overall $\alpha = .462$, these questions were all excluded from the final analysis.

Table 67

Item-Total Statistics: Available PD General

Over the past 12 months….	Scale Mean if Item Deleted	Scale Var. if Item Deleted	Corrected Item-Total Corr.	Squared Multiple Corr.	α if Item Deleted
did you participate in any form of PD?	34.55	390.621	0.302	0.233	0.470
did you engage in PD offered by your POW?	34.64	388.758	0.327	0.302	0.467
estimate the number of hours of PD offered by your POW.	24.44	189.850	0.461	0.364	0.241
how many hours of overall PD did you actually engage in from your POW?	26.98	214.138	0.542	0.314	0.195
did you participate in any PD offered by a PO?	34.70	387.691	0.350	0.639	0.465
how many hours of overall PD did you engage in from a PO?	24.95	212.352	0.359	0.407	0.336
If you did take advantage of PD from a PO did you or your institution have to pay for it?	32.65	422.015	-0.312	0.534	0.547

Note. Corr. = correlation; PO = professional organization; POW = place of work. Abbreviations for PO and POW were spelled out in the survey.

Table 68 shows the statistics subquestions for the Available PD Specific to ELLs for working with ELLs section of the survey:

Table 68

Reliability Statistics: Available PD General for Working with ELLs

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.553	.807	5

The overall reliability statistic was $\alpha = .553$, demonstrating inconsistent reliability. The individual items are reported in Table 69. These questions were all excluded from the final analysis with an overall $\alpha = .552$.

Table 69

Item-Total Statistics: Available PD General for Working with ELLs

Over the past 12 months…	Scale Mean if Deleted	Scale Var. if Deleted	CI-Total Corr.	Squared Multiple Corr.	α if Item Deleted
did you participate in any form of PD related to working with ELLs?	2.11	35.512	0.365	0.741	0.556
did you participate in any form of PD offered by your POW related to working with ELLs?	2.17	35.279	0.491	0.786	0.550
how many hours of PD related to working with ELLs did you engage in from your POW?	1.61	17.904	0.601	0.694	0.266
did you participate in any form of PD offered by a PO related to working with ELLs?	2.12	34.354	0.639	0.651	0.530
how many hours of PD did you engage in related to working with ELLs from a PO?	1.21	10.047	0.570	0.512	0.411

Note. CI = corrected item; Var. = variation; Corr. = correlation; PO = professional organization; POW = place of work. Abbreviations for PO and POW were spelled out in the survey.

Table 70 shows the statistics subquestions for the How Faculty Engage in PD Personally Related to their Discipline section of the survey:

Table 70

Reliability Statistics: Personal PD Related to Discipline

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.304	.425	8

The overall reliability statistic was $\alpha = .304$, demonstrating inconsistent reliability. The individual items are reported in Table 71.

Table 71

Item-Total Statistics: Personal PD Related to Discipline

Question	Scale Mean if Item Deleted	Scale Var. if Item Deleted	Corrected Item-Total Corr.	Squared Multiple Corr.	α if Item Deleted
Resources from professional organizations about my discipline	6.14	0.827	0.320	0.602	0.218
Taking courses related to my discipline	6.48	0.654	0.083	0.080	0.339
Attending conferences or workshops about my discipline	6.17	0.787	0.264	0.581	0.211
Reading books related to my discipline/content area	6.17	0.879	0.045	0.272	0.311
Reading academic publications about my discipline	6.14	0.858	0.219	0.206	0.252
From my own research about my discipline	6.20	0.776	0.192	0.107	0.236
Engaging with colleagues about my discipline	6.15	0.869	0.114	0.168	0.282
Searching on the internet about my discipline	6.30	0.799	-0.003	0.132	0.375

Note. Var. = variation; Corr. = correlation; PO = professional organization; POW = place of work. Abbreviations for PO and POW were spelled out in the survey.

All items in this section have corrected item-total correlations below .3, and all α items were below .7. Based upon these results, these questions were excluded from the final analysis.

Table 72 shows the statistics subquestions for the How Faculty Engage in PD Personally Related to their Teaching section of the survey:

Table 72

Reliability Statistics: Personal PD Related to Teaching

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.779	.791	9

The overall reliability statistic was α = .779, demonstrating good reliability. The individual items are reported in Table 73.

Table 73

Item-Total Statistics: Personal PD Related to Teaching

Did you take advantage of…?	Scale Mean if Item Deleted	Scale Var. if Item Deleted	CI-Total Corr.	Squared Multiple Corr.	α if Item Deleted
PO resources on teaching	6.02	3.892	0.505	0.397	0.752
Taking courses related to teaching	6.36	3.897	0.337	0.240	0.782
Attending conferences or workshops	6.12	3.677	0.533	0.393	0.747
Reading books related to teaching skills	6.11	3.542	0.636	0.434	0.730
Reading academic publications	6.00	3.969	0.473	0.464	0.757
From my own research about teaching	6.08	3.763	0.518	0.348	0.749
Engaging with colleagues about teaching	5.89	4.435	0.321	0.396	0.776
Teaching experience and reflection	5.88	4.354	0.479	0.414	0.765
Searching on the internet about teaching	6.21	3.677	0.481	0.265	0.757

Note. CI = corrected item; Var. = variation; Corr. = correlation; PO = professional organization. The abbreviation for PO was spelled out in the survey.

All items in the corrected item-total correlation were all above .3, and all α items were above .7. Based upon these results, these questions were all maintained in the final analysis.

Table 74 shows the subquestions for the Input at Work section of the survey:

Table 74

Reliability Statistics: Input on ED

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.449	.449	2

The overall reliability statistic was α = .449, demonstrating inconsistent reliability. The individual items are reported in Table 75.

Table 75

Item-Total Statistics: Input on ED

Question	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	α if Item Deleted
Are you ever asked to provide input on the kind of training offered by your POW? If so, how often are you asked?[a]	3.44	1.604	.289	.084	-
My POW is actually open to implementing feedback on training given by the faculty.[b]	1.15	1.546	.289	.084	-

Note. Var. = variation; Corr. = correlation; PO = professional organization; POW = place of work. Abbreviations for PO and POW were spelled out in the survey.
[a]Zero being "No", I have never been asked, 1 being "Yes", I'm asked every semester, and 3 being "Yes", I am asked at least once per year but not every semester. [b] Respond to the following on a scale of 1-5 (1 being strongly disagree and 5 being strongly agree):

There were only two items for this section. Because the corrected item-total correlation were all below .3, and the overall α was below .7, these questions were excluded from the final analysis.

Based upon the Cronbach's α analysis, Table 76 represents the items that were maintained for the final analysis. This included the exclusion of the following sections: 1) Inclusion of ELLs, 2) Available PD General 3) Available PD Specific to ELLs, 4) How Faculty Engage in PD Personally Related to their Discipline, and 5) Input at Work.

Table 76

Final Included Items Reliability Statistics

Section and subquestion group	Cronbach's α	Cronbach's α Standardized Items	N of Items
Needs of ELLs			
ELLs academic skills	.883	.887	8
ELLs language skills	.913	.914	10
Academic settings of ELLs home countries	.936	.936	7
ELLs need	.792	.808	8
ELLs can be successful	.737	.745	6
Working with ELLs			
Language acquisition processes	.886	.887	2
Responsible for ELLs' success	.706	.713	5
Addressing academic skill gaps	.907	.908	8
Responsibility for addressing academic skill gaps	.910	.910	8
Addressing language skill gaps	.934	.936	10
Responsibility for addressing language skill gaps	.966	.966	10
Accommodations for ELLs	.773	.798	8
Professional Development Needs Working with ELLs			
Skills and Available Resources	.769	.763	15
Professional Development			
How faculty engage in PD personally related to teaching	.779	. 791	9

Results

This section reports on the results of the final study in relation to the research questions. The assumptions of the statistical tools used are described, followed by statistical analysis of the results for each research question. After the assumptions of the data and statistics are explained, the data are analyzed in relation to the research questions. Each research question is presented, the assumptions of the hypothesis are tested, and answers to each research question are provided.

Statistical Assumptions

A MANCOVA and MANOVA were used in this analysis. Before the data were analyzed, they were reviewed for any outliers. This section includes a discussion of the outliers in the data, followed by a testing of the assumptions of the MANOVA and MANCOVA.

Outliers. In order to check for any outliers in the data, the descriptive statistics for each section of the survey were run looking for any standard deviations (SD) greater than |2.00SD|. Of the questions included after evaluating Cronbach's reliability statistics, none of the SD were greater than |2.00 SD|. The observed SDs ranged from 0.210 SD to 1.534 SD. Appendix J includes a table for the descriptive statistics for included questions.

In analyzing the box plots for the remaining questions, when outliers were present, there were generally between two to four. Assuming that approximately 95% of the sample fell within the distribution of responses, it would be expected that there would be roughly 4 cases out of the total 66 responses would deviate from the norm. Therefore, a review of outliers beyond four cases was conducted. There were six questions with

more than four outliers. Five of those questions had five total outliers, with none demonstrating instances of extreme scores. Only one of the questions had extreme outliers, in addition to having more than four outliers. This questions was 1) *Who is responsible for the success of ELLs in my courses?* Variation in this question could be a result of differences among participants based upon the factors being explored in the statistical analysis, and it was maintained.

Larson-Hall (2015) suggested that the removal of outliers is problematic because it removes the independence of the sample, and the removal or maintenance of a data points can be subjective. Since the statistical tests used in this analysis intended to explore the minute differences between the faculty, and since Larson-Hall's suggestion that removing outliers may mask these differences, because the SD for the questions were within the acceptable threshold of |2.00 SD|, and there were no extreme outliers in the maintained questions aside from the one previously noted, the outliers were maintained.

Assumptions of the statistical tests. The MANOVA and MANCOVA analyze several variables at once (Field, 2014). They require that several conditions be met. This includes independence of the sample, random sampling, multivariate normality, homogeneity of covariance matrices, and assumptions of multicollinearity. These assumptions are tested in the following section.

Testing assumptions of the statistical tests. Every attempt was made to ensure that the data were collected from a variety of respondents and that the sample was random. To do so, I employed multiple methods of disseminating the request for participants including multiple listservs aimed at faculty in HE, social media tools, and

contacting a variety of colleges and universities where there was a high proportion of international students studying there. This allowed for recruitment of faculty across a variety of disciplines and institution types. This was borne out in the data since there were faculty across multiple institutional types and demographic types. Because of the variety of participants in the study, the reach of the call for participants, and because participation allowed for self-selection of participants, the sample is assumed to be random and independent.

Since MANOVA and MANCOVA require normality, the questions that were maintained past the reliability review were analyzed for their skewness and kurtosis. Using SPSS, the skewness and kurtosis were evaluated using histograms, P-P plots, Q-Q plots, and stem and leaf plots. For all maintained questions, skewness and kurtosis values were converted to a *z*-skewness score and a *z*-kurtosis score. Kim (2013) suggested that for a sample size between 50-300, a *z*-value above 3.29 would suggest a non-normal distribution. A total of 30 questions had a *z*-skewness score or a *z*-kurtosis score above the threshold of 3.29. Because the assumptions of the statistical tests used in this analysis require a normal distribution, the values for these questions were transformed using a log10 transformation to approximate the normal distribution (Field, 2014; Larson-Hall, 2015). The transformed values were saved with "trfm" added to the original variables used in SPSS so as to maintain the original data intact and the transformed data. Upon transformation, the *z*-skewness score and a *z*-kurtosis scores were once again calculated to ensure normality. Table 77 reports the original *z*-skewness score and a *z*-kurtosis scores and their transformed values.

Table 77

Original And Transformed z-Values

Question	Orig. z-Skew.	Orig. z-Kurt.	Trfmd z-Skew.	Trfmd z-Kurt.
Resources from professional organizations about teaching	5.73*	1.51	0.19	1.12
Taking courses related to teaching	0.42	3.52*	2.38	0.28
Reading books related to teaching skills	3.54*	1.61	0.28	0.62
Reading academic publications about teaching	6.21*	2.39	0.16	0.42
From my own research about teaching	4.17*	0.86	0.24	1.16
Engaging with colleagues about teaching	12.78*	21.63*	0.08	0.05
Actual teaching experience and personal reflection	15.14*	31.80*	0.07	0.03
In the past 12 months, ELL specialists have been made available at my place of work related to working with ELLs.	5.79*	3.40*	0.44	0.90
In the past 12 months, an experienced peer to offer informal advice has been made available at my place of work related to working with ELLs.	5.23*	2.80	0.32	3.24
In the past 12 months, text resources (examples: books/brochures/flyers made available from your institution on teaching these students) have been made available at my place of work related to working with ELLs.	5.34*	1.62	4.86*	0.44
In the past 12 months, web resources available on my institution's website have been made available at my place of work related to working with ELLs.	3.68*	1.04	0.11	0.46
In the past 12 months, a formal professional learning community or other similar group has been made available at my place of work related to working with ELLs.	3.60*	1.08	1.38	1.95
In the past 12 months, a faculty development office (at the university, but not specific to my department/division) has been made available at my place of work related to working with ELLs.	3.49*	0.32	0.46	0.54
In the past 12 months, a faculty development office (in my department/division) has been made available at my place of work related to working with ELLs.	6.18*	2.66	0.56	0.10

(table continued)

(table continued)

Question	Orig. z-Skew.	Orig. z-Kurt.	Trfmd z-Skew.	Trfmd z-Kurt.
I give ELLs less coursework than their non-ELL peers.	5.49*	2.18	0.22	4.66*
I simplify coursework for ELLs.	4.39*	0.34	0.28	0.88
I provide materials for ELLs in their native language(s).	10.83*	16.27*	0.10	0.08
I grade the work of ELLs differently than their non-ELL peers.	3.87*	0.04	0.39	0.52
ELLs should receive less coursework than other students.	6.17*	4.21*	0.23	1.78
ELLs should have more simplified coursework.	6.30*	5.23*	0.26	6.93*
ELLs should be graded differently than their non-ELL peers.	5.11*	2.36	0.31	1.10
The ELL students in my courses are well-equipped to write at the expected academic level common in academic settings.	3.55*	2.31	0.95	0.95
I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better comprehend lectures.	4.12*	2.76	0.12	0.08
I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better... write at the expected academic level.	3.74*	1.88	0.13	0.09
I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better contribute to in-class discussions.	4.88*	4.21*	0.11	0.07
The ELL students in my courses are well-equipped with the skills required for an academic program relative to their abilities in academic writing.	3.37*	2.52	1.27	0.89
I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their word choice.	3.82*	2.73	0.12	0.07
I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their academic vocabulary.	4.37*	3.17*	0.12	0.07
I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their academic writing.	3.30*	0.82	0.16	0.13
Who is responsible for the success of ELLs in my courses?	5.10*	9.21*	0.09	0.05

Note. Trfmd = transformed; Orig. = original; Skew = skewness; Kurt. = kurtosis
*z-value > 3.29

For the transformed values, all transformed *z*-skewness scores or *z*-kurtosis scores were below the threshold of 3.29 except for three questions. To ensure that all questions have responses approximating a normal distribution, the following question were omitted from the final analysis: *In the past 12 months, text resources (examples: books/brochures/flyers made available from your institution on teaching these students) have been made available at my place of work related to working with ELLs.*

The two other questions (*I give ELLs less coursework than their non-ELL peers*; and, *ELLs should have more simplified coursework.*) with *z*-values > 3.29 were maintained for the final analysis because each of these questions have a correlated question asking a value judgment about whether the action is good to do versus whether they do that action (the two questions with *z*-values > 3.29). Any conclusions involving these questions included notes that the responses did not approximate a normal distribution, and their results should be regarded with some caution.

The homogeneity of variances is tested using the Levene's test. This is the assumption that the variances of different groups are equal (Field, 2014). The results of the Levene's test are reported with the full statistical analysis, of which all showed that this assumption was met.

In analyzing the multicollinearity for the IV-Demographics, only one question had a potentially high rate of correlation. This was found when including the question about whether faculty have lived outside of the U.S. Since the correlation with this item had a variance inflation factor (VIF) greater than 10, it was monitored. Since this was the only item that had a high VIF, it was maintained for the analysis. For IV-Context, there

were no items that had a VIF higher than 3. Finally, for IV-ED, the items were binary constants (yes or no), and this they could not be evaluated for multicollinearity.

Descriptive Statistics of Survey Results

Each section of the survey was analyzed, and an overview of the results is provided in the following sections. The descriptive statistics are reported with the mean (*M*) responses by survey section. This provides a baseline for the results across all of the participants in the sample.

Needs of ELLs. This section explored the perceptions of faculty in relation to what the ELLs in their courses needed and their ability to succeed. This section breaks up questions by faculty perception of their ELLs by academic preparation, language ability, and what special needs these students had. The questions use a Likert scale from 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, to 5 for strongly agree unless otherwise noted.

The following questions related to how well-prepared ELLs were academically. The descriptive statistics are shown in Table 78.

Table 78

Descriptive Statistics: ELLs Well-Equipped/Academic Skills

The ELL students in my courses are well-equipped to___ common in academic settings.	N	Min.	Max.	M	SD
comprehend lectures	66	1	5	3.35	.936
contribute to in-class discussions	66	1	5	3.12	1.196
take accurate notes	65	1	5	3.00	1.000
deliver presentations	66	1	5	3.21	.937
understand varying rhetorical styles in speech	66	1	5	2.44	.947
read technical writing	66	1	5	2.94	1.108
understand abstract language	66	1	5	2.59	1.007
write at the expected academic level	66	1	5	2.42	.912

The faculty in the sample indicated responses slightly higher than neutral (3) on items related to skills primarily focused on listening and speaking. Faculty generally indicated disagree for skills requiring writing and being able to abstract meaning. Faculty indicated disagree slightly less on students being able to understand technical writing (*M*=2.94) related to the student's field of study, as opposed to more general understandings of rhetorical style (*M* = 2.44) and understanding abstract language (*M* = 2.42).

Data related to how well-prepared students were in relation to their language skills is summarized in Table 79.

Table 79

Descriptive Statistics: ELLs Well-equipped/Language Skills

The ELL students in my courses are well-equipped with the skills required for an academic program relative to their abilities in:	N	Min.	Max.	M	SD
grammar.	66	1	5	2.61	.975
sentence structure.	66	1	5	2.50	.949
pronunciation.	66	1	5	2.98	1.060
general oral skills.	66	1	5	3.26	.997
word choice.	66	1	5	2.86	.910
academic vocabulary.	66	1	5	2.85	1.056
academic writing.	66	1	5	2.35	.868
reading skills.	64	2	5	3.38	.968
developing strategies for improving their English.	66	1	5	3.09	1.048
making connections between their L1 and English.	65	2	5	3.45	.936

The faculty in the sample indicated that their students were slightly more capable with oral skills (pronunciation *M* = 2.98; general oral skills *M* = 3.26). The faculty also indicated slightly more than neutral that their students were equipped with the necessary reading skills (*M* = 3.38). Faculty tended toward disagree with grammar (*M* = 2.61), sentence structure (*M* = 2.50), word choice (*M* = 2.86), academic vocabulary (*M* = 2.85),

and academic writing (*M* = 2.35). When asked about whether or not their students were equipped with the necessary skills to improve their English, the faculty were neutral (*M* = 3.09). Faculty were also neutral on whether their ELLs were capable of making connections between their L1 and L2 (*M* = 3.45).

The following questions related to what the additional needs of ELLs were as shown in Table 80.

Table 80

Descriptive Statistics: ELL Needs

ELLs…	N	Min.	Max.	M	SD
need additional time to complete their coursework.	66	1	5	3.33	1.128
need more time to complete their coursework than their non-ELL peers.	66	1	5	3.44	1.266
should receive less coursework than other students.	66	1	4	1.48	.864
should have more simplified coursework.	66	1	5	1.58	.946
should be permitted to use their native language in my course among other ELLs.	66	1	5	2.35	1.493
should be provided materials in their native language(s).	66	1	5	1.97	1.109
should be graded differently than their non-ELL peers.	66	1	5	1.67	1.028
require more of my time than other students require.	66	1	5	3.35	1.196

Faculty in the sample indicated neutral responses about their thoughts on whether ELL students needed more time to complete their work (*M* = 3.33), and whether they required more work than other students (*M* = 3.44). The faculty strongly disagreed that ELLs should receive less coursework (*M* = 1.48), whether they should receive simplified work (*M* = 1.58), and whether they should be graded differently than their non-ELL peers (*M* = 1.67). Faculty indicated disagree on whether ELLs should be permitted to use their L1 in the classroom with other speakers of that language (*M* = 2.35) and strongly disagreed that ELLs should receive materials in their L1 (*M* = 1.97). The faculty generally indicated

neutral on whether or not ELLs required more of their time than other students (*M* = 3.35).

Working with ELLs. This section asked about the perceptions of faculty in relation to their beliefs about teaching the ELLs in their courses. Faculty were asked whether they understood the education systems that their students came from. The descriptive statistics are shown in Table 81.

Table 81

Descriptive Statistics: I Understand The Home-Academic Setting of My ELLs

I UNDERSTAND what the academic setting is like IN THE HOME COUNTRIES of my ELL students in terms of _____.	N	Min.	Max.	M	SD
the style of education employed (examples: student centered, constructive, etc.)	66	1	5	2.95	1.208
the kind of work expected (examples: papers, essays, projects, quizzes, etc.)	66	1	5	2.70	1.163
the amount of work required in a typical semester	66	1	5	2.58	1.151
the grading system	66	1	5	2.38	1.187
interactions that students have with instructors in class	66	1	5	2.98	1.246
interactions that students have with one another in class	65	1	5	2.75	1.173
expectations of the instructor	66	1	5	2.70	1.163

Faculty trended between responses of disagree and neutral on all responses, indicating that faculty may not fully understand the education systems that their students come from.

Faculty were asked who was responsible for the success of ELLs in their classes, with 1 being entirely the ELL, 3 being equally the faculty member and the ELL, and 5 being entirely the faculty member. The descriptive statistics are shown in Table 82.

Table 82

Descriptive Statistics: Who Is Responsible

Who is responsible for...	N	Min.	Max.	M	SD
the success of ELLs in my courses?	66	1	4	2.91	.518
helping ELL students adjust to the US-based higher education experience?	66	1	5	3.12	.869
assisting ELLs in improving their LANGUAGE skills?	66	1	4	2.45	.788
assisting ELLs in improving their ACADEMIC skills?	66	1	5	3.11	.825
assisting ELLs in improving their knowledge of COURSE CONTENT?	66	1	5	3.41	.744

For most of the measures, the faculty said that they and their ELLs were equally responsible for the success of ELLs. One area where faculty felt less responsible was for students improving their language skills (M =2.45). In contrast, faculty felt slightly more responsible for helping their ELLs to improve their content area knowledge (M = 3.41). This suggests that faculty felt more responsible for their students learning their course content than they were for helping the students to improve their English.

Faculty were asked about how responsible they felt for helping their students improve their general academic skills. The descriptive statistics are shown in Table 83.

Table 83

Descriptive Statistics: Faculty Responsible/Academic Skills

IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	N	Min.	Max.	M	SD
comprehend lectures.	66	1	5	3.85	1.026
take accurate notes.	66	1	5	3.32	1.069
deliver presentations.	66	1	5	3.85	.980
understand varying rhetorical styles in speech.	66	1	5	3.29	1.078
read technical writing.	66	1	5	3.48	1.113
understand abstract language.	65	1	5	3.54	1.133
write at the expected academic level.	66	1	5	3.77	1.005
contribute to in-class discussions.	66	1	5	3.89	.994

Faculty in the sample were slightly more than neutral in their responses on all categories. The means of responses ranged from *M* = 3.29 for helping their ELLs to understand varying rhetorical styles in speech, to an *M* = 3.89 for helping them to contribute to in-class discussions. An average of the mean showed an *M* = 3.62 for all items in this category.

Faculty were then asked to indicate how responsible they felt to help their ELLs to master their English language skills. The descriptive statistics are shown in Table 84.

Table 84

Descriptive Statistics: Faculty Responsible/Language Skills

IT IS MY RESPONSIBILITY to help ELLs improve their...	N	Min.	Max.	M	SD
grammar.	66	1	5	3.09	1.286
sentence structure.	66	1	5	3.23	1.298
pronunciation.	66	1	5	3.17	1.235
general oral skills.	66	1	5	3.29	1.160
word choice.	66	1	5	3.35	1.234
academic vocabulary.	66	1	5	3.67	1.244
academic writing.	66	1	5	3.58	1.216
reading skills.	66	1	5	3.14	1.175
developing strategies for improving their English.	66	1	5	3.17	1.365
making connections between their L1 and English.	65	1	5	2.94	1.310

On most of the measures, the faculty indicated that they were slightly more than neutral in feeling responsible for helping their students improve their English language skills. The means of responses ranged from *M* = 2.94 on feeling responsible for helping ELLs to make connections between their first language and English, and *M* = 3.67 for academic vocabulary. This demonstrated a shift over the previous category, with an average of the mean for this group at *M* = 3.26, while the mean for the previous table was *M* = 3.62.

Faculty were then asked to consider the potential for success in a comparison

between ELL students and non-ELL students. The faculty were asked to consider low performing, average performing, and over performing students. The descriptive statistics are shown in Table 85.

Table 85

Descriptive Statistics: Academic Abilities and Success

Relative to their own personal academic abilities, ____ can be successful in my course with normal effort.	N	Min.	Max.	M	SD
a NON-ELL who, even with significant effort, finds it difficult to pass most classes	66	1	5	2.56	1.125
a NON-ELL who, even with effort, is generally able to pass most classes	66	1	5	3.79	.969
a NON-ELL who, with little effort, is generally able to pass most classes	66	1	5	3.53	1.193
an ELL who, even with significant effort, finds it difficult to pass most classes	66	1	5	2.56	1.111
an ELL who, even with effort, is generally able to pass most classes	66	1	5	3.56	1.040
an ELL who, with little effort, is generally able to pass most classes	66	1	5	3.45	1.267

In terms of potential for success in a course (i.e., passing the course) faculty indicated disagree that a low-performing ELL could succeed in their courses with $M = 2.56$, which can be contrasted with a low-performing non-ELL with an $M = 2.56$. Faculty felt that low-performing ELLs and non-ELLs had the same likelihood of success. For average-performing ELLs, the $M = 3.56$ for ELLs, and $M = 3.79$ for non-ELLs. This indicates that a non-ELL would be more likely to succeed over an ELL. For over performing ELL students, $M = 3.45$, and $M = 3.53$ for non-ELLs. Faculty felt that their over performing students were more likely to succeed in class over their ELL counterparts.

Faculty were finally asked to characterize the kind of accommodations that they made for their ELLs. The descriptive statistics are shown in Table 86.

Table 86

Descriptive Statistics: Faculty Allow Accommodations

Question	N	Min.	Max.	M	SD
I allow ELLs additional time to complete their coursework.	66	1	5	2.85	1.180
I allow more time for ELLs to complete their work than their non-ELL peers.	66	1	5	2.58	1.203
I give ELLs less coursework than their non-ELL peers.	66	1	4	1.48	.899
I simplify coursework for ELLs.	66	1	4	1.58	.946
I allow ELLs to use their native language(s) with other ELLs in my course.	66	1	5	2.88	1.534
I provide materials for ELLs in their native language(s).	66	1	3	1.15	.472
I grade the work of ELLs differently than their non-ELL peers.	66	1	5	1.88	1.259
I give ELLs more of my time than other students.	66	1	5	2.85	1.339

Faculty responses ranged from disagree to strongly disagree. There was very strong disagreement on whether or not faculty provided resources in the ELL's native language (M = 1.15), whether or not they gave less work to ELLs than their non-ELL counterparts (M = 1.48) and whether they simplified work for their ELLs (M = 1.58).

Professional development needs working with ELLs. This section explored the potential needs that faculty had in relation to working with their ELLs. First, faculty were asked about how well they understood the processes involved in learning an L2. The descriptive statistics are shown in Table 87. Faculty were generally neutral on both questions, indicating that there is potential for faculty to learn more about the complex factors involved in learning a second language.

Table 87

Descriptive Statistics: I Understand Language Acquisition

I have a good understanding of...	N	Min.	Max.	Mean	SD
the processes involved in learning a second language.	66	1	5	3.39	1.175
how long it would take someone to learn a second language to be able to succeed in university courses.	66	1	5	3.26	1.269

Faculty were then asked about whether or not they felt that they had the skills necessary to teach and assess their ELLs. The descriptive statistics are shown in Table 88.

Table 88

Descriptive Statistics: Teaching and Assessing ELLs

Question	N	Min.	Max.	M	SD
I have the necessary skills and abilities directly related to addressing the specific/unique needs of the ELLs in my courses.	66	1	5	3.02	1.130
I have adequate training or support to TEACH to the specific needs of ELLs.	66	1	5	2.71	1.187
I would like more training or support to TEACH to the specific needs of ELLs.	66	1	5	3.97	.877
My institution provides the necessary training or support to TEACH the specific needs of ELLs.	66	1	5	2.24	1.164
I have adequate training or support to ASSESS the specific needs of ELLs.	66	1	5	2.47	1.205
I would like more training or support to ASSESS the specific needs of ELLs.	66	1	5	3.85	1.011
My institution provides the necessary training or support to ASSESS the specific needs of ELLs.	66	1	4	2.24	1.068

Faculty generally indicated that they had the skills necessary to directly target the needs of their ELLs ($M = 3.02$). Faculty indicated disagree for whether they had adequate training or support to teach their ELLS ($M = 2.71$), and that their institution provided enough of these supports ($M = 2.24$), they also indicated that they agree that they want

more of these kinds of supports (*M* = 3.97). The faculty indicated disagree that they had enough training to adequately assess their ELLs (*M* = 2.47), as well as whether their institutions provided enough training or support to help them to assess their ELLs (*M* = 2.24), and they indicated agree for wanting more training in relation to assessing their ELLs (*M* = 3.85).

The faculty were asked to characterize their comfort with addressing the general academic skill-needs of their learners. The descriptive statistics are shown in Table 89.

Table 89

Descriptive Statistics: Faculty Needs/Academic Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	N	Min.	Max.	M	SD
comprehend lectures.	66	1	5	4.11	.914
take accurate notes.	66	1	5	3.80	1.026
deliver presentations.	66	2	5	4.18	.763
understand varying rhetorical styles in speech.	66	1	5	3.65	1.088
read technical writing.	66	1	5	3.80	1.026
understand abstract language.	66	1	5	3.71	1.212
write at the expected academic level.	66	1	5	4.09	.940
contribute to in-class discussions.	66	1	5	4.18	.893

Faculty general indicated that they agree that they are comfortable addressing these general academic needs. The means of responses ranged from an *M* = 3.80 (taking accurate notes and reading technical writing), and a high of *M* = 4.18 (delivering presentations, and contributing to in-class discussions). An average of the means yielded an *M* = 3.94.

Finally, faculty were asked how comfortable they were addressing the language needs of their learners. The descriptive statistics are shown in Table 90.

Table 90

Descriptive Statistics: Faculty Needs/Language Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	N	Min.	Max.	M	SD
grammar.	66	1	5	3.82	1.108
sentence structure.	66	1	5	3.86	1.051
pronunciation.	66	1	5	3.68	1.125
general oral skills.	66	1	5	3.89	.994
word choice.	66	1	5	4.09	.890
academic vocabulary.	66	1	5	4.14	.910
academic writing.	66	1	5	4.00	.992
reading skills.	66	1	5	3.59	1.136
developing strategies for improving their English.	66	1	5	3.52	1.167
making connections between their L1 and English.	66	1	5	3.02	1.342

The faculty generally tended to agree that they would be comfortable addressing the needs of their ELLS in terms of their language ability. The means of responses ranged from a low of $M = 3.02$ (comfort ability with helping ELLs to make connections between their L1 and L2) and a high of $M = 4.14$ (academic vocabulary). The average of the mean yielded an $M = 3.76$, which was lower than the average mean for the previous table ($M = 3.94$). Faculty felt more comfortable addressing the general academic skills as opposed to language-related skills.

Professional development. This section asked about the available ED/PD available to faculty in general and specifically related to working with ELLs. Participants were asked to answer characterize the resources related to working with ELLs that are

available to them at their institutions. Responses for this section included 0 for “no”, 1 for “yes”, and 3 for “I’m not sure”. The descriptive statistics are shown in Table 91.

Table 91

Descriptive Statistics: Available Resources

In the past 12 months, has/have the following been made available at your institution related to working with ELLs?	N	Yes	No	Not Sure
ELL specialists	66	18	41	7
An experienced peer to offer informal advice	66	23	36	7
Web resources available on my institution's website	66	10	41	15
Trainings/workshops/professional development about ELLs	66	17	34	15
A formal professional learning community or similar group	66	11	40	15
A faculty development office (at the university, but not specific to my department/division)	66	26	28	12
A faculty development office (in my department/division)	66	4	52	10

At the institutions where the faculty in the sample came from, there were few resources made available specifically related to working with ELLs. Percentages of faculty indicated that resources were made available (“yes”) ranged from 15% to 35%, while responses indicating that no resources existed ranged from 52% to 62%. Faculty who were not sure if certain resources were available ranged from 10% to 23%, suggesting that many faculty were unaware if resources related to working with ELLs existed.

From the sample, 45% had a faculty development office at the university either embedded in the unit or division or servicing the entire institution. Of the faculty in the sample, 39% reported that a general office existed at their institution, while 6% reported that a similar resource existed inside of their academic unit. This suggests that resource offices are not often available to faculty, but the proliferation of resources related specifically to addressing the needs of ELLs is lacking. Roughly 33% of faculty indicated

that they were unaware if there was any kind of faculty development office on campus. Even if this type of resource existed, many faculty were unaware of it.

Research Question 1 Results and Analysis

Research question number 1 is repeated here:

RQ1: Are there significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources?

H_O1: There are no significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources.

H_A1: There are significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources.

This research question analyzes variable, IV-ED with DV-Faculty Role using the MANOVA.

There were seven categories related to the available IV-ED for faculty specifically related to working with ELLs. These categories included the following independent subvariables: ELL specialists, experienced peers, website resources, trainings, workshops, PD, PLCs, ED office (at the university but not within the academic unit), and ED office (embedded in the academic unit). Each of these categories was reviewed and is

reported. Each of the IV-ED subvariables was compared to the dependent variable, faculty role (DV-Faculty Role), which included the two subvariables of the ELLs' academic skills (DV-Faculty Role/academic skills) and language skills (DV-Faculty Role/academic skills). The combined DV-Faculty Role/academic skills variable was broken down as follows: ability to comprehend lectures, contribute to in-class discussions, take accurate notes, deliver presentation, understand varying rhetorical styles in speech, read technical writing, understand abstract language, and write at the expected academic level. The combined DV-Faculty Role/language skills was broken down as follows: grammar, sentence structure, pronunciation, general oral skills, word choice, academic vocabulary, academic writing, reading skills, development strategies for improving English, and making connections between the first language and English. Based upon the expanded variables, the main research question can be broken down into its smaller components:

RQ1: Are there significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources?

RQ1 academic needs-a: Are there significant mean differences in faculty's self-perceived role in addressing the specific academic needs (DV-Faculty Role/academic skills) of their ELL students based upon the presence of ELL specialists?

RQ1 academic needs-b: Are there significant mean differences in faculty's self-perceived role in addressing the specific academic needs of their ELL students based upon the presence of experienced peers?

RQ1 academic needs-c: Are there significant mean differences in faculty's self-perceived role in addressing the specific academic needs of their ELL students based upon the presence of website resources?

RQ1 academic needs-d: Are there significant mean differences in faculty's self-perceived role in addressing the specific academic needs of their ELL students based upon the presence of trainings or workshops related to working with ELLs?

RQ1 academic needs-e: Are there significant mean differences in faculty's self-perceived role in addressing the specific academic needs of their ELL students based upon the presence of PLCs related to working with ELLs?

RQ1 academic needs-f: Are there significant mean differences in faculty's self-perceived role in addressing the specific academic needs of their ELL students based upon the presence of ED offices (at the university, but not within the academic unit)?

RQ1 academic needs-g: Are there significant mean differences in faculty's self-perceived role in addressing the specific academic needs of their ELL students based upon the presence of ED offices (embedded within the academic unit)?

RQ1 language needs-a: Are there significant mean differences in faculty's self-perceived role in addressing the specific language needs of their ELL students based upon the presence of ELL specialists?

RQ1 language needs-b: Are there significant mean differences in faculty's self-perceived role in addressing the specific language needs of their ELL students based upon the presence of experienced peers?

RQ1 language needs-c: Are there significant mean differences in faculty's self-perceived role in addressing the specific language needs of their ELL students based upon the presence of website resources?

R*Q1 language needs-d*: Are there significant mean differences in faculty's self-perceived role in addressing the specific language needs of their ELL students based upon the presence of trainings or workshops related to working with ELLs?

RQ1 language needs-e: Are there significant mean differences in faculty's self-perceived role in addressing the specific language needs of their ELL students based upon the presence of PLCs related to working with ELLs?

RQ1 language needs-f: Are there significant mean differences in faculty's self-perceived role in addressing the specific language needs of their ELL students based upon the presence of ED offices (at the university, but not within the academic unit)?

RQ1 language needs-g: Are there significant mean differences in faculty's self-perceived role in addressing the specific language needs of their ELL students based upon the presence of ED offices (embedded within the academic unit)?

MANOVA ELL specialists. A MANOVA was run for RQ1 academic needs-a. The output for the MANOVA comparing IV-ED/ELL specialists as compared the DV-Faculty Role/academic skills is displayed in Table 92.

Table 92
Multivariate Tests[a]: IV-ED/ELL Specialists and DV-Faculty Role/Academic Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	0.941	29.678	8	15	0	0.941
	Wilks' Lambda	0.059	29.678	8	15	0	0.941
	Hotelling's Trace	15.828	29.678	8	15	0	0.941
	Roy's Largest Root	15.828	29.678	8	15	0	0.941
Trfm-ELL PD Inst. ELL Specialist	Pillai's Trace	0.146	0.32	8	15	0.946	0.146
	Wilks' Lambda	0.854	0.32	8	15	0.946	0.146
	Hotelling's Trace	0.171	0.32	8	15	0.946	0.146
	Roy's Largest Root	0.171	0.32	8	15	0.946	0.146

[a] Design: Intercept + ELLPDInstELLSpecialist. [b] Exact statistic. [c] The statistic is an upper bound on F that yields a lower bound on the significance level.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed for whether ELL specialists were made available, $V = .146$, $F(8,15) = 0.320$, $p = .946$, and observed power = 0.146.

The Levene's test is presented in Table 93. One significant result was present, but since the main test did not demonstrate a significant result, it was not explored further.

Table 93
Levene's Test of Equality of Error Variances[a]: IV-ED/ELL Specialists and DV-Faculty Role/Academic Skills

IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	F	df1	df2	Sig.
comprehend lectures.	2.271	1	22	0.146
take accurate notes.	5.712	1	22	0.026*
deliver presentations.	1.897	1	22	0.182
understand varying rhetorical styles in speech.	1.858	1	22	0.187
read technical writing.	3.109	1	22	0.092
understand abstract language.	2.816	1	22	0.107
write at the expected academic level.	0.049	1	22	0.826
contribute to in-class discussions.	0.068	1	22	0.797

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstELLSpecialist.
*p<.05. **p<.01. ***p <. 001.

The output for the MANOVA comparing the IV-ED/ELL specialists as compared to the DV-Faculty Role/language skills is in Table 94:

Table 94

Multivariate Tests[a]: IV-ED/ELL Specialists and DV- Faculty Role/Language Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	0.923	16.819	10	14	0	0.923
	Wilks' Lambda	0.077	16.819	10	14	0	0.923
	Hotelling's Trace	12.013	16.819	10	14	0	0.923
	Roy's Largest Root	12.013	16.819	10	14	0	0.923
Trfm-ELL PD Inst. ELL Specialist	Pillai's Trace	0.471	1.244	10	14	0.345	0.471
	Wilks' Lambda	0.529	1.244	10	14	0.345	0.471
	Hotelling's Trace	0.889	1.244	10	14	0.345	0.471
	Roy's Largest Root	0.889	1.244	10	14	0.345	0.471

[a] Design: Intercept + trfmELLPDInstELLSpecialist. [b] Exact statistic. [c] The statistic is an upper bound on F that yields a lower bound on the significance level.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .471$, $F(10,14) = 1.244$, $p = .345$, and an observed power of 0.471.

The Levene's test is reported in Table 95. Two items demonstrated a significant result, but since the main test did not yield significant results, this was not explored further. Based upon these results, it is not possible to reject the null hypothesis because nonsignificant results were observed for both DVs tested here. It does not appear that ELL specialists being present made a significant difference on how responsible faculty felt in relation to helping their ELLs improve their language skills nor their academic skills.

Table 95

Levene's Test of Equality of Error Variances[a]: IV-ED/ELL Specialists and DV-Faculty Role/Language Skills

IT IS MY RESPONSIBILITY to help ELLs improve their...	F	df1	df2	Sig.
grammar.	3.01	1	23	0.096
sentence structure.	4.053	1	23	0.056
pronunciation.	10.689	1	23	0.003**
general oral skills.	1.118	1	23	0.301
word choice.	5.153	1	23	0.033*
academic vocabulary.	3.656	1	23	0.068
academic writing.	2.696	1	23	0.114
reading skills.	2.82	1	23	0.107
developing strategies for improving their English.	2.574	1	23	0.122
making connections between their L1 and English.	6.846	1	23	0.015

Note. L1= first language. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstELLSpecialist.
*p<.05. **p<.01. ***p <. 001.

MANOVA experienced peers. For RQ1 academic needs-b, the output for the MANOVA comparing IV-ED/experienced peers who were adept in working with ELLs as compared the DV-Faculty Role/academic skills is displayed in Table 96.

Table 96

Multivariate Tests[a]: IV-ED/Experienced Peers and DV-Faculty Role/Academic Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	0.961	61.343	8	20	0	0.961
	Wilks' Lambda	0.039	61.343	8	20	0	0.961
	Hotelling's Trace	24.537	61.343	8	20	0	0.961
	Roy's Largest Root	24.537	61.343	8	20	0	0.961
Trfm-ELL PD Inst. Peer	Pillai's Trace	0.549	3.039	8	20	0.021*	0.549
	Wilks' Lambda	0.451	3.039	8	20	0.021*	0.549
	Hotelling's Trace	1.215	3.039	8	20	0.021*	0.549
	Roy's Largest Root	1.215	3.039	8	20	0.021*	0.549

[a] Design: Intercept + trfmELLPDInstPeer. [b] Exact statistics.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a significant effect was observed in relation to whether or not experienced peers were made available, $V = .549$, $F(8,20) = 3.039$, $p = .021$, and an observed power of 0.549.

The Levene's test did not show any significant items. These results are shown in Table 97.

Table 97

Levene's Test of Equality of Error Variances[a]: IV-ED/Experienced Peers and DV-Faculty Role/Academic Skills

IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	F	df1	df2	Sig.
comprehend lectures.	0.082	1	27	0.776
take accurate notes.	0.625	1	27	0.436
deliver presentations.	0.487	1	27	0.491
understand varying rhetorical styles in speech.	3.149	1	27	0.087
read technical writing.	0.05	1	27	0.825
understand abstract language.	0.232	1	27	0.634
write at the expected academic level.	0.221	1	27	0.642
contribute to in-class discussions.	2.859	1	27	0.102

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstPeer.
*p<.05. **p<.01. ***p <. 001.

The output for the MANOVA comparing the IV-ED/experienced peers as compared to the DV-Faculty Role/language skills is in Table 98. Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not experienced peers were made available, $V = .191$, $F(10,18) = 0.425$, $p = .915$, and an observed power = .191.

Table 98

Multivariate Tests[a]: IV-ED/Experienced Peers and DV-Faculty Role/Language Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.891	14.786[b]	10.000	18.000	.000	.891
	Wilks' Lambda	.109	14.786[b]	10.000	18.000	.000	.891
	Hotelling's Trace	8.214	14.786[b]	10.000	18.000	.000	.891
	Roy's Largest Root	8.214	14.786[b]	10.000	18.000	.000	.891
Trfm-ELL PD Inst. Peer	Pillai's Trace	.191	.425[b]	10.000	18.000	.915	.191
	Wilks' Lambda	.809	.425[b]	10.000	18.000	.915	.191
	Hotelling's Trace	.236	.425[b]	10.000	18.000	.915	.191
	Roy's Largest Root	.236	.425[b]	10.000	18.000	.915	.191

[a] Design: Intercept + trfmELLPDInstPeer. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

The Levene's test is reported in Table 99. None of the items demonstrated a significant result, and thus was not explored further.

Table 99

Levene's Test of Equality of Error Variances[a]: IV-ED/Experienced Peers and DV-Faculty Role/Language Skills

IT IS MY RESPONSIBILITY to help ELLs improve their...	F	df1	df2	Sig.
grammar.	.147	1	27	.704
sentence structure.	.283	1	27	.599
pronunciation.	.358	1	27	.555
general oral skills.	2.875	1	27	.101
word choice.	2.285	1	27	.142
academic vocabulary.	1.340	1	27	.257
academic writing.	2.955	1	27	.097
reading skills.	.676	1	27	.418
developing strategies for improving their English.	.005	1	27	.943
making connections between their first language and English.	.026	1	27	.874

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstPeer.
*p<.05. **p<.01. ***p <. 001.

These results demonstrated that it is not possible to reject the null hypothesis because nonsignificant results were observed for both of DVs tested here. It does not appear that having experienced faculty who are adept with working with ELLs made a significant difference on how faculty felt in relation to helping their ELLs improve their language skills nor their academic skills.

MANOVA website resources. For RQ1 academic needs-c , the output for the MANOVA comparing IV-ED/website resources related to working with ELLs as compared the DV-Faculty Role/academic skills is displayed in Table 100.

Table 100

Multivariate Tests[a]: IV-ED/Website Resources and DV-Faculty Role/Academic Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	0.968	57.492	8	15	0	0.968
	Wilks' Lambda	0.032	57.492	8	15	0	0.968
	Hotelling's Trace	30.662	57.492	8	15	0	0.968
	Roy's Largest Root	30.662	57.492	8	15	0	0.968
Trfm-ELL PD Inst. Website	Pillai's Trace	0.378	1.138	8	15	0.394	0.378
	Wilks' Lambda	0.622	1.138	8	15	0.394	0.378
	Hotelling's Trace	0.607	1.138	8	15	0.394	0.378
	Roy's Largest Root	0.607	1.138	8	15	0.394	0.378

[a] Design: Intercept + trfmELLPDInstWebsite. [b] Exact statistic. [c] The statistic is an upper bound on F that yields a lower bound on the significance level.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not website resources were made available, $V = .378$, $F(8,15) = 1.138$, $p = .394$, and an observed power = .378.

The Levene's test showed one item with significant results; however, since the main test did not demonstrate a significant result, these were not explored further. These

results are displayed in Table 101.

Table 101

Levene's Test of Equality of Error Variances[a]: IV-ED/Website Resources and DV-Faculty Role/Academic Skills

IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	F	df1	df2	Sig.
comprehend lectures.	8.835	1	22	0.007**
take accurate notes.	1.336	1	22	0.260
deliver presentations.	0.466	1	22	0.502
understand varying rhetorical styles in speech.	0.038	1	22	0.847
read technical writing.	0.809	1	22	0.378
understand abstract language.	0.084	1	22	0.775
write at the expected academic level.	0.647	1	22	0.430
contribute to in-class discussions.	0.006	1	22	0.939

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstWebsite.
*p<.05. **p<.01. ***p <. 001.

The output for the MANOVA comparing the IV-ED/website resources as compared to the DV-Faculty Role/language skills is in Table 102:

Table 102

Multivariate Tests[a]: IV-ED/Website Resources and DV-Faculty Role/Language Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	0.918	14.499	10	13	0	0.918
	Wilks' Lambda	0.082	14.499	10	13	0	0.918
	Hotelling's Trace	11.153	14.499	10	13	0	0.918
	Roy's Largest Root	11.153	14.499	10	13	0	0.918
Trfm-ELL PD Inst. Website	Pillai's Trace	0.460	1.109	10	13	0.422	0.460
	Wilks' Lambda	0.540	1.109	10	13	0.422	0.460
	Hotelling's Trace	0.853	1.109	10	13	0.422	0.460
	Roy's Largest Root	0.853	1.109	10	13	0.422	0.460

[a] Design: Intercept + trfmELLPDInstWebsite. [b] Exact statistic. [c] The statistic is an upper bound on F that yields a lower bound on the significance level.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .460$, $F(10,13) = 1.109$, $p = .422$, and an observed power = 0.460.

The Levene's test is reported in Table 103. No items demonstrated a significant result, and this was not explored further.

Table 103

Levene's Test of Equality of f Error Variances[a]: IV-ED/Website Resources and DV-Faculty Role/Language Skills

IT IS MY RESPONSIBILITY to help ELLs improve their...	F	df1	df2	Sig.
grammar.	4.137	1	22	0.054
sentence structure.	3.346	1	22	0.081
pronunciation.	3.798	1	22	0.064
general oral skills.	2.375	1	22	0.138
word choice.	2.809	1	22	0.108
academic vocabulary.	2.56	1	22	0.124
academic writing.	3.559	1	22	0.072
reading skills.	4.164	1	22	0.053
developing strategies for improving their English.	0.139	1	22	0.713
making connections between their first language and English.	0.105	1	22	0.748

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstWebsite.
*p<.05. **p<.01. ***p <. 001.

Based upon these results, it is not possible to reject the null hypothesis because nonsignificant results were observed for both of DVs tested here. It does not appear that having website resources specifically dedicated to working with ELLs made a significant difference in how responsible the faculty felt in relation to helping their ELLs improve their language skills nor their academic skills.

MANOVA trainings. For RQ1 academic needs-d, the output for the MANOVA comparing IV-ED/trainings as compared the DV-Faculty Role/academic skills is displayed in Table 104.

Table 104

Multivariate Tests[a]: IV-ED/Trainings and DV-Faculty Role/Academic Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	0.955	146.577	8	55	0	0.955
	Wilks' Lambda	0.045	146.577	8	55	0	0.955
	Hotelling's Trace	21.32	146.577	8	55	0	0.955
	Roy's Largest Root	21.32	146.577	8	55	0	0.955
ELL PD Inst. Trainings	Pillai's Trace	0.140	0.528	16	112	0.927	0.07
	Wilks' Lambda	0.863	0.524	16	110	0.93	0.071
	Hotelling's Trace	0.154	0.52	16	108	0.932	0.071
	Roy's Largest Root	0.117	0.821	8	56	0.588	0.105

[a] Design: Intercept + ELLPDInstTrainings. [b] Exact statistic. [c.] The statistic is an upper bound on F that yields a lower bound on the significance level.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = 0.140$, $F(16,112) = 0.528$, $p = .927$, and an observed power = .07.

From the Levene's test, no items had significant results. Since the main test did not demonstrate a significant result, these were not explored further. These results are displayed in Table 105.

Table 105

Levene's Test of Equality of Error Variances[a]: IV-ED/Trainings and DV-Faculty Role/Academic Skills

IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	F	df1	df2	Sig.
comprehend lectures.	0.572	2	62	0.568
take accurate notes.	2.522	2	62	0.089
deliver presentations.	0.86	2	62	0.428
understand varying rhetorical styles in speech.	0.216	2	62	0.806
read technical writing.	0.534	2	62	0.589
understand abstract language.	0.572	2	62	0.567
write at the expected academic level.	0.145	2	62	0.865
contribute to in-class discussions.	0.294	2	62	0.746

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + ELLPDInstTrainings.
*p<.05. **p<.01. ***p <. 001.

The output for the MANOVA comparing the IV-ED/trainings as compared to the DV-Faculty Role/language skills is in Table 106:

Table 106

Multivariate Tests[a]: IV-ED/Trainings and DV-Faculty Role/Language Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.915	57.058[b]	10.000	53.000	.000	.915
	Wilks' Lambda	.085	57.058[b]	10.000	53.000	.000	.915
	Hotelling's Trace	10.766	57.058[b]	10.000	53.000	.000	.915
	Roy's Largest Root	10.766	57.058[b]	10.000	53.000	.000	.915
ELL PD Inst. Trainings	Pillai's Trace	.354	1.162	20.000	108.000	.301	.177
	Wilks' Lambda	.673	1.160[b]	20.000	106.000	.304	.180
	Hotelling's Trace	.445	1.157	20.000	104.000	.307	.182
	Roy's Largest Root	.317	1.710[c]	10.000	54.000	.102	.241

[a] Design: Intercept + ELLPDInstTrainings. [b] Exact statistic. [c] The statistic is an upper bound on F that yields a lower bound on the significance level.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .354$, $F(20,108) = 1.162$, $p = .301$, and an observed power = 0.177.

The Levene's test is reported in Table 107. No items demonstrated a significant result. Since the main test did not yield significant results, this was not explored further.

Table 107

Levene's Test of Equality of Error Variances[a]: IV-ED/Trainings and DV-Faculty Role/Language Skills

IT IS MY RESPONSIBILITY to help ELLs improve their...	F	df1	df2	Sig.
grammar.	.516	2	62	.600
sentence structure.	.252	2	62	.778
pronunciation.	.164	2	62	.849
general oral skills.	.020	2	62	.980
word choice.	.033	2	62	.968
academic vocabulary.	1.300	2	62	.280
academic writing.	1.506	2	62	.230
reading skills.	.344	2	62	.710
developing strategies for improving their English.	.126	2	62	.882
making connections between their L1 and English.	.068	2	62	.935

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + ELLPDInstTrainings.
*p<.05. **p<.01. ***p <. 001.

Based upon these results, it is not possible to reject the null hypothesis because nonsignificant results were observed for both of DVs tested here. It does not appear that the presence of trainings related to working with ELLs made a significant difference in how responsible the faculty felt in relation to helping their ELLs improve their language skills nor their academic skills.

MANOVA PLC. For RQ1 academic needs-e, the output for the MANOVA comparing IV-ED/PLC as compared the DV-Faculty Role/academic skills is displayed in Table 108.

Table 108

Multivariate Tests[a]: IV-ED/PLC and DV-Faculty Role/Academic Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	0.963	52.22	8	16	0	0.963
	Wilks' Lambda	0.037	52.22	8	16	0	0.963
	Hotelling's Trace	26.11	52.22	8	16	0	0.963
	Roy's Largest Root	26.11	52.22	8	16	0	0.963
Trfm-ELL PD Inst. PLC	Pillai's Trace	0.296	0.839	8	16	0.582	0.296
	Wilks' Lambda	0.704	0.839	8	16	0.582	0.296
	Hotelling's Trace	0.42	0.839	8	16	0.582	0.296
	Roy's Largest Root	0.42	0.839	8	16	0.582	0.296

[a] Design: Intercept + trfmELLPDInstPLC. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not having a PLC was made available, $V = .296$, $F(8,16) = 0.839$, $p = .582$, and an observed power = 0.296.

The Levene's test showed two items with significant results (*write at the expected academic level*, and *contribute to in-class discussions*); however, since the main test did not demonstrate a significant result, these were not explored further because the overall results in Table 108 were not significant. The results of the Levene's test are displayed in Table 109.

Table 109

Levene's Test of Equality of f Error Variances[a]: IV-ED/PLC and DV-Faculty Role/Academic Skills

IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	F	df1	df2	Sig.
comprehend lectures.	0.632	1	23	0.435
take accurate notes.	0.085	1	23	0.773
deliver presentations.	0.043	1	23	0.837
understand varying rhetorical styles in speech.	0.293	1	23	0.593
read technical writing.	0.517	1	23	0.479
understand abstract language.	0.852	1	23	0.366
write at the expected academic level.	4.484	1	23	0.045*
contribute to in-class discussions.	5.919	1	23	0.023*

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstPLC.
*p<.05. **p<.01. ***p <. 001.

The output for the MANOVA comparing the IV-ED/having a PLC as compared to the DV-Faculty Role/language skills is in Table 110:

Table 110

Multivariate Tests[a]: IV-ED/PLC and DV-Faculty Role/Language Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.921	16.339[b]	10.000	14.000	.000	.921
	Wilks' Lambda	.079	16.339[b]	10.000	14.000	.000	.921
	Hotelling's Trace	11.671	16.339[b]	10.000	14.000	.000	.921
	Roy's Largest Root	11.671	16.339[b]	10.000	14.000	.000	.921
Trfm-ELL PD Inst. PLC	Pillai's Trace	.274	.529[b]	10.000	14.000	.843	.274
	Wilks' Lambda	.726	.529[b]	10.000	14.000	.843	.274
	Hotelling's Trace	.378	.529[b]	10.000	14.000	.843	.274
	Roy's Largest Root	.378	.529[b]	10.000	14.000	.843	.274

[a] Design: Intercept + trfmELLPDInstPLC. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .274$, $F(10,14) = 0.529$, $p = .843$, and an observed power = 0.274.

The Levene's test is reported in Table 111. Two items demonstrated a significant result, but since the main test did not yield significant results, this was not explored further.

Table 111

Levene's Test of Equality of Error Variances[a]: IV-ED/PLC and DV-Faculty Role/Language Skills

IT IS MY RESPONSIBILITY to help ELLs improve their...	F	df1	df2	Sig.
grammar.	2.605	1	23	.120
sentence structure.	3.341	1	23	.081
pronunciation.	4.111	1	23	.054
general oral skills.	.832	1	23	.371
word choice.	2.039	1	23	.167
academic vocabulary.	5.826	1	23	.024*
academic writing.	5.148	1	23	.033*
reading skills.	4.903	1	23	.037
developing strategies for improving their English.	.649	1	23	.429
making connections between their first language and English.	.303	1	23	.587

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstPLC.
*p<.05. **p<.01. ***p <. 001.

Based upon these results, it is not possible to reject the null hypothesis because nonsignificant results were observed for both of DVs tested here. It does not appear that the presence of a PLC made a significant difference in how responsible the faculty felt in relation to helping their ELLs improve their language skills nor their academic skills.

MANOVA general ED office. For RQ1 academic needs-f, the output for the MANOVA comparing IV-ED/general ED office as compared the DV-Faculty Role/academic skills is displayed in Table 112.

Table 112

Multivariate Tests[a]: IV-ED/General ED Office and DV-Faculty Role/Academic Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	0.959	81.31	8	28	0	0.959
	Wilks' Lambda	0.041	81.31	8	28	0	0.959
	Hotelling's Trace	23.232	81.31	8	28	0	0.959
	Roy's Largest Root	23.232	81.31	8	28	0	0.959
Trfm-ELL PD Inst. ED Office UNIV	Pillai's Trace	0.366	2.023	8	28	0.08	0.366
	Wilks' Lambda	0.634	2.023	8	28	0.08	0.366
	Hotelling's Trace	0.578	2.023	8	28	0.08	0.366
	Roy's Largest Root	0.578	2.023	8	28	0.08	0.366

[a] Design: Intercept + trfmELLPDInstEDOfficeUNIV. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not there was a general ED office on campus, $V = .366$, $F(8,28) = 2.023$, $p = .08$, and an observed power = 0.366.

The Levene's test showed no items with significant results; since the main test did not demonstrate a significant result, these were not explored further. The results of the Levene's test are displayed in Table 113.

Table 113

Levene's Test of Equality of Error Variances[a]: IV-ED/General ED Office and DV-Faculty Role/Academic Skills

IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	F	df1	df2	Sig.
comprehend lectures.	3.885	1	35	0.057
take accurate notes.	3.245	1	35	0.080
deliver presentations.	2.457	1	35	0.126
understand varying rhetorical styles in speech.	1.783	1	35	0.190
read technical writing.	0.164	1	35	0.688
understand abstract language.	0.187	1	35	0.668
write at the expected academic level.	0.049	1	35	0.825
contribute to in-class discussions.	1.616	1	35	0.212

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstEDOfficeUNIV.
*p<.05. **p<.01. ***p <. 001.

The output for the MANOVA comparing the IV-ED/general ED office as compared to the DV-Faculty Role/language skills is in Table 114.

Table 114

Multivariate Tests[a]: IV-ED/General ED Office and DV-Faculty Role/Language Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.921	30.199[b]	10.000	26.000	.000	.921
	Wilks' Lambda	.079	30.199[b]	10.000	26.000	.000	.921
	Hotelling's Trace	11.615	30.199[b]	10.000	26.000	.000	.921
	Roy's Largest Root	11.615	30.199[b]	10.000	26.000	.000	.921
Trfm-ELL PD Inst. ED Office UNIV	Pillai's Trace	.087	.248[b]	10.000	26.000	.987	.087
	Wilks' Lambda	.913	.248[b]	10.000	26.000	.987	.087
	Hotelling's Trace	.095	.248[b]	10.000	26.000	.987	.087
	Roy's Largest Root	.095	.248[b]	10.000	26.000	.987	.087

[a] Design: Intercept + trfmELLPDInstEDOfficeUNIV. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .087$, $F(10,26) = 0.248$, $p = .987$, and an observed power = 0.087.

The Levene's test is reported in Table 115. Three items demonstrated a significant result, but since the main test did not yield significant results, this was not explored further.

Table 115

Levene's Test of Equality of Error Variances[a]: IV-ED/General ED Office and DV-Faculty Role/Language Skills

IT IS MY RESPONSIBILITY to help ELLs improve their...	F	df1	df2	Sig.
grammar.	8.755	1	35	.006**
sentence structure.	9.118	1	35	.005**
pronunciation.	2.403	1	35	.130
general oral skills.	1.960	1	35	.170
word choice.	4.832	1	35	.035*
academic vocabulary.	1.597	1	35	.215
academic writing.	3.502	1	35	.070
reading skills.	.402	1	35	.530
developing strategies for improving their English.	.020	1	35	.887
making connections between their first language and English.	.198	1	35	.659

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstEDOfficeUNIV.
*p<.05. **p<.01. ***p <. 001.

Based upon these results, it is not possible to reject the null hypothesis because nonsignificant results were observed for both of DVs tested here. It does not appear that having a general ED office present made a significant difference in how responsible the

faculty felt in relation to helping their ELLs improve their language skills nor their academic skills.

MANOVA embedded ED office. For RQ1 academic needs-e, the output for the MANOVA comparing IV-ED/embedded ED office as compared the DV-Faculty Role academic skills is displayed in Table 116.

Table 116

Multivariate Tests[a]: IV-ED/Embedded ED Office and DV-Faculty Role/Academic Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	0.983	28.213	8	4	0.003	0.983
	Wilks' Lambda	0.017	28.213	8	4	0.003	0.983
	Hotelling's Trace	56.426	28.213	8	4	0.003	0.983
	Roy's Largest Root	56.426	28.213	8	4	0.003	0.983
trfm-ELL PD Inst. ED Office UNIT	Pillai's Trace	0.406	0.342	8	4	0.908	0.406
	Wilks' Lambda	0.594	0.342	8	4	0.908	0.406
	Hotelling's Trace	0.685	0.342	8	4	0.908	0.406
	Roy's Largest Root	0.685	0.342	8	4	0.908	0.406

[a] Design: Intercept + trfmELLPDInstEDOfficeUNIT. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .406$, $F(8,4) = 0.342$, $p = .908$, and an observed power = 0.406.

The Levene's test showed no items with significant results. Since the main test did not yield significant results, this was not explored further. These results are displayed in Table 117.

Table 117

Levene's Test of Equality of Error Variances[a]: IV-ED/Embedded ED Office and DV-Faculty Role/Academic Skills

IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	F	df1	df2	Sig.
comprehend lectures.	0.564	1	11	0.468
take accurate notes.	0.817	1	11	0.385
deliver presentations.	3.199	1	11	0.101
understand varying rhetorical styles in speech.	2.749	1	11	0.126
read technical writing.	2.212	1	11	0.165
understand abstract language.	1.000	1	11	0.339
write at the expected academic level.	0.647	1	11	0.438
contribute to in-class discussions.	1.934	1	11	0.192

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstEDOfficeUNIT.
*p<.05. **p<.01. ***p <. 001.

The output for the MANOVA comparing the IV-ED/having an embedded ED office as compared to the DV-Faculty Role/language skills is in Table 118:

Table 118

Multivariate Tests[a]: IV-ED/Embedded ED Office and DV-Faculty Role/Language Skills

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.936	6.497[b]	9.000	4.000	.044	.936
	Wilks' Lambda	.064	6.497[b]	9.000	4.000	.044	.936
	Hotelling's Trace	14.619	6.497[b]	9.000	4.000	.044	.936
	Roy's Largest Root	14.619	6.497[b]	9.000	4.000	.044	.936
Trfm-ELL PD Inst ED Office UNIT	Pillai's Trace	.500	.444[b]	9.000	4.000	.856	.500
	Wilks' Lambda	.500	.444[b]	9.000	4.000	.856	.500
	Hotelling's Trace	1.000	.444[b]	9.000	4.000	.856	.500
	Roy's Largest Root	1.000	.444[b]	9.000	4.000	.856	.500

[a] Design: Intercept + trfmELLPDInstEDOfficeUNIT. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .500$, $F(9,4) = 0.444$, $p = .856$, and an observed power = 0.500.

The Levene's test is reported in Table 119. Two items demonstrated a significant result, but since the main test did not yield significant results, this was not explored further.

Table 119

Levene's Test of Equality of Error Variances[a]: IV-ED/Embedded ED Office and DV-Faculty Role/Language Skills

IT IS MY RESPONSIBILITY to help ELLs improve their...	F	df1	df2	Sig.
grammar.	.863	1	12	.371
sentence structure.	1.491	1	12	.245
pronunciation.	.973	1	12	.344
general oral skills.	1.384	1	12	.262
word choice.	.973	1	12	.344
academic vocabulary.	2.131	1	12	.170
academic writing.	2.545	1	12	.137
reading skills.	2.047	1	12	.178
developing strategies for improving their English.	5.250	1	12	.041*
making connections between their first language and English.	5.613	1	12	.035*

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstEDOfficeUNIT.
*p<.05. **p<.01. ***p <. 001.

Based upon these results, it is not possible to reject the null hypothesis because nonsignificant results were observed for both of DVs tested here. It does not appear that the presence of an embedded ED office made a significant difference in how responsible the faculty felt in relation to helping their ELLs improve their language skills nor their academic skills.

Summary. Only one significant result was shown for IV-ED/experienced peer and DV-Faculty Role/academic skills (RQ1 academic needs-b); however, the Levene's test for all subitems were nonsignificant. Therefore on all measures, the presence or absence of the various resources for the IV-ED did not make a significant difference on how responsible faculty felt for helping their ELLs with their language skills. This was also the case in relation to how responsible faculty felt for helping their ELLs to improve their general academic skills. These results demonstrated that the null hypothesis could not be rejected for this question.

Table 120 displays the observed power for the variables. Using G*Power, the required sample sizes required to achieve such an observed power was calculated.

Table 120

Observed Power and Required Sample Sizes: IV-ED vs. DV-Faculty Role

IV-ED	DV-Faculty Role	Sig.	Observed Power [a]	Total Sample Size Required
ELL Specialists	Academic skills	0.946	0.146	599
	Language skills	0.345	0.471	48
Experienced Peers	Academic skills	0.021*	0.549	33
	Language skills	0.915	0.191	346
Website Resources	Academic skills	0.394	0.378	80
	Language skills	0.422	0.460	51
Trainings	Academic skills	0.927	0.07	2,641
	Language skills	0.301	0.177	404
PLC	Academic skills	0.582	0.296	138
	Language skills	0.843	0.274	163
General ED Office	Academic skills	0.080	0.366	86
	Language skills	0.987	0.087	1,706
Embedded ED Office	Academic skills	0.908	0.406	68
	Language skills	0.856	0.500	42

[a] Calculated at $\alpha = 0.05$.
*p<.05. **p<.01. ***p <. 001.

Because there were 66 participants in this study, the following variables can likely be extended to larger populations since the observed powers were consistent with the number of participants in this study: ELL specialists/language skills, experienced peers/academic skills, website resources/language skills, PLC/academic skills, embedded ED office/academic skills, and embedded ED office/language skills. With the remaining variables having required sample sizes much higher than those in the sample, it is not possible to make definitive statements about the applicability of these results to a wider population. However, it should be noted that for many of these items, some of the items that had large required sample sizes were also items in which most participants said that they either had no access or were not sure if these resources existed. For example, for whether a general ED office even existed at their institution, 60.6% were unaware of the existence of the office or indicated that the office did not exist.

Research Question 2 Results and Analysis

Research question number 2 is repeated here:

RQ2: Are there significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources?

H_O2: There are no significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources.

H_A2: There are significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources.

This research question analyzes variable, IV-ED with DV-Faculty Needs using the MANOVA. As with the previous section, there were seven categories related to the available ED for faculty specifically related to working with ELLs. As with RQ1, these categories included the following independent variables: ELL specialists, experienced peers, website resources, trainings, workshops, PD, PLCs, ED office (at the university but not within the academic unit), and ED office (embedded in the academic unit). Each of these categories was reviewed and is reported on. Each of the IV-ED subvariables was compared to the dependent variable, faculty role (DV-Faculty Needs), which included the two subvariables of the ELLs' academic skills (DV-Faculty Needs/academic skills) and language skills (DV-Faculty Needs/academic skills). The combined DV-Faculty Needs/academic skills variable was broken down as follows: ability to comprehend lectures, contribute to in-class discussions, take accurate notes, deliver presentation, understand varying rhetorical styles in speech, read technical writing, understand abstract language, and write at the expected academic level. The combined DV-Faculty Needs/language skills was broken down as follows: grammar, sentence structure, pronunciation, general oral skills, word choice, academic vocabulary, academic writing, reading skills, development strategies for improving English, and making connections

between the first language and English. Based upon the expanded variables, the main research question can be broken down into its smaller components:

RQ2: Are there significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students based upon the presence of currently available ED resources?

RQ2 academic needs-a: Are there significant mean differences in faculty's self-perceived preparedness to address the specific academic needs of their ELL students based upon the presence of ELL specialists?

RQ2 academic needs-b: Are there significant mean differences in faculty's self-perceived preparedness to address the specific academic needs of their ELL students based upon the presence of experienced peers?

RQ2 academic needs-c: Are there significant mean differences in faculty's self-perceived preparedness to address the specific academic needs of their ELL students based upon the presence of website resources?

RQ2 academic needs-d: Are there significant mean differences in faculty's self-perceived preparedness to address the specific academic needs of their ELL students based upon the presence of trainings or workshops related to working with ELLs?

RQ2 academic needs-e: Are there significant mean differences in faculty's self-perceived preparedness to address the specific academic needs of their ELL students based upon the presence of PLCs related to working with ELLs?

RQ2 academic needs-f: Are there significant mean differences in faculty's self-perceived preparedness to address the specific academic needs of their ELL students based upon the presence of ED offices (at the university, but not within the academic unit)?

RQ2 academic needs-g: Are there significant mean differences in faculty's self-perceived preparedness to address the specific academic needs of their ELL students based upon the presence of ED offices (embedded within the academic unit)?

RQ2 language needs-a: Are there significant mean differences in faculty's self-perceived preparedness to address the specific language needs of their ELL students based upon the presence of ELL specialists?

RQ2 language needs-b: Are there significant mean differences in faculty's self-perceived preparedness to address the specific language needs of their ELL students based upon the presence of experienced peers?

RQ2 language needs-c: Are there significant mean differences in faculty's self-perceived preparedness to address the specific language needs of their ELL students based upon the presence of website resources?

RQ2 language needs-d: Are there significant mean differences in faculty's self-perceived preparedness to address the specific language needs of their ELL students based upon the presence of trainings or workshops related to working with ELLs?

RQ2 language needs-e: Are there significant mean differences in faculty's self-perceived preparedness to address the specific language needs of their ELL students based upon the presence of PLCs related to working with ELLs?

RQ2 language needs-f: Are there significant mean differences in faculty's self-perceived preparedness to address the specific language needs of their ELL students based upon the presence of ED offices (at the university, but not within the academic unit)?

RQ2 language needs-g: Are there significant mean differences in faculty's self-perceived preparedness to address the specific language needs of their ELL students based upon the presence of ED offices (embedded within the academic unit)?

MANOVA ELL specialists. For RQ2 academic needs-a, the output for the MANOVA comparing IV-ED/available ELL specialists to DV-Faculty Needs/academic skills is displayed in Table 121.

Table 121

Multivariate Tests[a]: IV-ED/ELL Specialists and DV-Faculty Needs/Academic Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.993	264.794[b]	8.000	16.000	.000	.993
	Wilks' Lambda	.007	264.794[b]	8.000	16.000	.000	.993
	Hotelling's Trace	132.397	264.794[b]	8.000	16.000	.000	.993
	Roy's Largest Root	132.397	264.794[b]	8.000	16.000	.000	.993
Trfm-ELL PD Inst. ELL Specialist	Pillai's Trace	.227	.588[b]	8.000	16.000	.774	.227
	Wilks' Lambda	.773	.588[b]	8.000	16.000	.774	.227
	Hotelling's Trace	.294	.588[b]	8.000	16.000	.774	.227
	Roy's Largest Root	.294	.588[b]	8.000	16.000	.774	.227

[a] Design: Intercept + trfmELLPDInstELLSpecialist. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .227$, $F(8,16) = 0.588$, $p = .774$, with an observed power = 0.227.

The Levene's test showed no significant results; since the main test did not

demonstrate a significant result, these were not explored further. These results are displayed in Table 122.

Table 122

Levene's Test of Equality of Error Variances[a]: IV-ED/ELL Specialists and DV-Faculty Needs/Academic Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	F	df1	df2	Sig.
comprehend lectures.	.756	1	23	.393
take accurate notes.	.102	1	23	.753
deliver presentations.	.518	1	23	.479
understand varying rhetorical styles in speech.	3.292	1	23	.083
read technical writing.	.142	1	23	.710
understand abstract language.	2.196	1	23	.152
write at the expected academic level.	.332	1	23	.570
contribute to in-class discussions.	.595	1	23	.448

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstELLSpecialist.
*p<.05. **p<.01. ***p <. 001.

The output for the MANOVA comparing the IV-ED/ELL specialists as compared to the DV-Faculty Needs/language skills is in Table 123. Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .346$, $F(10,14) = 0.739$, $p = .680$, with an observed power = .346.

Table 123

Multivariate Tests[a]: IV-ED/ELL Specialists and DV-Faculty Needs/Language Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.991	162.868[b]	10.000	14.000	.000	.991
	Wilks' Lambda	.009	162.868[b]	10.000	14.000	.000	.991
	Hotelling's Trace	116.335	162.868[b]	10.000	14.000	.000	.991
	Roy's Largest Root	116.335	162.868[b]	10.000	14.000	.000	.991
Trfm-ELL PD Inst ELL Specialist	Pillai's Trace	.346	.739[b]	10.000	14.000	.680	.346
	Wilks' Lambda	.654	.739[b]	10.000	14.000	.680	.346
	Hotelling's Trace	.528	.739[b]	10.000	14.000	.680	.346
	Roy's Largest Root	.528	.739[b]	10.000	14.000	.680	.346

[a] Design: Intercept + trfmELLPDInstELLSpecialist. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

The Levene's test is reported in Table 124. No items demonstrated a significant result, and this was not explored further.

Table 124

Levene's Test of Equality of Error Variances[a]: IV-ED/ELL Specialists and DV-Faculty Needs/Academic Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	F	df1	df2	Sig.
grammar.	.015	1	23	.905
sentence structure.	.112	1	23	.741
pronunciation.	.370	1	23	.549
general oral skills.	.848	1	23	.367
word choice.	.991	1	23	.330
academic vocabulary.	.067	1	23	.798
academic writing.	1.124	1	23	.300
reading skills.	.161	1	23	.692
developing strategies for improving their English.	.312	1	23	.582
making connections between their L1 and English.	3.563	1	23	.072

Note. L1 = first language. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstELLSpecialist.
*p<.05. **p<.01. ***p <. 001.

Based upon these results, it is not possible to reject the null hypothesis because nonsignificant results were observed for both of DVs tested here. It does not appear that ELL specialists being present made a significant difference in how comfortable faculty were with teaching their ELLs. This result was found across both helping ELLs to improve their language skills and their academic skills.

MANOVA experienced peers. For RQ2 academic needs-b, the output for the MANOVA comparing IV-experienced peers adept in working with ELLs to DV-Faculty Needs is displayed in Table 125.

Table 125

Multivariate Tests[a]: IV-ED/Experienced Peers and DV-Faculty Needs/Academic Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.979	120.143[b]	8.000	21.000	.000	.979
	Wilks' Lambda	.021	120.143[b]	8.000	21.000	.000	.979
	Hotelling's Trace	45.769	120.143[b]	8.000	21.000	.000	.979
	Roy's Largest Root	45.769	120.143[b]	8.000	21.000	.000	.979
Trfm-ELL PD Inst. Peer	Pillai's Trace	.291	1.077[b]	8.000	21.000	.416	.291
	Wilks' Lambda	.709	1.077[b]	8.000	21.000	.416	.291
	Hotelling's Trace	.410	1.077[b]	8.000	21.000	.416	.291
	Roy's Largest Root	.410	1.077[b]	8.000	21.000	.416	.291

[a] Design: Intercept + trfmELLPDInstPeer. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .291$, $F(8,21) = 1.077$, $p = .416$, with an observed power = 0.291.

Table 126 shows the Levene's test with three significant items; however, the main test did not demonstrate a significant result, and it was not explored further.

Table 126

Levene's Test of Equality of Error Variances[a]: IV-ED/Experienced Peers and DV-Faculty Needs/Academic Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	F	df1	df2	Sig.
comprehend lectures.	5.319	1	28	.029*
take accurate notes.	.784	1	28	.384
deliver presentations.	1.032	1	28	.318
understand varying rhetorical styles in speech.	.001	1	28	.982
read technical writing.	.299	1	28	.589
understand abstract language.	.323	1	28	.574
write at the expected academic level.	.156	1	28	.696
contribute to in-class discussions.	1.194	1	28	.284

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstPeer.
*p<.05. **p<.01. ***p <. 001.

The output for the MANOVA comparing the IV-ED/experienced peers as compared to the DV-Faculty Needs/language skills is in Table 127:

Table 127

Multivariate Tests[a]: IV-ED/Experienced Peers and DV-Faculty Needs/Language Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.976	75.813[b]	10.000	19.000	.000	.976
	Wilks' Lambda	.024	75.813[b]	10.000	19.000	.000	.976
	Hotelling's Trace	39.902	75.813[b]	10.000	19.000	.000	.976
	Roy's Largest Root	39.902	75.813[b]	10.000	19.000	.000	.976
Trfm ELL PD Inst. Peer	Pillai's Trace	.270	.704[b]	10.000	19.000	.710	.270
	Wilks' Lambda	.730	.704[b]	10.000	19.000	.710	.270
	Hotelling's Trace	.370	.704[b]	10.000	19.000	.710	.270
	Roy's Largest Root	.370	.704[b]	10.000	19.000	.710	.270

[a] Design: Intercept + trfmELLPDInstPeer. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not experienced peers were made available, $V = .270$, $F(10,19) = 0.704$, $p = .710$, with an observed power = .270.

The Levene's test is reported in Table 128. Three items demonstrated a significant result, but since the main test did not yield significant results, this was not explored further.

Table 128

Levene's Test of Equality of Error Variances[a]: IV-ED/Experienced Peers and DV-Faculty Needs/Language Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	F	df1	df2	Sig.
grammar.	6.946	1	28	.014*
sentence structure.	2.467	1	28	.128
pronunciation.	2.702	1	28	.111
general oral skills.	.942	1	28	.340
word choice.	3.212	1	28	.084
academic vocabulary.	3.487	1	28	.072
academic writing.	10.329	1	28	.003**
reading skills.	7.298	1	28	.012*
developing strategies for improving their English.	1.809	1	28	.189
making connections between their first language and English.	.045	1	28	.834

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstPeer.
*p<.05. **p<.01. ***p <. 001.

Based upon these results, it is not possible to reject the null hypothesis because nonsignificant results were observed for both of DVs tested here. It does not appear that the presence of experienced peers made a significant difference in how comfortable

faculty were with teaching their ELLs. This result was found across both helping ELLs to improve their language skills and their academic skills.

MANOVA website resources. For RQ2 academic needs-c, the output for the MANOVA comparing IV-website resources related to working with ELLs to DV-Faculty Needs is displayed in Table 129.

Table 129

Multivariate Tests[a]: IV-ED/Website Resources and DV-Faculty Needs/Academic Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.996	548.955[b]	8.000	16.000	.000	.996
	Wilks' Lambda	.004	548.955[b]	8.000	16.000	.000	.996
	Hotelling's Trace	274.477	548.955[b]	8.000	16.000	.000	.996
	Roy's Largest Root	274.477	548.955[b]	8.000	16.000	.000	.996
Trfm-ELL PD Inst. Website	Pillai's Trace	.496	1.965[b]	8.000	16.000	.119	.496
	Wilks' Lambda	.504	1.965[b]	8.000	16.000	.119	.496
	Hotelling's Trace	.983	1.965[b]	8.000	16.000	.119	.496
	Roy's Largest Root	.983	1.965[b]	8.000	16.000	.119	.496

[a] Design: Intercept + trfmELLPDInstWebsite. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .496$, $F(8,16) = 1.965$, $p = .119$, with an observed power = 0.496.

The Levene's test showed one item with significant results; however, since the main test did not demonstrate a significant result, these were not explored further. This is displayed in Table 130.

Table 130

Levene's Test of Equality of Error Variances[a]: IV-ED/Website Resources and DV-Faculty Needs/Academic Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	F	df1	df2	Sig.
comprehend lectures.	3.313	1	23	.082
take accurate notes.	.243	1	23	.627
deliver presentations.	6.502	1	23	.018*
understand varying rhetorical styles in speech.	.031	1	23	.861
read technical writing.	1.517	1	23	.231
understand abstract language.	.127	1	23	.725
write at the expected academic level.	1.529	1	23	.229
contribute to in-class discussions.	.329	1	23	.572

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

[a] Design: Intercept + trfmELLPDInstWebsite.

*p<.05. **p<.01. ***p <. 001.

The output for the MANOVA comparing the IV-ED/website resources as compared to the DV-Faculty Needs/language skills is in Table 131:

Table 131

Multivariate Tests[a]: IV-ED/Website Resources and DV-Faculty Needs/Language Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.990	145.610[b]	10.000	14.000	.000	.990
	Wilks' Lambda	.010	145.610[b]	10.000	14.000	.000	.990
	Hotelling's Trace	104.007	145.610[b]	10.000	14.000	.000	.990
	Roy's Largest Root	104.007	145.610[b]	10.000	14.000	.000	.990
Trfm-ELL PD Inst. Website	Pillai's Trace	.589	2.006[b]	10.000	14.000	.114	.589
	Wilks' Lambda	.411	2.006[b]	10.000	14.000	.114	.589
	Hotelling's Trace	1.433	2.006[b]	10.000	14.000	.114	.589
	Roy's Largest Root	1.433	2.006[b]	10.000	14.000	.114	.589

[a] Design: Intercept + trfmELLPDInstWebsite. [b] Exact statistic.

*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .589$, $F(10,14) = 2.006$, $p = .114$, with an observed power = 0.589.

The Levene's test showed one item with significant results; however, since the main test did not demonstrate a significant result, these were not explored further. This is displayed in Table 132.

Table 132
Levene's Test of Equality of Error Variances[a]: IV-ED/Website Resources and DV-Faculty Needs/Language Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	F	df1	df2	Sig.
grammar.	.053	1	23	.819
sentence structure.	.653	1	23	.427
pronunciation.	4.073	1	23	.055
general oral skills.	1.150	1	23	.295
word choice.	6.316	1	23	.019*
academic vocabulary.	.991	1	23	.330
academic writing.	.080	1	23	.780
reading skills.	.001	1	23	.976
developing strategies for improving their English.	2.527	1	23	.126
making connections between their first language and English.	.793	1	23	.382

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstWebsite.
*p<.05. **p<.01. ***p <. 001.

Based upon these results, it is not possible to reject the null hypothesis because nonsignificant results were observed for both of DVs tested here. It does not appear that website resources specifically designed to help faculty work with their ELLS being present made a significant difference in how comfortable faculty were with teaching their

ELLs. This result was found across both helping ELLs to improve their language skills and their academic skills.

MANOVA trainings. For RQ2 academic needs-d, the output for the MANOVA comparing IV-ED/trainings related to working with ELLs to DV-Faculty Needs is displayed in Table 133.

Table 133

Multivariate Tests[a]: IV-ED/Trainings and DV-Faculty Needs/Academic Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.981	354.121[b]	8.000	56.000	.000	.981
	Wilks' Lambda	.019	354.121[b]	8.000	56.000	.000	.981
	Hotelling's Trace	50.589	354.121[b]	8.000	56.000	.000	.981
	Roy's Largest Root	50.589	354.121[b]	8.000	56.000	.000	.981
ELL PD Inst. Trainings	Pillai's Trace	.255	1.043	16.000	114.000	.418	.128
	Wilks' Lambda	.758	1.042[b]	16.000	112.000	.419	.130
	Hotelling's Trace	.303	1.041	16.000	110.000	.421	.131
	Roy's Largest Root	.227	1.615[c]	8.000	57.000	.141	.185

[a] Design: Intercept + ELLPDInstTrainings. [b] Exact statistic. [c] The statistic is an upper bound on F that yields a lower bound on the significance level.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .255$, $F(16,114) = 1.043$, $p = .418$, with an observed power = 0.128.

The Levene's test showed two items with significant results; however, since the main test did not demonstrate a significant result, these were not explored further. This is displayed in Table 134.

Table 134

Levene's Test of Equality of Error Variances[a]: IV-ED/Trainings and DV-Faculty Needs/Academic Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	F	df1	df2	Sig.
comprehend lectures.	1.681	2	63	.195
take accurate notes.	.645	2	63	.528
deliver presentations.	.984	2	63	.380
understand varying rhetorical styles in speech.	.603	2	63	.550
read technical writing.	4.231	2	63	.019*
understand abstract language.	.709	2	63	.496
write at the expected academic level.	3.757	2	63	.029*
contribute to in-class discussions.	1.214	2	63	.304

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + ELLPDInstTrainings.
*p<.05. **p<.01. ***p <. 001.

The output for the MANOVA comparing the IV-ED/trainings as compared to the DV-Faculty Needs/language skills is in Table 135:

Table 135

Multivariate Tests[a]: IV-ED/Trainings and DV-Faculty Needs/Language Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.976	215.077[b]	10.000	54.000	.000	.976
	Wilks' Lambda	.024	215.077[b]	10.000	54.000	.000	.976
	Hotelling's Trace	39.829	215.077[b]	10.000	54.000	.000	.976
	Roy's Largest Root	39.829	215.077[b]	10.000	54.000	.000	.976
ELL PD Inst Trainings	Pillai's Trace	.281	.898	20.000	110.000	.591	.140
	Wilks' Lambda	.734	.904[b]	20.000	108.000	.583	.143
	Hotelling's Trace	.343	.910	20.000	106.000	.575	.147
	Roy's Largest Root	.272	1.493[c]	10.000	55.000	.167	.214

[a] Design: Intercept + ELLPDInstTrainings. [b] Exact statistic. [c] The statistic is an upper bound on F that yields a lower bound on the significance level.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .281$, $F(20,110) = 0.898$, $p = .591$, with an observed power = 0.140.

The Levene's test is reported in Table 136. One item demonstrated a significant result, but since the main test did not yield significant results, this was not explored further.

Table 136

Levene's Test of Equality of Error Variances[a]: IV-ED/Trainings and DV-Faculty Needs/Language Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	F	df1	df2	Sig.
grammar.	.372	2	63	.691
sentence structure.	.334	2	63	.718
pronunciation.	.011	2	63	.989
general oral skills.	1.638	2	63	.202
word choice.	1.178	2	63	.314
academic vocabulary.	.176	2	63	.839
academic writing.	2.642	2	63	.079
reading skills.	.350	2	63	.706
developing strategies for improving their English.	5.901	2	63	.004**
making connections between their first language and English.	.510	2	63	.603

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + ELLPDInstTrainings.
*p<.05. **p<.01. ***p <. 001.

Based upon these results, it is not possible to reject the null hypothesis because nonsignificant results were observed for both of DVs tested here. It does not appear that trainings being present made a significant difference in how comfortable faculty were

with teaching their ELLs. This result was found across both helping ELLs to improve their language skills and their academic skills.

MANOVA PLC. For RQ2 academic needs-e, the output for the MANOVA comparing IV-ED/PLC to DV-Faculty Needs is in Table 137.

Table 137

Multivariate Tests[a]: IV-ED/PLC and DV-Faculty Needs/Academic Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.996	506.072[b]	8.000	17.000	.000	.996
	Wilks' Lambda	.004	506.072[b]	8.000	17.000	.000	.996
	Hotelling's Trace	238.152	506.072[b]	8.000	17.000	.000	.996
	Roy's Largest Root	238.152	506.072[b]	8.000	17.000	.000	.996
Trfm ELL PD Inst. PLC	Pillai's Trace	.332	1.055[b]	8.000	17.000	.436	.332
	Wilks' Lambda	.668	1.055[b]	8.000	17.000	.436	.332
	Hotelling's Trace	.496	1.055[b]	8.000	17.000	.436	.332
	Roy's Largest Root	.496	1.055[b]	8.000	17.000	.436	.332

[a] Design: Intercept + trfmELLPDInstPLC. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .332$, $F(8,17) = 1.055$, $p = .436$, with an observed power = 0.332.

The Levene's test showed no items with significant results. Since the main test did not yield significant results, this was not explored further. This is displayed in Table 138.

Table 138

Levene's Test of Equality of Error Variances[a]: IV-ED/PLC and DV-Faculty Needs/Academic Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	F	df1	df2	Sig.
comprehend lectures.	1.371	1	24	.253
take accurate notes.	.391	1	24	.537
deliver presentations.	.276	1	24	.604
understand varying rhetorical styles in speech.	.049	1	24	.827
read technical writing.	.070	1	24	.794
understand abstract language.	3.987	1	24	.057
write at the expected academic level.	.439	1	24	.514
contribute to in-class discussions.	.306	1	24	.585

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstPLC.
*p<.05. **p<.01. ***p <. 001.

The output for the MANOVA comparing the IV-ED/PLC as compared to the DV-Faculty Needs/language skills is in Table 139.

Table 139

Multivariate Tests[a]: IV-ED/PLC and DV-Faculty Needs/Language Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.991	165.414[b]	10.000	15.000	.000	.991
	Wilks' Lambda	.009	165.414[b]	10.000	15.000	.000	.991
	Hotelling's Trace	110.276	165.414[b]	10.000	15.000	.000	.991
	Roy's Largest Root	110.276	165.414[b]	10.000	15.000	.000	.991
Trfm-ELL PD Inst. PLC	Pillai's Trace	.409	1.037[b]	10.000	15.000	.460	.409
	Wilks' Lambda	.591	1.037[b]	10.000	15.000	.460	.409
	Hotelling's Trace	.691	1.037[b]	10.000	15.000	.460	.409
	Roy's Largest Root	.691	1.037[b]	10.000	15.000	.460	.409

[a] Design: Intercept + trfmELLPDInstPLC. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .409$, $F(10,15) = 1.037$, $p = .460$, with an observed power = .409.

The Levene's test is reported in Table 140. Two items demonstrated a significant result, but since the main test did not yield significant results, this was not explored further.

Table 140

Levene's Test of Equality of Error Variances[a]: IV-ED/PLC and DV-Faculty Needs/Language Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	F	df1	df2	Sig.
grammar.	5.482	1	24	.028*
sentence structure.	6.293	1	24	.019*
pronunciation.	.174	1	24	.680
general oral skills.	.456	1	24	.506
word choice.	.751	1	24	.395
academic vocabulary.	.443	1	24	.512
academic writing.	.194	1	24	.663
reading skills.	3.852	1	24	.061
developing strategies for improving their English.	.061	1	24	.808
making connections between their first language and English.	.088	1	24	.769

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstPLC.
*p<.05. **p<.01. ***p <. 001.

Based upon these results, it is not possible to reject the null hypothesis because nonsignificant results were observed for both of DVs tested here. It does not appear that PLCs being present made a significant difference in how comfortable faculty were with

teaching their ELLs. This result was found across both helping ELLs to improve their language skills and their academic skills.

MANOVA general ED office. For RQ2 academic needs-f, the output for the MANOVA comparing IV-general ED office to DV-Faculty Needs in shown in Table 141.

Table 141

Multivariate Tests[a]: IV-ED/General ED Office and DV-Faculty Needs/Academic Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.985	237.407[b]	8.000	29.000	.000	.985
	Wilks' Lambda	.015	237.407[b]	8.000	29.000	.000	.985
	Hotelling's Trace	65.492	237.407[b]	8.000	29.000	.000	.985
	Roy's Largest Root	65.492	237.407[b]	8.000	29.000	.000	.985
Trfm-ELL PD Inst ED Office UNIV	Pillai's Trace	.243	1.162[b]	8.000	29.000	.354	.243
	Wilks' Lambda	.757	1.162[b]	8.000	29.000	.354	.243
	Hotelling's Trace	.321	1.162[b]	8.000	29.000	.354	.243
	Roy's Largest Root	.321	1.162[b]	8.000	29.000	.354	.243

[a] Design: Intercept + trfmELLPDInstEDOfficeUNIV. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .243$, $F(8,29) = 1.162$, $p = .354$, with an observed power = .243.

The Levene's test showed no items with significant results. Since the main test did not yield significant results, this was not explored further. This is displayed in Table 142.

Table 142

Levene's Test of Equality of Error Variances[a]: IV-ED/General ED Office and DV-Faculty Needs/Academic Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	F	df1	df2	Sig.
comprehend lectures.	.747	1	36	.393
take accurate notes.	.418	1	36	.522
deliver presentations.	.169	1	36	.684
understand varying rhetorical styles in speech.	.224	1	36	.639
read technical writing.	2.598	1	36	.116
understand abstract language.	.787	1	36	.381
write at the expected academic level.	1.719	1	36	.198
contribute to in-class discussions.	.448	1	36	.508

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstEDOfficeUNIV.
*p<.05. **p<.01. ***p <. 001.

The output for the MANOVA comparing the IV-ED/general ED office as compared to the DV-Faculty Needs/language skills is in Table 143.

Table 143

Multivariate Tests[a]: IV-ED/General ED Office and DV-Faculty Needs/Language Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.982	145.009[b]	10.000	27.000	.000	.982
	Wilks' Lambda	.018	145.009[b]	10.000	27.000	.000	.982
	Hotelling's Trace	53.707	145.009[b]	10.000	27.000	.000	.982
	Roy's Largest Root	53.707	145.009[b]	10.000	27.000	.000	.982
Trfm-ELL PD Inst.ED Office UNIV	Pillai's Trace	.377	1.633[b]	10.000	27.000	.150	.377
	Wilks' Lambda	.623	1.633[b]	10.000	27.000	.150	.377
	Hotelling's Trace	.605	1.633[b]	10.000	27.000	.150	.377
	Roy's Largest Root	.605	1.633[b]	10.000	27.000	.150	.377

[a] Design: Intercept + trfmELLPDInstEDOfficeUNIV. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .377$, $F(10,27) = 1.633$, $p = .150$, with an observed power = 0..377.

The Levene's test is reported in Table 144. No items demonstrated a significant result. Since the main test did not yield significant results, this was not explored further.

Table 144

Levene's Test of Equality of Error Variances[a]: IV-ED/General ED Office And DV-Faculty Needs/Language Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	F	df1	df2	Sig.
grammar.	1.479	1	36	.232
sentence structure.	1.926	1	36	.174
pronunciation.	.145	1	36	.705
general oral skills.	.258	1	36	.615
word choice.	.097	1	36	.757
academic vocabulary.	.012	1	36	.915
academic writing.	.012	1	36	.914
reading skills.	.859	1	36	.360
developing strategies for improving their English.	1.019	1	36	.319
making connections between their first language and English.	1.706	1	36	.200

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstEDOfficeUNIV.
*p<.05. **p<.01. ***p <. 001.

Based upon these results, it is not possible to reject the null hypothesis because nonsignificant results were observed for both of DVs tested here. It does not appear that the presence of a general ED office made a significant difference in how comfortable faculty were with teaching their ELLs. This result was found across both helping ELLs to improve their language skills and their academic skills.

MANOVA embedded ED office. For RQ2 academic needs-g, the output for the MANOVA comparing IV-embedded ED office to DV-Faculty Needs in shown in Table 145.

Table 145

Multivariate Tests[a]: IV-ED/Embedded ED Office and DV-Faculty Needs/Academic Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.997	236.905[b]	8.000	5.000	.000	.997
	Wilks' Lambda	.003	236.905[b]	8.000	5.000	.000	.997
	Hotelling's Trace	379.048	236.905[b]	8.000	5.000	.000	.997
	Roy's Largest Root	379.048	236.905[b]	8.000	5.000	.000	.997
Trfm-ELL PD Inst. ED Office UNIT	Pillai's Trace	.644	1.130[b]	8.000	5.000	.467	.644
	Wilks' Lambda	.356	1.130[b]	8.000	5.000	.467	.644
	Hotelling's Trace	1.809	1.130[b]	8.000	5.000	.467	.644
	Roy's Largest Root	1.809	1.130[b]	8.000	5.000	.467	.644

[a] Design: Intercept + trfmELLPDInstEDOfficeUNIT. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .644$, $F(8,5) = 1.130$, $p = .467$, with an observed power = .644.

The Levene's test showed three items with significant results; however, since the main test did not demonstrate a significant result, these were not explored further because of the results of the main statistical test. The results of the Levene's test are displayed in Table 146.

Table 146

Levene's Test of Equality of Error Variances[a]: IV-ED/Embedded ED Office and DV-Faculty Needs/Academic Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	F	df1	df2	Sig.
comprehend lectures.	17.086	1	12	.001**
take accurate notes.	1.292	1	12	.278
deliver presentations.	1.019	1	12	.333
understand varying rhetorical styles in speech.	.723	1	12	.412
read technical writing.	.021	1	12	.887
understand abstract language.	8.364	1	12	.014*
write at the expected academic level.	1.457	1	12	.251
contribute to in-class discussions.	.507	1	12	.490

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstEDOfficeUNIT.
*p<.05. **p<.01. ***p <. 001.

The output for the MANOVA comparing the IV-ED/embedded ED office as compared to the DV-Faculty Needs/language skills is in Table 147:

Table 147

Multivariate Tests[a]: IV-ED/Embedded ED Office and DV-Faculty Needs/Language Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	Pillai's Trace	.999	318.981[b]	9.000	4.000	.000	.999
	Wilks' Lambda	.001	318.981[b]	9.000	4.000	.000	.999
	Hotelling's Trace	717.708	318.981[b]	9.000	4.000	.000	.999
	Roy's Largest Root	717.708	318.981[b]	9.000	4.000	.000	.999
Trfm-ELL PD Inst. ED Office UNIT	Pillai's Trace	.681	.948[b]	9.000	4.000	.568	.681
	Wilks' Lambda	.319	.948[b]	9.000	4.000	.568	.681
	Hotelling's Trace	2.134	.948[b]	9.000	4.000	.568	.681
	Roy's Largest Root	2.134	.948[b]	9.000	4.000	.568	.681

[a] Design: Intercept + trfmELLPDInstEDOfficeUNIT. [b] Exact statistic.
*p<.05. **p<.01. ***p <. 001.

Using Pillai's trace, a nonsignificant effect was observed in relation to whether or not ELL specialists were made available, $V = .681$, $F(9,4) = 0.948$, $p = .568$, with an observed power = 0.681.

The Levene's test is reported in Table 148. No items demonstrated a significant result. Since the main test did not yield significant results, this was not explored further.

Table 148

Levene's Test of Equality of Error Variances[a]: IV-ED/Embedded ED Office and DV-Faculty Needs/Language Skills

If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	F	df1	df2	Sig.
grammar.	1.423	1	12	.256
sentence structure.	.255	1	12	.623
pronunciation.	1.220	1	12	.291
general oral skills.	.430	1	12	.524
word choice.	2.202	1	12	.164
academic vocabulary.	2.202	1	12	.164
academic writing.	3.167	1	12	.100
reading skills.	1.045	1	12	.327
developing strategies for improving their English.	.028	1	12	.871
making connections between their L1 and English.	.171	1	12	.686

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
[a] Design: Intercept + trfmELLPDInstEDOfficeUNIT.
*p<.05. **p<.01. ***p <. 001.

Based upon these results, it is not possible to reject the null hypothesis because nonsignificant results were observed for both of DVs tested here. It does not appear that embedded ED offices being present made a significant difference in how comfortable faculty were with teaching their ELLs. This result was found across both helping ELLs to improve their language skills and their academic skills.

Summary. Nonsignificant results were observed for all measures comparing IV-ED to IV-Faculty Needs. Based upon these results, the presence or absence of the various resources for the IV-ED did not make a significant difference on how whether faculty felt comfortable helping their ELLs with their language skills. This was also the case in relation to how responsible faculty felt for helping their ELLs to improve their general academic skills. These results demonstrated that the null hypothesis could not be rejected for this question.

Table 149 displays the observed power for the variables. Using G*Power, the required sample sizes required to achieve such an observed power was calculated.

Table 149

Observed Power and Required Sample Sizes: IV-ED vs. DV-Faculty Needs

IV-ED	DV-Faculty Needs	Sig.	Observed Power [a]	Total Sample Size Required
ELL Specialists	Academic skills	0.774	0.227	242
	Language skills	0.680	0.346	98
Experienced Peers	Academic skills	0.416	0.291	143
	Language skills	0.710	0.270	168
Website Resources	Academic skills	0.119	0.496	42
	Language skills	0.114	0.589	27
Trainings	Academic skills	0.418	0.128	783
	Language skills	0.591	0.140	652
PLC	Academic skills	0.436	0.332	107
	Language skills	0.460	0.409	67
General ED Office	Academic skills	0.354	0.243	210
	Language skills	0.150	0.377	81
Embedded ED Office	Academic skills	0.467	0.644	21
	Language skills	0.568	0.681	18

[a] Calculated at $\alpha = 0.05$

*p<.05. **p<.01. ***p <. 001.

With a sample of $N = 66$, it is likely that the following variables would likely be similar to other populations: website resources/academic skills, website skills/language skills,

PLC/language skills, embedded office/academic skills, and embedded ED office/language skills. For the remaining variables, more data would be needed to determine if the sample in this study matches other populations.

Research Question 3 Results and Analysis

Research question number 3 is repeated here:

RQ3a: Are there significant mean differences in the self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

H_O3a: There are no significant mean differences in the self-perceived ED needs of HE faculty who work with ELLs based upon the institutional context.

H_A3a: There are significant mean differences in the self-perceived ED needs of HE faculty who work with ELLs based upon the institutional context.

RQ3b: Are there significant mean differences in the self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

H_O3a: There are no significant mean differences in the self-perceived responsibilities of HE faculty who work with ELLs based upon the institutional context.

H_A3a: There are significant mean differences in the self-perceived responsibilities of HE faculty who work with ELLs based upon the institutional context.

RQ3a and RQ3b analyze the variables IV-Context with DV-Faculty Role and DV-Faculty Needs using the MANCOVA. Because of cell size, not all variables could be included in a single analysis. Therefore, the IV-Context was broken two sets of similar

subvariables. For the variables related to IV-Context, there were two broad categories: a) institutional characteristics, and b) student characteristics. These two categories were analyzed looking at the combined DV-Faculty Role, as well as with the DV-Faculty Needs need in terms of both academic skills and language skills. Based upon the expanded variables, the main research question can be broken down into its smaller components:

RQ3a: Are there significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined institutional context?

RQ3-a1: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific academic needs of their ELL students (DV-Faculty Needs/academic skills) based upon the institutional characteristics?

RQ3-a2: Are there significant mean differences in the combined faculty member's self-perceived perceived preparedness to address the specific academic needs of their ELL students (DV-Faculty Needs/ academic skills) based upon the student characteristics?

RQ3-a3: Are there significant mean differences in the combined faculty member's self-perceived perceived preparedness to address the specific language needs of their ELL students (DV-Faculty Needs/language skills) based upon the institutional characteristics?

RQ3-a4: Are there significant mean differences in the combined faculty member's self-perceived perceived preparedness to address the specific language needs of their ELL students (DV-Faculty Needs/language skills) based upon the student characteristics?

RQ3b: Are there significant mean differences in the self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

RQ3-b1: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific academic needs of their ELL students (DV-Faculty Role/ academic skills) based upon the institutional characteristics?

RQ3-b2: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific academic needs of their ELL students (DV-Faculty Role/ academic skills) based upon the student characteristics?

RQ3-b3: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific language needs of their ELL students (DV-Faculty Role/language skills) based upon the institutional characteristics?

RQ3-b4: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific language needs of their ELL students (DV-Faculty Role/language skills) based upon the student characteristics?

MANCOVA for IV-Context versus DV-Faculty Needs/academic skills. The IV-Context variable is analyzed for faculty needs for teaching academic skills. Only significant results are fully reported beyond the MANCOVA output.

Institutional characteristics. For RQ3-a1, the institutional characteristics included the following criteria: public/private status of the institution, the highest degree offered, the institution's size, and the academic area. The following reports the MANCOVA values for the institutional characteristics by main variable. Because no

single factor was identified in the literature review as being potential indicators of needs, each variable was analyzed for significant differences with it as the main variable and the others as covariates. This process was conducted four times to determine if there were significant differences among each variable as a main factor.

Table 150 displays the multivariate tests for institutional characteristics. The main effect is displayed, with any significant results shown after.

Table 150

Multivariate Tests for Institutional Characteristics Main Factors for Role/Academic Skills

Main Effect IV-Context	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Highest degree	Pillai's trace	0.826	1.335	40	270	.096	.986
Institution Size	Pillai's trace	0.773	0.837	56	378	.790	.935
Public/Private	Pillai's trace	0.216	0.818	16	108	.663	.523
Academic Area	Wilks' lambda	0.266	0.546	72	287	.546	.988

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

For the variables explored here, none of these institutional characteristics showed significant results. For the institutional characteristic for the IV-Context as compared to DV-Faculty Role/academic skills, the null hypothesis cannot be rejected with respect to whether or not faculty are comfortable teaching their ELLs academic skills.

Student characteristics. For RQ3-a2, the student characteristics included the following criteria: whether students were primarily commuters or lived on campus, whether students were primarily full-time or part-time, and whether students primarily

studied online or on campus. Table 151 displays the multivariate tests for student characteristics. The main effect is displayed, with any significant results shown after.

Table 151

Multivariate Tests for Student Characteristics Main Factors for Role/Academic Skills

Main Effect IV-Context	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Studying Online	Pillai's trace	0.250	0.981	16	110	.482	.624
FT/PT students	Pillai's trace^	0.210	1.823	8	55	.092	.716
Commuters	Pillai's trace	0.107	0.825	8	55	.584	.343

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
**p*<.05. ***p*<.01. ****p* <. 001.

For the variables explored here, none of the student characteristics showed significant results. For the student characteristic for the IV-Context as compared to DV-Faculty Role/academic skills, the null hypothesis cannot be rejected with respect to their effect on whether or not faculty are comfortable teaching their ELLs academic skills.

MANCOVA for IV-Context versus DV-Faculty Needs/language skills. As with the previous section, the variables related to the institution, there were two broad categories: a) institutional characteristics, and b) student characteristics. These are explored separately.

Institutional characteristics. For RQ3-a3, the institutional characteristics included the following criteria: public or private status of the institution, the highest degree offered, the institution's size, and the academic area. Table 152 displays the multivariate tests for institutional characteristics. The main effect is displayed, with any significant results shown after.

Table 152

Multivariate Tests for Institutional Characteristics Main Factors or Role/Academic Skills

Main Effect IV-Context	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Highest degree	Pillai's trace	0.747	0.914	50	260	.640	.932
Institution Size	Pillai's trace	1.033	0.900	70	364	.699	.978
Public/Private	Wilks' Lambda	0.328	1.020	20	104	.446	.707
Academic Area	Pillai's trace	1.757	1.261	90	468	.067	.999

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

For the variables explored here, none of these institutional characteristics showed significant results. For the institutional characteristic for the IV-Context as compared to DV-Faculty Needs/language skills, the null hypothesis cannot be rejected with respect to their effect on whether or not faculty are comfortable teaching their ELLs language skills.

Student characteristics. For RQ3-a4, the student characteristics included the following criteria: whether students were primarily commuters or lived on campus, whether students were primarily full-time or part-time, and whether students primarily studied online or on campus. Table 153 displays the multivariate tests for student characteristics. The main effect is displayed, with any significant results shown after.

Table 153

Multivariate Tests for Student Characteristics Main Factors for Role/Academic Skills

Main Effect IV-Context	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Studying Online	Pillai's trace^	0.376	1.229	20	106	.246	.810
FT/PT students	Pillai's trace^	0.258	1.846	10	53	.075	.782
Commuters	Wilks' Lambda	0.131	0.628	10	53	.628	.369

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

For the variables explored here, none of the student characteristics showed significant results. For the student characteristic for the IV-Context as compared to DV-Faculty Needs/language skills, the null hypothesis cannot be rejected with respect to their effect on whether or not faculty are comfortable teaching their ELLs language skills.

Summary. Nonsignificant results were observed for IV-Context in relation to DV-Faculty Role to teach language skills and teach academic skills. This would suggest that the IV-Context had no observable effect on how responsible faculty were in addressing these two types of needs of their learners. Thus, context was not a significant predictor of how comfortable faculty felt in addressing these needs.

For the IV-Context and the DV-Faculty Needs/academic skills, the lowest observed power was .343, which was observed for the variable for whether student primarily lived on campus, to be able to observe this kind of effect, a sample size of 100 would have been needed to detect this effect. As only 66 participants were included in this analysis, it is not possible to conclusively determine if similar results for this variable

would have been observed if the sample were larger. The next lowest observed power was .523 for the variable about the institution's public or private status, which would have required a sample size of 37. All other observed powers were much larger than this, with the highest effect size at .986, requiring a sample of only four participants. Because of the large effect size, it would be likely that similar results would be seen in other populations for all but one of the subvariables.

For the IV-Context and DV-Faculty Needs/language skills, the lowest observed effect size was .707, which would require a sample size of 16 to see similar effects. The largest observed effect size was 0.999, which would require a sample size of around 3 to see similar effects. Because of the large effect size, it would be likely that these results would likely be observed in other populations.

MANCOVA for IV-Context versus DV-Faculty role/academic skills. As with the previous section, the variables related to the institution, there were two broad categories: a) institutional characteristics, and b) student characteristics. These are explored separately.

Institutional characteristics. For RQ3-b1, the institutional characteristics included the following criteria: public or private status of the institution, the highest degree offered, the institution's size, and the academic area. Table 154 displays the multivariate tests for institutional characteristics. The main effect is displayed, with any significant results shown after.

Table 154

Multivariate Tests for Institutional Characteristics Main Factors for Role/Academic Skills

Main Effect IV-Context	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Highest degree	Wilks' Lambda	0.568	0.752	40	237	.861	.794
Institution Size	Pillai's trace	0.788	1.002	48	318	.475	.957
Public/Private	Pillai's trace	0.138	0.492	16	106	.492	.304
Commuters	Wilks' Lambda	0.172	1.294	72	281	.065	.999

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

For the variables explored here, none of these institutional characteristics showed significant results. For institutional characteristics for IV-Context and DV-Faculty role/academic skills, the null hypothesis cannot be rejected with respect to their effect on whether or not faculty felt responsible for teaching their ELLs language skills.

Student characteristics. For RQ3-b2, the student characteristics included the following criteria: whether students were primarily commuters or lived on campus, whether students were primarily full-time or part-time, and whether students primarily studied online or on campus. Table 155 displays the multivariate tests for institutional characteristics. The main effect is displayed, with any significant results shown after.

Table 155

Multivariate Tests for Student Characteristics Main Factors for Role/Academic Skills

Main Effect IV-Context	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Studying Online	Pillai's trace^	0.338	1.372	16	108	.169	.807
FT/PT students	Pillai's trace^	0.256	2.319	8	54	.032*	.833
Commuters	Pillai's trace	0.060	0.898	8	54	.898	.182

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

time status for students as a main factor. However, significant results were observed for the main factor in two areas of responsibility: 1) comprehending lectures, and 2) understanding varying rhetorical styles in speech. For both of these areas, an observed power of .558 would require 31 participants to see a similar result, and .641 requiring a total of 21 participants respectively. Therefore, for at least these two aspects, the power was large enough to observe the effect.

For the variables explored here, only one of the student characteristics showed significant results. For the student characteristic for the IV-Context and DV-Faculty role/academic skills, the null hypothesis can be rejected, since the results of the MANCOVA suggested that there were significant results for the full-time or part-time status of students as a main factor, and whether students studied online and students' commuter status as covariates, had a significant impact on mean differences on at least two aspects in which faculty felt responsible: 1) comprehending lectures, and 2) understanding varying rhetorical styles in speech. Because the observed power for these

Table 156

Tests of Between-Subjects Effects: For Institutional Characteristics Main Factors for Role/Academic Skills

Source	IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	Type III Sum of Squares	df	M^2	F	Sig.	P. η^2	Nonc. Para.	Obs. Power[i]
Corrected Model	comprehend lectures.	7.139[a]	3	2.380	2.367	.080	.104	7.102	.566
	take accurate notes.	2.353[b]	3	.784	.669	.574	.032	2.008	.183
	deliver presentations.	1.727[c]	3	.576	.578	.632	.028	1.735	.163
	understand varying rhetorical styles in speech.	7.162[d]	3	2.387	2.133	.105	.095	6.398	.518
	read technical writing.	5.407[e]	3	1.802	1.470	.232	.067	4.409	.370
	understand abstract language.	1.417[f]	3	.472	.357	.784	.017	1.071	.116
	write at the expected academic level.	1.080[g]	3	.360	.344	.794	.017	1.031	.113
	contribute to in-class discussions.	2.816[h]	3	.939	.944	.425	.044	2.833	.246
Intercept	comprehend lectures.	57.587	1	57.587	57.284	.000	.484	57.284	1.000
	take accurate notes.	53.545	1	53.545	45.686	.000	.428	45.686	1.000
	deliver presentations.	56.144	1	56.144	56.389	.000	.480	56.389	1.000
	understand varying rhetorical styles in speech.	58.270	1	58.270	52.054	.000	.460	52.054	1.000
	read technical writing.	52.896	1	52.896	43.132	.000	.414	43.132	1.000
	understand abstract language.	45.407	1	45.407	34.307	.000	.360	34.307	1.000
	write at the expected academic level.	58.050	1	58.050	55.412	.000	.476	55.412	1.000
	contribute to in-class discussions.	55.799	1	55.799	56.139	.000	.479	56.139	1.000

(table continued)

(table continued)

Source	IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	Type III Sum of Squares	df	M2	F	Sig.	P. η2	Nonc. Para.	Obs. Poweri
Institution Online Campus	comprehend lectures.	1.605	1	1.605	1.597	.211	.026	1.597	.238
	take accurate notes.	1.993	1	1.993	1.701	.197	.027	1.701	.250
	deliver presentations.	.233	1	.233	.235	.630	.004	.235	.076
	understand varying rhetorical styles in speech.	.111	1	.111	.099	.754	.002	.099	.061
	read technical writing.	1.290	1	1.290	1.052	.309	.017	1.052	.172
	understand abstract language.	.361	1	.361	.273	.603	.004	.273	.081
	write at the expected academic level.	.023	1	.023	.022	.883	.000	.022	.052
	contribute to in-class discussions.	2.159	1	2.159	2.172	.146	.034	2.172	.306
Institution Commuter	comprehend lectures.	.029	1	.029	.029	.865	.000	.029	.053
	take accurate notes.	.146	1	.146	.125	.725	.002	.125	.064
	deliver presentations.	.000	1	.000	.000	.991	.000	.000	.050
	understand varying rhetorical styles in speech.	.789	1	.789	.705	.404	.011	.705	.131
	read technical writing.	.461	1	.461	.376	.542	.006	.376	.093
	understand abstract language.	.005	1	.005	.004	.952	.000	.004	.050
	write at the expected academic level.	.000	1	.000	.000	.987	.000	.000	.050
	contribute to in-class discussions.	.899	1	.899	.904	.345	.015	.904	.155
Institution FT or PT Students	comprehend lectures.	4.602	1	4.602	4.578	.036*	.070	4.578	.558
	take accurate notes.	.004	1	.004	.004	.951	.000	.004	.050
	deliver presentations.	1.280	1	1.280	1.286	.261	.021	1.286	.200
	understand varying rhetorical styles in speech.	6.231	1	6.231	5.566	.022*	.084	5.566	.641
	read technical writing.	3.277	1	3.277	2.672	.107	.042	2.672	.363
	understand abstract language.	.826	1	.826	.624	.433	.010	.624	.122
	write at the expected academic level.	1.075	1	1.075	1.026	.315	.017	1.026	.169
	contribute to in-class discussions.	.184	1	.184	.186	.668	.003	.186	.071

[a] R Squared = .104 (Adjusted R Squared = .060). [b] R Squared = .032 (Adjusted R Squared = -.016). [c] R Squared = .028 (Adjusted R Squared = -.020). [d] R Squared = .095 (Adjusted R Squared = .050). [e] R Squared = .067 (Adjusted R Squared = .022). [f] R Squared = .017 (Adjusted R Squared = -.031). [g] R Squared = .017 (Adjusted R Squared = -.032). [h] R Squared = .044 (Adjusted R Squared = -.003). [i.]Computed using alpha = .05.
*p<.05. **p<.01. ***p <. 001.

two dependent variables was .558 and .641 respectively, a minimum of 21 participants would be required to observe these results. Since the $N = 66$ for this study, these results likely have applicability to other populations.

MANCOVA for IV-Context versus DV-Faculty role/language skills. As with the previous section, the variables related to the institution, there were two broad categories: a) institutional characteristics, and b) student characteristics. These are explored separately.

Institutional characteristics. For RQ3-b3, the institutional characteristics included the following criteria: public or private status of the institution, the highest degree offered, the institution's size, and the academic area. Table 157 displays the multivariate tests for institutional characteristics. The main effect is displayed, with any significant results shown after.

Table 157

Multivariate Tests for Institutional Characteristics Main Factors for Role/Language Skills

Main Effect IV-Context	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Highest degree	Pillai's trace	0.720	0.858	50	255	.739	.909
Institution Size	Pillai's trace	1.033	0.882	70	357	.734	.974
Public/Private	Pillai's trace	0.291	0.868	20	102	.627	.612
Academic Area	Pillai's trace^	1.377	0.921	90	459	.678	.995

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

For the variables explored here, none of these institutional characteristics showed significant results. For the institutional characteristics for IV-Context and DV-Role/language skills, the null hypothesis cannot be rejected with respect to their effect on whether or not faculty felt responsible for teaching their ELLs language skills.

Student characteristics. For RQ3-b4, the student characteristics included the following criteria: whether students were primarily commuters or lived on campus, whether students were primarily full-time or part-time, and whether students primarily studied online or on campus. Table 158 displays the multivariate tests for institutional characteristics. The main effect is displayed, with any significant results shown after.

Table 158

Multivariate Tests for Institutional Characteristics Main Factors for Role/Language Skills

Main Effect IV-Context	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Studying Online	Pillai's trace	0.266	0.799	20	104	.709	.567
FT/PT students	Pillai's trace^	0.120	0.709	10	52	.712	.324
Commuters	Pillai's trace^	0.162	1.004	10	52	.453	.463

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
**p*<.05. ***p*<.01. ****p* <. 001.

For the variables explored here, none of the student characteristics showed significant results. For the student characteristic for the IV-Context, the null hypothesis cannot be rejected with respect to their effect on whether or not faculty felt responsible for teaching their ELLs language skills.

Summary. Nonsignificant results were observed for the IV-Context in relation to how responsible faculty felt in relation to the DV-Faculty Role/language skills and for the institutional characteristics for DV-Faculty Role/academics skills. This would suggest that none of the IV-Context subvariables had an observable effect on how responsible faculty felt in addressing language skills. This also suggests that there were no observable effects with respect to academic skills based upon the IV-Context/institutional characteristics.

However, significant results were observed for the student characteristics in relation to DV-Faculty/academic skills. Specifically, significant results were found for the IV-Context/student characteristics of the full-time or part-time status as the main variable of the students for: 1) comprehending lectures, and 2) understanding varying rhetorical styles in speech. The null hypothesis can be partially rejected based upon the subvariable IV-Context/full-time or part-time status of students and the DV-Faculty Role/academic skills

For the IV-Context and DV-Faculty Role/academic skills, the lowest observed effect size was .182, which was observed for the variable for whether students lived on campus or not, to be able to observe this kind of effect, a sample size of 382 would have been needed to detect this effect. Additionally, an observed power was .304 recorded, which was observed for the variable for the institution's public or private status, to be able to observe this kind of effect, a sample size of 130 would have been needed to detect this effect. As only 66 participants were included in this analysis, it is not possible to conclusively determine if similar results for these variables would have been observed if

the sample were larger. However, the next lowest observed power was .794 for the variable about the institution's highest degree, which would have required a sample size of 11. All other effect sizes were much larger than this, with the highest effect size at .999, requiring a sample of only three participants. Because of the large effect size, it would be likely that similar results would be seen in other populations for all but two of the subvariables.

For the IV-Context and DV-Faculty Role/language skills, the lowest observed power was .324, which was observed for the variable for whether students studied part-time or full-time, to be able to observe this kind of effect, a sample size of 113 would have been needed to detect this effect. As only 66 participants were included in this analysis, it is not possible to conclusively determine if similar results for these variables would have been observed if the sample were larger. However, the next lowest observed power was .463 for the variable institution's public or private status. To observe this level of power, a sample size of 50 would have been required. The highest observed power was .995 for the institution's academic area, which would require only four participants to see similar results with 95% certainty. Because of the large effect size, it would be likely that these results would be seen in other similar populations for all but one of the variables.

Research Question 4 Results and Analysis

Research question number 4 is repeated here:

RQ4a: Are there significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

H_O4a: There are no significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

H_A4a: There are significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

RQ4b: Are there significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

H_O4b: There are no significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

H_A4b: There are significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics.

RQ4a and RQ4b analyze the variables IV-Demographics with DV-Faculty Role and DV-Faculty Needs using the MANCOVA. Because of cell size, not all variables could be included in a single analysis. Therefore, the IV-Demographics was broken down by similar subvariables. For the variables related to IV-Demographics, there were five broad categories explored including: 1) degree information (faculty degree level, faculty discipline, and length of time since degree completion), 2) faculty characteristics (age, gender, ethnicity), 3) teaching experience (number of years teaching, level taught,

modality experience, tenure status, and rank), 4) number of students (number of students taught each semester, number of ELLs taught each semester, and number of ELLs taught over career), and 5) international experiences (faculty's L1, language used at home currently, foreign language learned beyond the intermediate level , where faculty spent their childhood, where faculty grew up, and if they lived outside of the U.S. for longer than at least 1 year). IV-Demographics was compared to DV-Faculty Role (academic skills and language skills) and DV-Faculty Needs (academic skills and language skills).

Based upon the expanded variables, the main research question can be broken down into its smaller components:

RQ4a: Are there significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

RQ4-a1: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific academic needs of their ELL students (DV-Faculty Role/academic skills) based upon the combined IV-Demographics/degree information of the faculty?

RQ4-a2: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific academic needs of their ELL students (DV-Faculty Role /academic skills) based upon the combined IV-Demographics/faculty characteristics?

RQ4-a3: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific academic needs of their ELL students (DV-Faculty

Role /academic skills) based upon the combined IV-Demographics/faculty teaching experience?

RQ4-a4: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific academic needs of their ELL students (DV-Faculty Role /academic skills) based upon the combined IV-Demographics/number of students?

RQ4-a5: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific academic needs of their ELL students (DV-Faculty Role /academic skills) based upon the combined IV-Demographics/international experience?

RQ4-a6: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific language needs of their ELL students (DV-Faculty Role/language skills) based upon the combined IV-Demographics/degree information of the faculty?

RQ4-a7: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific language needs of their ELL students (DV-Faculty Role/language skills) based upon the combined IV-Demographics/faculty characteristics?

RQ4-a8: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific language needs of their ELL students (DV-Faculty Role/language skills) based upon the combined IV-Demographics/faculty teaching experience?

RQ4-a9: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific language needs of their ELL students (DV-Faculty Role/language skills) based upon the combined IV-Demographics/number of students?

RQ4-a10: Are there significant mean differences in the combined faculty member's self-perceived role to address the specific language needs of their ELL students (DV-Faculty Role/language skills) based upon the combined IV-Demographics/international experience?

RQ4b: Are there significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

RQ4-b1: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific academic needs of their ELL students (DV-Faculty Needs/academic skills) based upon the combined IV-Demographics/degree information of the faculty?

RQ4-b2: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific academic needs of their ELL students (DV-Faculty Needs/academic skills) based upon the combined IV-Demographics/faculty characteristics?

RQ4-b3: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific academic needs of their ELL students (DV-Faculty Needs/academic skills) based upon the combined IV-Demographics/faculty teaching experience?

RQ4-b4: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific academic needs of their ELL students (DV-Faculty Needs/academic skills) based upon the combined IV-Demographics/number of students?

RQ4-b5: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific academic needs of their ELL students (DV-Faculty Needs/academic skills) based upon the combined IV-Demographics/international experience?

RQ4-b6: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific language needs of their ELL students (DV-Faculty Needs/language skills) based upon the combined IV-Demographics/degree information of the faculty?

RQ4-b7: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific language needs of their ELL students (DV-Faculty Needs/language skills) based upon the combined IV-Demographics/faculty characteristics?

RQ4-b8: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific language needs of their ELL students (DV-Faculty Needs/language skills) based upon the combined IV-Demographics/faculty teaching experience?

RQ4-b9: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific language needs of their ELL students (DV-

Faculty Needs/language skills) based upon the combined IV-Demographics/number of students?

RQ4-b10: Are there significant mean differences in the combined faculty member's self-perceived preparedness to address the specific language needs of their ELL students (DV-Faculty Needs/language skills) based upon the combined IV-Demographics/international experience?

MANCOVA for IV-Demographics versus DV-Faculty Role/academic skills. Each of the subvariables for the IV-Demographics is explored. Since no indicators were available from the literature as to which factors may be suggested as main factors, each of these subvariables was treated as a main factor to allow for an in-depth exploration of these variables.

Degree information. For RQ4-a1, Table 159 displays the multivariate tests for degree information. The main effect is displayed, with any significant results shown after.

Table 159

Multivariate Tests for Degree Information Main Factors for Role/Academic Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Degree level	Pillai's trace	0.632	1.266	32	216	.166	.952
Discipline	Pillai's trace	1.239	1.079	72	424	.320	.996
Time since degree completion	Pillai's trace	0.979	1.097	56	378	.304	.988

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

None of these subvariables demonstrated a statistically significant result, suggesting that the faculty's degree backgrounds do not significantly affect how responsible faculty feel for helping their ELL students learn academic skills.

Faculty characteristics. For RQ4-a2, Table 160 displays the multivariate tests for faculty characteristics. The main effect is displayed, with any significant results shown after.

Table 160

Multivariate Tests for Faculty Characteristics Main Factors for Role/Academic Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Age	Pillai's trace	0.512	.992	32	216	.486	.865
Gender	Pillai's trace	0.115	0.873	8	54	.545	.362
Ethnicity	Pillai's trace^	0.891	1.177	48	324	.208	.985

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

For the faculty characteristics explored here, there were no significant results. This suggests that regardless of the characteristics of the faculty, there is no statistically significant evidence that these characteristics affect how responsible faculty feel for helping their ELLs learn academic skills necessary for success.

Teaching experience. For RQ4-a3, Table 161 displays the multivariate tests for teaching experience. The main effect is displayed, with any significant results shown after.

Table 161

Multivariate Tests for Teaching Experience Main Factors for Role/Academic Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Years teaching	Pillai's trace	0.605	.603	56	357	.989	.781
Level taught	Pillai's trace	0.279	0.655	24	153	.888	.531
Modality	Pillai's trace	0.271	0.998	16	102	.465	.629
Tenure Status	Wilks' lambda	0.617	1.074	24	153	.380	.812
Rank	Pillai's trace^	1.020	0.716	80	392	.965	.944

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

None of the variables shown in Table 161 demonstrated significant results. This suggests that the teaching experience of the faculty do not have a statistically significant effect on how responsible the faculty feel for helping their ELLs with their academic skills.

Number of students. For RQ4-a4, Table 162 displays the multivariate tests for number of students. The main effect is displayed, with any significant results shown after.

Table 162

Multivariate Tests for Number of Students Main Factors for Role/Academic Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
N. Students taught each semester	Pillai's trace	0.659	.987	40	260	.498	.919
N. ELLs taught each semester	Wilks' lambda	0.289	1.749	40	212	.006**	.997
N. ELLS taught over career	Pillai's trace	0.625	1.711	24	156	.028*	.973

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

Table 163

Tests of Between-Subjects Effects for Number of Students Main Factors for Role/Academic Skills

Source	IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	Type III Sum of Squares	df	M^2	F	Sig.	Partial η^2	Nonc. Para.	Obs. Power[i]
Corrected Model	comprehend lectures.	4.920[a]	7	.703	.699	.673	.082	4.893	.272
	take accurate notes.	12.980[b]	7	1.854	1.854	.095	.191	12.976	.686
	deliver presentations.	9.358[c]	7	1.337	1.639	.144	.173	11.472	.621
	understand varying rhetorical styles in speech.	10.295[d]	7	1.471	1.363	.240	.148	9.540	.527
	read technical writing.	14.223[e]	7	2.032	1.877	.091	.193	13.142	.693
	understand abstract language.	12.450[f]	7	1.779	1.553	.169	.165	10.873	.593
	write at the expected academic level.	10.258[g]	7	1.465	1.721	.123	.180	12.050	.647
	contribute to in-class discussions.	2.984[h]	7	.426	.452	.865	.054	3.164	.181
Intercept	comprehend lectures.	25.680	1	25.680	25.540	.000	.317	25.540	.999
	take accurate notes.	4.172	1	4.172	4.170	.046	.070	4.170	.519
	deliver presentations.	22.238	1	22.238	27.262	.000	.331	27.262	.999
	understand varying rhetorical styles in speech.	14.681	1	14.681	13.603	.001	.198	13.603	.952
	read technical writing.	25.273	1	25.273	23.353	.000	.298	23.353	.997
	understand abstract language.	19.727	1	19.727	17.228	.000	.239	17.228	.983
	write at the expected academic level.	21.490	1	21.490	25.244	.000	.315	25.244	.999
	contribute to in-class discussions.	19.845	1	19.845	21.041	.000	.277	21.041	.995
Faculty ELLs Over Career	comprehend lectures.	1.686	1	1.686	1.677	.201	.030	1.677	.247
	take accurate notes.	7.773	1	7.773	7.770	.007**	.124	7.770	.782
	deliver presentations.	1.999	1	1.999	2.451	.123	.043	2.451	.337
	understand varying rhetorical styles in speech.	1.836	1	1.836	1.702	.197	.030	1.702	.249
	read technical writing.	.524	1	.524	.484	.490	.009	.484	.105
	understand abstract language.	.311	1	.311	.272	.604	.005	.272	.081
	write at the expected academic level.	.848	1	.848	.996	.323	.018	.996	.165
	contribute to in-class discussions.	1.003	1	1.003	1.064	.307	.019	1.064	.173

(table continued)

(table continued)

Source	IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	Type III Sum of Squares	df	M2	F	Sig.	Partial η2	Nonc. Para.	Obs. Poweri
Faculty How Many TOTAL Students	comprehend lectures.	2.327	1	2.327	2.315	.134	.040	2.315	.321
	take accurate notes.	.054	1	.054	.054	.817	.001	.054	.056
	deliver presentations.	1.886	1	1.886	2.312	.134	.040	2.312	.321
	understand varying rhetorical styles in speech.	1.685	1	1.685	1.562	.217	.028	1.562	.233
	read technical writing.	3.067	1	3.067	2.834	.098	.049	2.834	.380
	understand abstract language.	1.033	1	1.033	.902	.346	.016	.902	.154
	write at the expected academic level.	1.094	1	1.094	1.285	.262	.023	1.285	.200
	contribute to in-class discussions.	.008	1	.008	.009	.925	.000	.009	.051
Faculty How Many ELLs	comprehend lectures.	1.545	5	.309	.307	.906	.027	1.537	.121
	take accurate notes.	9.308	5	1.862	1.861	.116	.145	9.305	.590
	deliver presentations.	5.622	5	1.124	1.378	.247	.111	6.892	.450
	understand varying rhetorical styles in speech.	7.726	5	1.545	1.432	.227	.115	7.159	.466
	read technical writing.	10.126	5	2.025	1.871	.114	.145	9.357	.593
	understand abstract language.	11.014	5	2.203	1.924	.105	.149	9.619	.607
	write at the expected academic level.	8.274	5	1.655	1.944	.102	.150	9.719	.612
	contribute to in-class discussions.	2.405	5	.481	.510	.768	.044	2.550	.177

[a] R Squared = .082 (Adjusted R Squared = -.035). [b] R Squared = .191 (Adjusted R Squared = .088). [c] R Squared = .173 (Adjusted R Squared = .067). [d] R Squared = .148 (Adjusted R Squared = .039). [e] R Squared = .193 (Adjusted R Squared = .090). [f] R Squared = .165 (Adjusted R Squared = .059). [g] R Squared = .180 (Adjusted R Squared = .075). [h] R Squared = .054 (Adjusted R Squared = -.066). [i.] Computed using alpha = .05.
*p<.05. **p<.01. ***p <. 001.

Two main variables showed significant results. ELLs taught over career with $p = 0.006$, and an observed power of 0.997. The number of ELLs taught over the faculty's career with $p = 0.028$, and an observed power of 0.973.

The output for the between-subjects effects for the number of ELLs taught each semester is in Table 163. Only one item was shown to be significant. This occurred with how many ELLs taught each semester with the covariate of ELLs taught over career for *take accurate notes*, with $p = 0.007$, and an observed power of 0.782.

The output for the tests between-subjects effects for the total number of ELLs taught over the faculty's career is in Table 164. Four items showed significant results for ELLs taught over a career with the covariate for how many ELLs taught in a semester and take accurate notes with $p = .004$ and an observed power = .839. Also ELLs taught over a career with the covariate how many ELLs taught in a semester and the faculty's responsibility to teach writing at the expected academic level, $p = .013$ and an observed power of 0.713. For the covariate how many ELLs over your entire career and take accurate notes, $p = .001$ and an observed power = .943. Finally, for how many ELLs over your entire career, $p = .001$, and an observed power of 0.962.

With respect for the variables explored here, there is evidence that the null hypothesis can be rejected. Although only a few items showed significant results, these significant results were found with the number of ELLs taught over their career with a covariate of how many ELLs are in their classes each semester, and for the number of ELLs taught each semester with How many ELLs taught over a career as a covariate. These two variables relate to how experienced a faculty member is with working with ELLs.

Table 164

Tests of Between-Subjects Effects for Number of Students Main Factors for Role/Academic Skills

Source	IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	Type III Sum of Squares	df	M^2	F	Sig.	Partial η^2	Nonc. Para.	Obs. Power[i]
Corrected Model	comprehend lectures.	7.880[a]	5	1.576	1.716	.146	.131	8.581	.552
	take accurate notes.	17.717[b]	5	3.543	4.017	.003	.261	20.084	.930
	deliver presentations.	4.964[c]	5	.993	1.149	.346	.092	5.744	.379
	understand varying rhetorical styles in speech.	7.843[d]	5	1.569	1.447	.222	.113	7.233	.472
	read technical writing.	6.884[e]	5	1.377	1.174	.333	.093	5.869	.387
	understand abstract language.	7.462[f]	5	1.492	1.252	.297	.099	6.258	.411
	write at the expected academic level.	9.333[g]	5	1.867	2.228	.064	.164	11.141	.684
	contribute to in-class discussions.	14.085[h]	5	2.817	3.938	.004	.257	19.691	.925
Intercept	comprehend lectures.	111.604	1	111.604	121.534	.000	.681	121.534	1.000
	take accurate notes.	75.629	1	75.629	85.731	.000	.601	85.731	1.000
	deliver presentations.	101.082	1	101.082	116.969	.000	.672	116.969	1.000
	understand varying rhetorical styles in speech.	83.120	1	83.120	76.654	.000	.574	76.654	1.000
	read technical writing.	104.396	1	104.396	88.998	.000	.610	88.998	1.000
	understand abstract language.	90.033	1	90.033	75.506	.000	.570	75.506	1.000
	write at the expected academic level.	109.643	1	109.643	130.891	.000	.697	130.891	1.000
	contribute to in-class discussions.	84.124	1	84.124	117.607	.000	.674	117.607	1.000
Faculty How Many TOTAL Students	comprehend lectures.	1.913	1	1.913	2.083	.154	.035	2.083	.295
	take accurate notes.	.055	1	.055	.062	.804	.001	.062	.057
	deliver presentations.	1.988	1	1.988	2.300	.135	.039	2.300	.320
	understand varying rhetorical styles in speech.	1.213	1	1.213	1.119	.295	.019	1.119	.180
	read technical writing.	2.363	1	2.363	2.014	.161	.034	2.014	.287
	understand abstract language.	.635	1	.635	.533	.468	.009	.533	.111
	write at the expected academic level.	.714	1	.714	.852	.360	.015	.852	.148
	contribute to in-class discussions.	.000	1	.000	.001	.981	.000	.001	.050

(table continued)

(table continued)

Source	IT IS MY RESPONSIBILITY to help ELLs improve their ability to...	Type III Sum Sum of Squares	df	M2	F	Sig.	Partial η2	Nonc. Para.	Obs. Poweri
Faculty How Many ELLs	comprehend lectures.	1.544	1	1.544	1.681	.200	.029	1.681	.247
	take accurate notes.	7.945	1	7.945	9.006	.004**	.136	9.006	.839
	deliver presentations.	.041	1	.041	.0470	.829	.001	.047	.055
	understand varying rhetorical styles in speech.	2.537	1	2.537	2.340	.132	.039	2.340	.324
	read technical writing.	2.505	1	2.505	2.135	.149	.036	2.135	.301
	understand abstract language.	2.962	1	2.962	2.484	.121	.042	2.484	.341
	write at the expected academic level.	5.509	1	5.509	6.577	.013*	.103	6.577	.713
	contribute to in-class discussions.	.763	1	.763	1.067	.306	.018	1.067	.174
Faculty ELLs Over Career	comprehend lectures.	5.628	3	1.876	2.043	.118	.097	6.129	.497
	take accurate notes.	15.743	3	5.248	5.949	.001**	.238	17.846	.943
	deliver presentations.	3.087	3	1.029	1.191	.321	.059	3.572	.303
	understand varying rhetorical styles in speech.	5.876	3	1.959	1.806	.156	.087	5.419	.445
	read technical writing.	.886	3	.295	.252	.860	.013	.755	.095
	understand abstract language.	5.162	3	1.721	1.443	.240	.071	4.329	.362
	write at the expected academic level.	5.067	3	1.689	2.016	.122	.096	6.049	.492
	contribute to in-class discussions.	14.034	3	4.678	6.540	.001**	.256	19.620	.962

[a] R Squared = .131 (Adjusted R Squared = .055). [b] R Squared = .261 (Adjusted R Squared = .196). [c] R Squared = .092 (Adjusted R Squared = .012). [d] R Squared = .113 (Adjusted R Squared = .035). [e] R Squared = .093 (Adjusted R Squared = .014). [f] R Squared = .099 (Adjusted R Squared = .020). [g] R Squared = .164 (Adjusted R Squared = .090). [h] R Squared = .257 (Adjusted R Squared = .192). [i] Computed using alpha = .05.
*p<.05. **p<.01. ***p <. 001.

International experiences. For RQ4-a5, Table 165 displays the multivariate tests for international experiences. The main effect is displayed, with any significant results shown after.

Table 165

Multivariate Tests for International Experience Main Factors for Role/Academic Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Faculty L1	Pillai's trace	0.508	.927	32	204	.585	.830
Home language	Pillai's trace^	0.104	0.736	8	51	.736	.302
Foreign language	Pillai's trace	0.659	0.987	40	260	.498	.919
Childhood in US	Pillai's trace	0.780	0.542	8	51	.542	.224
Where grew up	Pillai's trace^	1.204	0.070	56	357	.070	.998
Time abroad	Pillai's trace^	0.542	0.774	40	255	.834	.808

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

With respect for the variables explored here, none of them demonstrated significant results. This would suggest that regardless if how much international experience a faculty member has, it has little bearing on how they view their role with respect to how responsible they feel for helping their ELLs with their academic skills.

MANCOVA for IV-Demographics versus DV-Faculty Role/language skills.

Degree information. For RQ4-a6, Table 166 displays the multivariate tests for degree information. The main effect is displayed, with any significant results shown after.

Table 166

Multivariate Tests for Degree Information Main Factors for Role/Language Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Degree level	Pillai's trace	.601	.920	40	208	.612	.882
Discipline	Pillai's trace	1.616	1.138	90	468	.200	.999
Time since degree completion	Pillai's trace^	1.043	0.910	70	364	.678	.979

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

None of the items showed significant results.

Faculty characteristics. For RQ4-a7, Table 167 displays the multivariate tests for the faculty characteristics. The main effect is displayed, with any significant results shown after.

Table 167

Multivariate Tests for Faculty Characteristics Main Factors for Role/Language Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Faculty age	Pillai's trace	.424	.965	40	208	.965	.660
Faculty gender	Pillai's trace	.192	1.234	10	52	.292	.565
Faculty ethnicity	Pillai's trace^	1.333	1.486	60	312	.017*	.999

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

The output for the between subjects-effects for the main factor faculty ethnicity is in Table 168.

Table 168

Tests of Between-Subjects Effects for Faculty Characteristics Main Factors for Role/Language Skills

Source	IT IS MY RESPONSIBILITY to help ELLs improve their...	Type III Sum of Squares	df	M^2	F	Sig.	Par.η^2	Nonc. Para.	Obs. Power[i]
Corrected Model	grammar.	18.766[a]	8	2.346	1.481	.185	.175	11.850	.607
	sentence structure.	19.454[b]	8	2.432	1.521	.171	.178	12.168	.621
	pronunciation.	13.458[c]	8	1.682	1.100	.377	.136	8.796	.459
	general oral skills.	18.393[d]	8	2.299	1.864	.084	.210	14.916	.729
	word choice.	13.074[e]	8	1.634	1.071	.397	.133	8.565	.447
	academic vocabulary.	17.477[f]	8	2.185	1.473	.188	.174	11.781	.604
	academic writing.	23.291[g]	8	2.911	2.244	.037	.243	17.954	.821
	reading skills.	13.217[h]	8	1.652	1.209	.311	.147	9.671	.504
	developing strategies for improving their English.	19.056[i]	8	2.382	1.307	.259	.157	10.454	.542
	making connections between their L1 and English.	22.010[j]	8	2.751	1.756	.106	.201	14.047	.697
Intercept	grammar.	4.340	1	4.340	2.740	.103	.047	2.740	.370
	sentence structure.	5.595	1	5.595	3.500	.067	.059	3.500	.452
	pronunciation.	6.791	1	6.791	4.439	.040	.073	4.439	.544
	general oral skills.	8.994	1	8.994	7.294	.009	.115	7.294	.756
	word choice.	5.999	1	5.999	3.930	.052	.066	3.930	.495
	academic vocabulary.	13.159	1	13.159	8.870	.004	.137	8.870	.833
	academic writing.	7.346	1	7.346	5.662	.021	.092	5.662	.648
	reading skills.	8.799	1	8.799	6.438	.014	.103	6.438	.703
	developing strategies for improving their English.	9.501	1	9.501	5.212	.026	.085	5.212	.612
	making connections between their L1 and English.	8.705	1	8.705	5.556	.022	.090	5.556	.639

(table continued)

(table continued)

Source	IT IS MY RESPONSIBILITY to help ELLs improve their...	Type III Sum of Squares	df	M2	F	Sig.	Par.η2	Nonc. Para.	Obs. Poweri
Faculty Age	grammar.	1.594	1	1.594	1.007	.320	.018	1.007	.167
	sentence structure.	.344	1	.344	.215	.645	.004	.215	.074
	pronunciation.	.447	1	.447	.292	.591	.005	.292	.083
	general oral skills.	.203	1	.203	.164	.687	.003	.164	.068
	word choice.	.367	1	.367	.241	.626	.004	.241	.077
	academic vocabulary.	.416	1	.416	.280	.598	.005	.280	.082
	academic writing.	.049	1	.049	.038	.847	.001	.038	.054
	reading skills.	.125	1	.125	.091	.764	.002	.091	.060
	developing strategies for improving their English.	1.225	1	1.225	.672	.416	.012	.672	.127
	making connections between their L1 and English.	.046	1	.046	.029	.865	.001	.029	.053
Faculty Gender	grammar.	4.623	1	4.623	2.920	.093	.050	2.920	.390
	sentence structure.	6.242	1	6.242	3.905	.053	.065	3.905	.493
	pronunciation.	4.806	1	4.806	3.141	.082	.053	3.141	.414
	general oral skills.	6.695	1	6.695	5.429	.023*	.088	5.429	.629
	word choice.	9.168	1	9.168	6.006	.017*	.097	6.006	.673
	academic vocabulary.	10.195	1	10.195	6.872	.011*	.109	6.872	.731
	academic writing.	12.761	1	12.761	9.837	.003**	.149	9.837	.869
	reading skills.	6.829	1	6.829	4.997	.029*	.082	4.997	.594
	developing strategies for improving their English.	2.774	1	2.774	1.522	.223	.026	1.522	.228
	making connections between their L1 and English.	4.032	1	4.032	2.574	.114	.044	2.574	.351

(table continued)

(table continued)

Source	IT IS MY RESPONSIBILITY to help ELLs improve their...	Type III Sum of Squares	df	M2	F	Sig.	Par.η2	Nonc. Para.	Obs. Poweri
Faculty Ethnicity	grammar.	12.562	6	2.094	1.322	.263	.124	7.932	.475
	sentence structure.	12.217	6	2.036	1.274	.284	.120	7.642	.459
	pronunciation.	7.577	6	1.263	.825	.555	.081	4.952	.299
	general oral skills.	8.155	6	1.359	1.102	.373	.106	6.613	.398
	word choice.	2.316	6	.386	.253	.956	.026	1.517	.112
	academic vocabulary.	6.187	6	1.031	.695	.655	.069	4.170	.253
	academic writing.	11.050	6	1.842	1.420	.223	.132	8.518	.508
	reading skills.	4.374	6	.729	.533	.781	.054	3.200	.198
	developing strategies for improving their English.	13.862	6	2.310	1.267	.287	.120	7.604	.456
	making connections between their L1 and English.	17.473	6	2.912	1.859	.104	.166	11.152	.643

[a] R Squared = .175 (Adjusted R Squared = .057). [b] R Squared = .178 (Adjusted R Squared = .061). [c] R Squared = .136 (Adjusted R Squared = .012). [d] R Squared = .210 (Adjusted R Squared = .098). [e] R Squared = .133 (Adjusted R Squared = .009). [f] R Squared = .174 (Adjusted R Squared = .056). [g] R Squared = .243 (Adjusted R Squared = .135). [h] R Squared = .147 (Adjusted R Squared = .025). [i] R Squared = .157 (Adjusted R Squared = .037). [j] R Squared = .201 (Adjusted R Squared = .086). [k] Computed using alpha = .05.
*p<.05. **p<.01. ***p <. 001.

When controlling for faculty ethnicity, several items showed significant results with respect to the covariate of gender of the faculty. These significant items included general oral skills (p = .023), word choice (p = 017), academic vocabulary (p = 011), academic writing (p = .003), and reading skills (p = .029). This suggests that when faculty degree level is a main factor, and

faculty ethnicity are a covariate, that statistically significant differences exist in relation to how responsible faculty feel to address the language needs of their ELL learners.

For these subvariables, there is evidence that for IV-Demographics and DV-Faculty Role/language skills, there is evidence that the null hypothesis can be partially rejected on the basis of the faculty's ethnicity with faculty gender as a covariate. This was true for how responsible faculty felt that they were responsible for teaching general oral skills (p = .023), word choice (p = 017), academic vocabulary (p = 011), academic writing (p = .003), and reading skills (p = .029). The observed power for these subquestions was .629, .673, .731, .869, and .594 respectively. Using G*Power, this would have required a sample of 22, 18, 14, 7, and 26 respectively. Since the sample in this study was N = 66, it is possible to determine that the sample was large enough to observe these effects.

Teaching experience. For RQ4-a8, Table 169 summarizes the main variables for teaching experience.

Table 169

Multivariate Tests for Teaching Experience Main Factors for Role/Language Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Teaching experience	Pillai's trace	0.976	.878	70	343	.878	.950
Level faculty teach at	Wilks' lambda	0.461	.889	30	147	.635	.770
Primary modality	Pillai's trace^	0.371	.346	20	98	.346	.753
Tenure status	Pillai's trace	0.347	.923	30	147	.641	.923
Rank	Pillai's trace^	0.976	.878	70	343	.878	.950

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

None of these values were significant, suggesting that whether or not faculty feel responsible for teaching language skills to their students was not based upon teaching experience.

Number of students. For RQ4-a9, Table 170 displays the multivariate tests for number of students. The main effect is displayed, with any significant results shown after. None of these results showed statistically significant results. This suggests that regardless of the number of students taught over a semester, the number of ELLs taught a semester, or the number of ELLs taught over a career, these were not mediating factors in how responsible faculty felt to teacher their students language skills.

Table 170

Multivariate Tests for Number of Students Main Factors for Role/Language Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
N. Students taught each semester	Pillai's trace	0.886	1.077	50	250	.348	.971
N. ELLs taught each semester	Pillai's trace	0.866	1.047	50	250	.397	.966
N. ELLs taught over career	Pillai's trace^	0.558	1.143	30	150	.294	.894

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

International experiences. For RQ4-a10, Table 171 displays the multivariate tests for international experiences. None of these results showed statistically significant results.

Table 171

Multivariate Tests for International Experiences Main Factors for Role/Language Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Faculty L1	Pillai's trace^	0.415	1.567	40	196	.982	.606
Home language	Pillai's trace^	0.591	1.203	30	147	.234	.912
Foreign language	Pillai's trace	0.071	0.376	10	49	.951	.173
Childhood in US	Pillai's trace	0.110	0.609	10	49	.799	.274
Where grew up	Pillai's trace^	1.202	1.016	70	343	.450	.991
Time abroad	Pillai's trace^	0.802	0.937	50	245	.598	.938

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

The international experiences of faculty did not demonstrate any effect on how responsible faculty felt to teach their students language skills.

Summary. For the perceived faculty role in teaching academic skills, nonsignificant results were shown for IV-Demographics for degree information (RQ4-a1), faculty characteristics information (RQ4-a2), teaching experience information (RQ4-a3), and for international experiences information (RQ4-a5). Significant results were observed for students information (RQ4-a4) including the number of ELLs taught in a semester (with how many ELLs taught over a career as a covariate), and the number of ELLs taught over a career (with how many ELLs per semester as a covariate). This suggests that the null hypothesis can be partially rejected because there were several variables that did not show a significant result, but at least one did.

The lowest observed power was 0.224 for international experiences and whether they spent their childhood growing up in the U.S. With such an observed effect size, this

would have required a total sample size of 248. A small effect was also observed with international experiences and home language with an observed power = .302, requiring a sample of 132. A small effect was also observed for the faculty characteristic variable for gender with an observed power = .362, requiring a sample of 89. The remaining observed powers ranged from .531 (teaching experience/level taught) to .997 (number of students/ELLs taught each semester). These observed powers would have required between 36 and four participants. Therefore, for all variables aside from international experiences/childhood in the U.S., international experiences/home language, and faculty characteristic/gender, these results likely have applicability with other populations.

For the perceived faculty role in teaching language skills, nonsignificant results were shown for IV-Demographics for degree information (RQ4-a6), teaching experience (RQ4-a8), number of students (RQ4-a9), and for international experiences (RQ4-a10). Significant results were observed for faculty characteristics (RQ4-a7), with ethnicity as a covariates. Significant results were observed for general oral skills (p = .023), word choice (p = 017), academic vocabulary (p = 011), academic writing (p = .003), and reading skills (p = .029). This suggests that the null hypothesis can be partially rejected.

The lowest observed power was .173 for international experiences/foreign language, requiring a sample of 424 to observe this effect. A small effect was also observed for international experiences/growing up in the U.S. (observed power = .274), which would have required a sample of 163. The remaining observed powers ranged from .565 faculty characteristics/gender to.999 for faculty characteristics/ethnicity, requiring a sample size between three to 30. For all variables except for international

experience/foreign language, and international experiences/growing up in the U.S., it is possible to say that similar results would be expected in other populations.

MANCOVA for IV-Demographics versus DV-Faculty Needs/academic skills.

Degree information. For RQ4-b1, Table 172 displays the multivariate tests for degree information. None of the items showed significant results.

Table 172

Multivariate Tests for Degree Information Main Factors for Needs/Academic Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Degree level	Wilks' lambda	0.356	0.671	32	220	.911	.649
Discipline	Pillai's trace	0.942	0.801	72	293	.850	.839
Time since degree completion	Pillai's trace	0.971	1.108	56	385	.287	.989

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

Faculty characteristics. For RQ4-b2, Table 173 displays the multivariate tests for the faculty characteristics.

Table 173

Multivariate Tests for Faculty Characteristics Main Factors for Needs/Academic Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Faculty age	Pillai's trace	0.541	1.076	32	220	.367	.900
Faculty gender	Pillai's trace	0.194	1.655	8	55	.132	.665
Faculty ethnicity	Pillai's trace	1.188	1.698	48	330	.004**	.999

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

Table 174

Tests of Between-Subjects Effects for Faculty Characteristics Main Factors for Needs/Academic Skills

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	Type III Sum of Sq.	df	M^2	F	Sig.	Partial η^2	Nonc. Para.	Obs. Power[i]
Corrected Model	comprehend lectures.	.375[a]	8	.047	3.998	.001	.359	31.985	.983
	take accurate notes.	13.621[b]	8	1.703	1.770	.102	.199	14.163	.703
	deliver presentations.	2.143[c]	8	.268	.428	.899	.057	3.424	.182
	understand varying rhetorical styles in speech.	13.591[d]	8	1.699	1.528	.168	.177	12.220	.624
	read technical writing.	10.960[e]	8	1.370	1.359	.234	.160	10.868	.563
	understand abstract language.	23.804[f]	8	2.976	2.365	.028	.249	18.917	.845
	write at the expected academic level.	.409[g]	8	.051	4.334	.000	.378	34.672	.990
	contribute to in-class discussions.	.222[h]	8	.028	1.994	.064	.219	15.955	.765
Intercept	comprehend lectures.	.642	1	.642	54.789	.000	.490	54.789	1.000
	take accurate notes.	22.943	1	22.943	23.856	.000	.295	23.856	.998
	deliver presentations.	46.648	1	46.648	74.531	.000	.567	74.531	1.000
	understand varying rhetorical styles in speech.	24.192	1	24.192	21.752	.000	.276	21.752	.996
	read technical writing.	37.462	1	37.462	37.150	.000	.395	37.150	1.000
	understand abstract language.	16.620	1	16.620	13.208	.001	.188	13.208	.947
	write at the expected academic level.	.646	1	.646	54.735	.000	.490	54.735	1.000
	contribute to in-class discussions.	.515	1	.515	37.078	.000	.394	37.078	1.000
Faculty Age	comprehend lectures.	.017	1	.017	1.486	.228	.025	1.486	.224
	take accurate notes.	.159	1	.159	.165	.686	.003	.165	.068
	deliver presentations.	.091	1	.091	.145	.704	.003	.145	.066
	understand varying rhetorical styles in speech.	.456	1	.456	.410	.524	.007	.410	.097
	read technical writing.	.074	1	.074	.073	.787	.001	.073	.058
	understand abstract language.	1.000	1	1.000	.795	.376	.014	.795	.142
	write at the expected academic level.	.002	1	.002	.196	.659	.003	.196	.072
	contribute to in-class discussions.	.053	1	.053	3.822	.055	.063	3.822	.485

(table continued)

(table continued)

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	Type III Sum of Sq.	df	M2	F	Sig.	Partial η2	Nonc. Para.	Obs. Poweri
Faculty Gender	comprehend lectures.	.007	1	.007	.608	.439	.011	.608	.120
	take accurate notes.	2.067	1	2.067	2.149	.148	.036	2.149	.302
	deliver presentations.	.509	1	.509	.813	.371	.014	.813	.144
	understand varying rhetorical styles in speech.	.001	1	.001	.001	.976	.000	.001	.050
	read technical writing.	.974	1	.974	.966	.330	.017	.966	.162
	understand abstract language.	.393	1	.393	.312	.579	.005	.312	.085
	write at the expected academic level.	.014	1	.014	1.171	.284	.020	1.171	.186
	contribute to in-class discussions.	2.650E-6	1	2.650E-6	.000	.989	.000	.000	.050
Faculty Ethnicity	comprehend lectures.	.373	6	.062	5.298	.000***	.358	31.786	.991
	take accurate notes.	7.174	6	1.196	1.243	.298	.116	7.460	.449
	deliver presentations.	1.607	6	.268	.428	.857	.043	2.568	.164
	understand varying rhetorical styles in speech.	13.325	6	2.221	1.997	.081	.174	11.981	.682
	read technical writing.	10.415	6	1.736	1.721	.133	.153	10.329	.605
	understand abstract language.	21.840	6	3.640	2.893	.016**	.233	17.356	.858
	write at the expected academic level.	.368	6	.061	5.199	.000***	.354	31.191	.990
	contribute to in-class discussions.	.206	6	.034	2.467	.034**	.206	14.801	.788

[a] R Squared = .359 (Adjusted R Squared = .270). [b] R Squared = .199 (Adjusted R Squared = .087). [c] R Squared = .057 (Adjusted R Squared = -.076). [d] R Squared = .177 (Adjusted R Squared = .061). [e] R Squared = .160 (Adjusted R Squared = .042). [f] R Squared = .249 (Adjusted R Squared = .144). [g] R Squared = .378 (Adjusted R Squared = .291). [h] R Squared = .219 (Adjusted R Squared = .109). [i] Computed using alpha = .05.
*p<.05. **p<.01. ***p <. 001.

The output for the between subjects-effects for the main factor faculty ethnicity is in Table 174. Although the multivariate tests for ethnicity showed a significant result, none of the DV-Faculty needs/academic covariates showed significant results.

Teaching experience. For RQ4-b3, Table 175 shows that none of the main variables had significant results.

Table 175

Multivariate Tests for Teaching Experience Main Factors for Needs/Academic Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Teaching experience	Pillai's trace	0.752	0.783	56	364	.869	.910
Level faculty teach at	Wilks' lambda	0.324	0.787	24	156	.748	.638
Primary modality	Pillai's trace^	0.406	1.657	16	104	.067	.890
Tenure status	Pillai's trace	0.460	1.177	24	156	.271	.858
Rank	Pillai's trace	1.184	0.869	80	400	.776	.984

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

Number of students. For RQ4-b4, Table 176 displays the multivariate tests for number of students.

Table 176

Multivariate Tests for Number of Students Main Factors for Needs/Academic Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
N. Ss each semester	Pillai's trace	0.559	0.834	40	265	.751	.848
N. ELLs each semester	Wilks' lambda	0.325	1.502	40	216	.020*	.985
N. ELLs over career	Pillai's trace	0.336	0.836	24	159	.686	.674

Note. Ss = students. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

Table 177

Tests of Between-Subjects Effects for Number of Students Main Factors for Needs/Academic Skills

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	Type III Sum of Squares	df	M^2	F	Sig.	Partial η^2	Nonc. Para.	Obs Power[i]
Corrected Model	comprehend lectures.	.077[a]	7	.011	.705	.668	.081	4.935	.275
	take accurate notes.	5.671[b]	7	.810	.763	.620	.087	5.343	.298
	deliver presentations.	2.907[c]	7	.415	.774	.611	.088	5.420	.302
	understand varying rhetorical styles in speech.	8.165[d]	7	1.166	1.061	.401	.117	7.424	.414
	read technical writing.	4.843[e]	7	.692	.697	.674	.080	4.879	.272
	understand abstract language.	12.162[f]	7	1.737	1.283	.276	.138	8.981	.499
	write at the expected academic level.	.327[g]	7	.047	3.916	.002	.329	27.410	.969
	contribute to in-class discussions.	.023[h]	7	.003	.300	.951	.036	2.097	.131
Intercept	comprehend lectures.	.756	1	.756	48.340	.000	.463	48.340	1.000
	take accurate notes.	13.992	1	13.992	13.182	.001	.191	13.182	.946
	deliver presentations.	38.001	1	38.001	70.862	.000	.559	70.862	1.000
	understand varying rhetorical styles in speech.	34.809	1	34.809	31.652	.000	.361	31.652	1.000
	read technical writing.	32.870	1	32.870	33.110	.000	.372	33.110	1.000
	understand abstract language.	26.270	1	26.270	19.398	.000	.257	19.398	.991
	write at the expected academic level.	.722	1	.722	60.629	.000	.520	60.629	1.000
	contribute to in-class discussions.	.671	1	.671	60.899	.000	.521	60.899	1.000
Faculty ELLs Over Career	comprehend lectures.	.000	1	.000	.011	.915	.000	.011	.051
	take accurate notes.	2.472	1	2.472	2.329	.133	.040	2.329	.323
	deliver presentations.	.241	1	.241	.450	.505	.008	.450	.101
	understand varying rhetorical styles in speech.	.566	1	.566	.514	.476	.009	.514	.109
	read technical writing.	.176	1	.176	.177	.675	.003	.177	.070
	understand abstract language.	.004	1	.004	.003	.958	.000	.003	.050
	write at the expected academic level.	.001	1	.001	.062	.804	.001	.062	.057
	contribute to in-class discussions.	.002	1	.002	.170	.681	.003	.170	.069

(table continued)

(table continued)

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	Type III Sum of Squares	df	M2	F	Sig.	Partial η2	Nonc. Para.	Obs Poweri
Faculty How Many TOTAL Students	comprehend lectures.	.018	1	.018	1.153	.288	.020	1.153	.184
	take accurate notes.	.002	1	.002	.002	.969	.000	.002	.050
	deliver presentations.	1.973	1	1.973	3.678	.060	.062	3.678	.470
	understand varying rhetorical styles in speech.	1.697	1	1.697	1.543	.219	.027	1.543	.231
	read technical writing.	2.998	1	2.998	3.020	.088	.051	3.020	.401
	understand abstract language.	1.337	1	1.337	.987	.325	.017	.987	.164
	write at the expected academic level.	.039	1	.039	3.311	.074	.056	3.311	.432
	contribute to in-class discussions.	.002	1	.002	.208	.650	.004	.208	.073
Faculty How Many ELLs	comprehend lectures.	.060	5	.012	.772	.574	.065	3.862	.257
	take accurate notes.	5.279	5	1.056	.995	.429	.082	4.974	.328
	deliver presentations.	.791	5	.158	.295	.914	.026	1.474	.117
	understand varying rhetorical styles in speech.	6.130	5	1.226	1.115	.363	.091	5.574	.367
	read technical writing.	1.395	5	.279	.281	.922	.024	1.405	.114
	understand abstract language.	9.780	5	1.956	1.444	.223	.114	7.222	.471
	write at the expected academic level.	.263	5	.053	4.414	.002**	.283	22.069	.952
	contribute to in-class discussions.	.019	5	.004	.351	.880	.030	1.754	.132

[a] R Squared = .081 (Adjusted R Squared = -.034). [b] R Squared = .087 (Adjusted R Squared = -.027). [c] R Squared = .088 (Adjusted R Squared = -.026). [d] R Squared = .117 (Adjusted R Squared = .007). [e] R Squared = .080 (Adjusted R Squared = -.035). [f] R Squared = .138 (Adjusted R Squared = .030). [g] R Squared = .329 (Adjusted R Squared = .245). [h] R Squared = .036 (Adjusted R Squared = -.084). [i] Computed using alpha = .05.
*p<.05. **p<.01. ***p <. 001.

The variable for number of ELLs taught each semester had a significant result. The between-subjects effects output is in Table 177. Although the multivariate tests for number of ELLs taught each semester showed significant results (p = .002, observed power = .952) for writing at the expected academic level, none of the covariates showed significant results.

International experiences. For RQ4-b1, Table 178 displays the multivariate tests for international experiences. The main effect is displayed, with any significant results shown after.

Table 178

Multivariate Tests for International Experiences Main Factors for Needs/Academic Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Faculty L1	Pillai's trace	0.474	0.875	32	208	.664	.800
Home language	Pillai's trace^	0.665	1.854	24	145	.014*	.984
Foreign language	Pillai's trace	0.052	0.356	8	52	.939	.155
Childhood in US	Pillai's trace	0.120	0.884	8	52	.536	.365
Where grew up	Pillai's trace^	1.368	1.580	56	364	.008**	.999
Time abroad	Pillai's trace^	0.802	0.937	50	245	.598	.938

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

Significant results were observed for the main effect of what language is currently used at home. The output for the between-subjects effects is in Table 179.

Significant results were observed with the language currently spoke in the home as a main factor and where faculty grew up as a covariate. These were seen for understanding varying rhetorical styles (p = .014, observed power = .706), understanding abstract language (p = .049, observed power = .509), and contributing to in-class discussions (p = .037, observed power = .556). The observed powers for these items ranged from .509 to .706, which would have required between 16-40 participants. Because there were 66 participants in this study, it is likely the case that these results would be reflective of other similar populations.

Table 179

Tests of Between-Subjects Effects for International Experiences Main Factors for Needs/Academic Skills

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	Type III Sum of Squares	df	M^2	F	Sig.	Partial η^2	Nonc. Para.	Obs. Power[i]
Corrected Model	comprehend lectures.	.154[a]	8	.019	1.238	.294	.148	9.902	.516
	take accurate notes.	10.032[b]	8	1.254	1.224	.302	.147	9.790	.511
	deliver presentations.	3.145[c]	8	.393	.646	.736	.083	5.170	.269
	understand varying rhetorical styles in speech.	18.835[d]	8	2.354	2.308	.032	.245	18.462	.834
	read technical writing.	16.896[e]	8	2.112	2.336	.030	.247	18.685	.840
	understand abstract language.	16.174[f]	8	2.022	1.452	.195	.169	11.618	.598
	write at the expected academic level.	.308[g]	8	.038	2.833	.010	.285	22.666	.913
	contribute to in-class discussions.	.263[h]	8	.033	2.490	.022	.259	19.918	.867
Intercept	comprehend lectures.	.351	1	.351	22.505	.000	.283	22.505	.997
	take accurate notes.	22.155	1	22.155	21.621	.000	.275	21.621	.995
	deliver presentations.	17.597	1	17.597	28.928	.000	.337	28.928	1.000
	understand varying rhetorical styles in speech.	15.642	1	15.642	15.333	.000	.212	15.333	.971
	read technical writing.	17.266	1	17.266	19.094	.000	.251	19.094	.990
	understand abstract language.	15.178	1	15.178	10.902	.002	.161	10.902	.901
	write at the expected academic level.	.555	1	.555	40.812	.000	.417	40.812	1.000
	contribute to in-class discussions.	.407	1	.407	30.890	.000	.351	30.890	1.000
Faculty Foreign Language	comprehend lectures.	5.225E-5	1	5.225E-5	.003	.954	.000	.003	.050
	take accurate notes.	.130	1	.130	.127	.723	.002	.127	.064
	deliver presentations.	.037	1	.037	.060	.807	.001	.060	.057
	understand varying rhetorical styles in speech.	.775	1	.775	.760	.387	.013	.760	.137
	read technical writing.	.537	1	.537	.593	.444	.010	.593	.118
	understand abstract language.	.280	1	.280	.201	.656	.004	.201	.073
	write at the expected academic level.	.016	1	.016	1.197	.278	.021	1.197	.190
	contribute to in-class discussions.	.002	1	.002	.165	.686	.003	.165	.068

(table continued)

(table continued)

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	Type III Sum of Squares	df	M2	F	Sig.	Partial η2	Nonc. Para.	Obs. Poweri
Faculty USA Childhood	comprehend lectures.	.043	1	.043	2.773	.101	.046	2.773	.374
	take accurate notes.	.441	1	.441	.431	.514	.007	.431	.099
	deliver presentations.	.957	1	.957	1.573	.215	.027	1.573	.234
	understand varying rhetorical styles in speech.	.414	1	.414	.406	.527	.007	.406	.096
	read technical writing.	.130	1	.130	.143	.706	.003	.143	.066
	understand abstract language.	1.039	1	1.039	.747	.391	.013	.747	.136
	write at the expected academic level.	.024	1	.024	1.792	.186	.030	1.792	.260
	contribute to in-class discussions.	.002	1	.002	.173	.679	.003	.173	.069
Faculty Where Grew Up	comprehend lectures.	.050	1	.050	3.188	.079	.053	3.188	.419
	take accurate notes.	.308	1	.308	.300	.586	.005	.300	.084
	deliver presentations.	.770	1	.770	1.266	.265	.022	1.266	.198
	understand varying rhetorical styles in speech.	6.600	1	6.600	6.470	.014*	.102	6.470	.706
	read technical writing.	3.143	1	3.143	3.476	.067	.057	3.476	.450
	understand abstract language.	5.656	1	5.656	4.063	.049*	.067	4.063	.509
	write at the expected academic level.	.020	1	.020	1.469	.231	.025	1.469	.222
	contribute to in-class discussions.	.060	1	.060	4.566	.037*	.074	4.566	.556
Faculty Resided Outside USA	comprehend lectures.	.015	1	.015	.987	.325	.017	.987	.164
	take accurate notes.	2.936	1	2.936	2.865	.096	.048	2.865	.384
	deliver presentations.	.295	1	.295	.485	.489	.008	.485	.105
	understand varying rhetorical styles in speech.	7.605	1	7.605	7.455	.008**	.116	7.455	.766
	read technical writing.	8.220	1	8.220	9.091	.004**	.138	9.091	.842
	understand abstract language.	6.985	1	6.985	5.017	.029*	.081	5.017	.596
	write at the expected academic level.	.044	1	.044	3.215	.078	.053	3.215	.422
	contribute to in-class discussions.	.101	1	.101	7.675	.008**	.119	7.675	.777

(table continued)

(table continued)

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	Type III Sum of Squares	df	M2	F	Sig.	Partial η2	Nonc. Para.	Obs. Poweri
Faculty L1	comprehend lectures.	.001	1	.001	.077	.782	.001	.077	.059
	take accurate notes.	.082	1	.082	.080	.779	.001	.080	.059
	deliver presentations.	.448	1	.448	.736	.394	.013	.736	.135
	understand varying rhetorical styles in speech.	.069	1	.069	.068	.795	.001	.068	.058
	read technical writing.	1.106	1	1.106	1.223	.273	.021	1.223	.193
	understand abstract language.	.451	1	.451	.324	.571	.006	.324	.087
	write at the expected academic level.	.005	1	.005	.355	.554	.006	.355	.090
	contribute to in-class discussions.	.021	1	.021	1.556	.217	.027	1.556	.232
Faculty Language Home	comprehend lectures.	.075	3	.025	1.594	.201	.077	4.781	.397
	take accurate notes.	5.465	3	1.822	1.778	.162	.086	5.334	.439
	deliver presentations.	.805	3	.268	.441	.725	.023	1.323	.133
	understand varying rhetorical styles in speech.	7.462	3	2.487	2.438	.074	.114	7.314	.578
	read technical writing.	9.464	3	3.155	3.489	.021	.155	10.466	.750
	understand abstract language.	7.926	3	2.642	1.898	.140	.091	5.693	.466
	write at the expected academic level.	.168	3	.056	4.116	.010	.178	12.348	.824
	contribute to in-class discussions.	.150	3	.050	3.792	.015	.166	11.377	.788

[a] R Squared = .148 (Adjusted R Squared = .028). [b] R Squared = .147 (Adjusted R Squared = .027). [c] R Squared = .083 (Adjusted R Squared = -.046). [d] R Squared = .245 (Adjusted R Squared = .139). [e] R Squared = .247 (Adjusted R Squared = .141). [f] R Squared = .169 (Adjusted R Squared = .053). [g] R Squared = .285 (Adjusted R Squared = .184). [h] R Squared = .259 (Adjusted R Squared = .155). [i] Computed using alpha = .05.
*p<.05. **p<.01. ***p <. 001.

Significant results were also seen for language currently spoken in the home as a main factor and whether or not faculty resided out of the U.S. Significant results existed for understanding varying rhetorical styles (p = .008, observed power = .766), reading technical writing (p = .004, observed power = .842), understanding abstract language (p = .029, observed power = .596),

and contributing to in-class discussions (p = .008, observed power = .777). The observed powers for these items ranged from .596 to .706, which would have required between 8-16 participants. Since there were 66 participants in this study, it is likely that these results would be reflective of other similar populations.

Significant results were also seen for language currently spoken in the home as a main factor and whether or not faculty resided out of the U.S. Significant results existed for understanding varying rhetorical styles (p = .008, observed power = .766), reading technical writing (p = .004, observed power = .842), understanding abstract language (p = .029, observed power = .596), and contributing to in-class discussions (p = .008, observed power = .777). The observed powers for these items ranged from .596 to .706, which would have required between 8-16 participants. Since there were 66 participants in this study, it is likely that these results would be reflective of other similar populations.

Significant results were observed for the main effect of what language is currently used at home. The output in Table 180 shows the between-subject effects. Significant results were observed with where faculty grew up as a main factor and whether faculty grew up in the U.S. as a covariate. These were seen for comprehending lectures (p = .026, observed power = .615), delivering presentations (p = .038, observed power = .553), writing at the expected academic level (p = .011, observed power = .740), and contributing to class (p = .027, observed power = .608). The observed powers for these items ranged from .553 to .740, which would have required between 14-32 participants. Because there were 66 participants in this study, it is likely the case that these results would be reflective of other similar populations.

Table 180

Tests of Between-Subjects Effects for International Experiences Main Factors for Needs/Academic Skills

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	Type III Sum of Squares	df	M^2	F	Sig.	Partial η^2	Nonc. Para.	Obs. Power[i]
Corrected Model	comprehend lectures.	.294[a]	12	.025	1.736	.085	.282	20.827	.799
	take accurate notes.	15.091[b]	12	1.258	1.249	.276	.221	14.993	.622
	deliver presentations.	5.790[c]	12	.482	.798	.650	.153	9.581	.400
	understand varying rhetorical styles in speech.	21.539[d]	12	1.795	1.716	.090	.280	20.589	.793
	read technical writing.	18.295[e]	12	1.525	1.611	.117	.267	19.337	.761
	understand abstract language.	26.102[f]	12	2.175	1.660	.103	.273	19.926	.776
	write at the expected academic level.	.355[g]	12	.030	2.153	.028	.328	25.834	.893
	contribute to in-class discussions.	.370[h]	12	.031	2.538	.010	.365	30.452	.944
Intercept	comprehend lectures.	.405	1	.405	28.684	.000	.351	28.684	1.000
	take accurate notes.	11.539	1	11.539	11.464	.001	.178	11.464	.914
	deliver presentations.	24.319	1	24.319	40.242	.000	.432	40.242	1.000
	understand varying rhetorical styles in speech.	28.973	1	28.973	27.695	.000	.343	27.695	.999
	read technical writing.	20.074	1	20.074	21.217	.000	.286	21.217	.995
	understand abstract language.	21.681	1	21.681	16.551	.000	.238	16.551	.979
	write at the expected academic level.	.327	1	.327	23.794	.000	.310	23.794	.998
	contribute to in-class discussions.	.753	1	.753	61.926	.000	.539	61.926	1.000
Faculty Resided Outside USA	comprehend lectures.	.003	1	.003	.183	.671	.003	.183	.070
	take accurate notes.	.506	1	.506	.502	.482	.009	.502	.107
	deliver presentations.	2.899E-6	1	2.899E-6	.000	.998	.000	.000	.050
	understand varying rhetorical styles in speech.	2.130	1	2.130	2.036	.160	.037	2.036	.288
	read technical writing.	1.511	1	1.511	1.597	.212	.029	1.597	.237
	understand abstract language.	1.920	1	1.920	1.465	.231	.027	1.465	.221
	write at the expected academic level.	.001	1	.001	.051	.822	.001	.051	.056
	contribute to in-class discussions.	.019	1	.019	1.568	.216	.029	1.568	.233

(table continued)

(table continued)

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	Type III Sum of Squares	df	M2	F	Sig.	Partial η2	Nonc. Para.	Obs. Poweri
Faculty L1	comprehend lectures.	.008	1	.008	.598	.443	.011	.598	.118
	take accurate notes.	.236	1	.236	.235	.630	.004	.235	.076
	deliver presentations.	.014	1	.014	.023	.881	.000	.023	.053
	understand varying rhetorical styles in speech.	.153	1	.153	.146	.704	.003	.146	.066
	read technical writing.	.038	1	.038	.040	.842	.001	.040	.054
	understand abstract language.	.049	1	.049	.037	.848	.001	.037	.054
	write at the expected academic level.	.004	1	.004	.260	.612	.005	.260	.079
	contribute to in-class discussions.	.014	1	.014	1.172	.284	.022	1.172	.186
Faculty Language Home	comprehend lectures.	.031	1	.031	2.183	.145	.040	2.183	.306
	take accurate notes.	3.356	1	3.356	3.334	.073	.059	3.334	.434
	deliver presentations.	.037	1	.037	.061	.807	.001	.061	.057
	understand varying rhetorical styles in speech.	.044	1	.044	.042	.839	.001	.042	.055
	read technical writing.	.382	1	.382	.404	.528	.008	.404	.096
	understand abstract language.	.564	1	.564	.431	.514	.008	.431	.099
	write at the expected academic level.	.014	1	.014	.993	.324	.018	.993	.165
	contribute to in-class discussions.	.001	1	.001	.076	.783	.001	.076	.058
Faculty Foreign Language	comprehend lectures.	.002	1	.002	.130	.720	.002	.130	.064
	take accurate notes.	.048	1	.048	.048	.827	.001	.048	.055
	deliver presentations.	.039	1	.039	.065	.800	.001	.065	.057
	understand varying rhetorical styles in speech.	1.626	1	1.626	1.554	.218	.028	1.554	.232
	read technical writing.	.552	1	.552	.583	.448	.011	.583	.117
	understand abstract language.	1.120	1	1.120	.855	.359	.016	.855	.148
	write at the expected academic level.	.022	1	.022	1.633	.207	.030	1.633	.241
	contribute to in-class discussions.	4.645E-7	1	4.645E-7	.000	.995	.000	.000	.050

(table continued)

(table continued)

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better...	Type III Sum of Squares	df	M2	F	Sig.	Partial η2	Nonc. Para.	Obs. Poweri
Faculty USA Childhood	comprehend lectures.	.074	1	.074	5.259	.026*	.090	5.259	.615
	take accurate notes.	1.671	1	1.671	1.661	.203	.030	1.661	.244
	deliver presentations.	2.749	1	2.749	4.549	.038*	.079	4.549	.553
	understand varying rhetorical styles in speech.	1.733	1	1.733	1.657	.204	.030	1.657	.244
	read technical writing.	3.240	1	3.240	3.424	.070	.061	3.424	.443
	understand abstract language.	4.485	1	4.485	3.424	.070	.061	3.424	.443
	write at the expected academic level.	.097	1	.097	7.034	.011*	.117	7.034	.740
	contribute to in-class discussions.	.063	1	.063	5.178	.027*	.089	5.178	.608
Faculty Where Grew Up	comprehend lectures.	.226	7	.032	2.290	.041	.232	16.027	.791
	take accurate notes.	6.907	7	.987	.980	.455	.115	6.862	.381
	deliver presentations.	4.211	7	.602	.995	.445	.116	6.968	.386
	understand varying rhetorical styles in speech.	14.772	7	2.110	2.017	.070	.210	14.120	.728
	read technical writing.	13.246	7	1.892	2.000	.072	.209	14.000	.723
	understand abstract language.	19.361	7	2.766	2.111	.058	.218	14.780	.751
	write at the expected academic level.	.108	7	.015	1.125	.362	.129	7.874	.436
	contribute to in-class discussions.	.321	7	.046	3.774	.002	.333	26.420	.962

[a] R Squared = .282 (Adjusted R Squared = .120). [b] R Squared = .221 (Adjusted R Squared = .044). [c] R Squared = .153 (Adjusted R Squared = -.039). [d] R Squared = .280 (Adjusted R Squared = .117). [e] R Squared = .267 (Adjusted R Squared = .101). [f] R Squared = .273 (Adjusted R Squared = .109). [g] R Squared = .328 (Adjusted R Squared = .175). [h] R Squared = .365 (Adjusted R Squared = .221). [i] Computed using alpha = .05.
*p<.05. **p<.01. ***p <. 001.

MANCOVA for IV-Demographics versus DV-Faculty Needs/language skills.

Degree information. For RQ4-b6, Table 181 displays the multivariate tests for degree information. None of these items showed significant results.

Table 181

Multivariate Tests for Degree Information Main Factors for Needs/Language Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Degree level	Wilks' lambda	0.656	0.563	40	191	.986	.599
Discipline	Pillai's trace^	1.449	1.017	90	477	.444	.998
Time since degree completion	Pillai's trace^	1.247	1.148	70	371	.211	.997

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

Faculty characteristics. For RQ4-b7, Table 182 displays the multivariate tests for the faculty characteristics. The main effect is displayed, with any significant results shown after.

Table 182

Multivariate Tests for Faculty Characteristics Main Factors for Needs/Language Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Faculty age	Pillai's trace	0.380	0.556	40	212	.986	.599
Faculty gender	Pillai's trace	0.286	2.123	10	53	.038*	.848
Faculty ethnicity	Pillai's trace^	1.385	1.591	60	318	.006**	.999

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

Table 183

Tests of Between-Subjects Effects for Faculty Characteristics Main Factors for Needs/Language Skills

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	Type III Sum of Squares	df	M^2	F	Sig.	Par. η^2	Nonc. Para.	Obs. Power[i]
Corrected Model	grammar.	6.714[a]	3	2.238	1.898	.139	.084	5.694	.468
	sentence structure.	6.816[b]	3	2.272	2.169	.101	.095	6.506	.526
	pronunciation.	2.303[c]	3	.768	.595	.621	.028	1.784	.167
	general oral skills.	3.601[d]	3	1.200	1.227	.308	.056	3.680	.313
	word choice.	.042[e]	3	.014	.931	.431	.043	2.793	.243
	academic vocabulary.	.134[f]	3	.045	3.071	.034	.129	9.213	.692
	academic writing.	.251[g]	3	.084	5.321	.003	.205	15.964	.917
	reading skills.	13.682[h]	3	4.561	4.024	.011	.163	12.071	.817
	developing strategies for improving their English.	2.304[i]	3	.768	.553	.648	.026	1.658	.157
	making connections between their L1 and English.	.603[j]	3	.201	.107	.956	.005	.321	.068
Intercept	grammar.	29.406	1	29.406	24.940	.000	.287	24.940	.998
	sentence structure.	24.821	1	24.821	23.691	.000	.276	23.691	.998
	pronunciation.	25.214	1	25.214	19.537	.000	.240	19.537	.992
	general oral skills.	33.022	1	33.022	33.753	.000	.353	33.753	1.000
	word choice.	.741	1	.741	49.308	.000	.443	49.308	1.000
	academic vocabulary.	.712	1	.712	48.852	.000	.441	48.852	1.000
	academic writing.	.771	1	.771	49.028	.000	.442	49.028	1.000
	reading skills.	22.947	1	22.947	20.245	.000	.246	20.245	.993
	developing strategies for improving their English.	29.800	1	29.800	21.439	.000	.257	21.439	.995
	making connections between their L1 and English.	24.966	1	24.966	13.300	.001	.177	13.300	.948

(table continued)

(table continued)

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	Type III Sum of Squares	df	M2	F	Sig.	Par. η2	Nonc. Para.	Obs. Poweri
Faculty Ethnicity	grammar.	3.347	1	3.347	2.839	.097	.044	2.839	.382
	sentence structure.	3.665	1	3.665	3.499	.066	.053	3.499	.453
	pronunciation.	1.327	1	1.327	1.029	.314	.016	1.029	.170
	general oral skills.	.062	1	.062	.063	.803	.001	.063	.057
	word choice.	.019	1	.019	1.261	.266	.020	1.261	.198
	academic vocabulary.	.123	1	.123	8.443	.005**	.120	8.443	.816
	academic writing.	.169	1	.169	10.775	.002**	.148	10.775	.898
	reading skills.	7.988	1	7.988	7.048	.010*	.102	7.048	.743
	developing strategies for improving their English.	.015	1	.015	.011	.918	.000	.011	.051
	making connections between their L1 and English.	.169	1	.169	.090	.765	.001	.090	.060
Faculty Age	grammar.	.015	1	.015	.013	.911	.000	.013	.051
	sentence structure.	.538	1	.538	.514	.476	.008	.514	.109
	pronunciation.	.897	1	.897	.695	.408	.011	.695	.130
	general oral skills.	1.072	1	1.072	1.096	.299	.017	1.096	.178
	word choice.	.015	1	.015	1.008	.319	.016	1.008	.167
	academic vocabulary.	5.428E-7	1	5.428E-7	.000	.995	.000	.000	.050
	academic writing.	.018	1	.018	1.175	.283	.019	1.175	.187
	reading skills.	.107	1	.107	.094	.760	.002	.094	.061
	developing strategies for improving their English.	.445	1	.445	.320	.574	.005	.320	.086
	making connections between their L1 and English.	.004	1	.004	.002	.966	.000	.002	.050

(table continued)

(table continued)

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	Type III Sum of Squares	df	M2	F	Sig.	Par. η2	Nonc. Para.	Obs. Poweri
Faculty Gender	grammar.	4.066	1	4.066	3.448	.068	.053	3.448	.448
	sentence structure.	3.524	1	3.524	3.364	.071	.051	3.364	.439
	pronunciation.	.012	1	.012	.009	.923	.000	.009	.051
	general oral skills.	2.816	1	2.816	2.879	.095	.044	2.879	.386
	word choice.	.013	1	.013	.889	.349	.014	.889	.153
	academic vocabulary.	.020	1	.020	1.372	.246	.022	1.372	.211
	academic writing.	.077	1	.077	4.869	.031	.073	4.869	.584
	reading skills.	6.764	1	6.764	5.967	.017	.088	5.967	.672
	developing strategies for improving their English.	2.015	1	2.015	1.450	.233	.023	1.450	.220
	making connections between their L1 and English.	.362	1	.362	.193	.662	.003	.193	.072

[a] R Squared = .084 (Adjusted R Squared = .040). [b] R Squared = .095 (Adjusted R Squared = .051). [c] R Squared = .028 (Adjusted R Squared = -.019). [d] R Squared = .056 (Adjusted R Squared = .010). [e] R Squared = .043 (Adjusted R Squared = -.003). [f] R Squared = .129 (Adjusted R Squared = .087). R Squared = .205 (Adjusted R Squared = .166). [h] R Squared = .163 (Adjusted R Squared = .122). [i] R Squared = .026 (Adjusted R Squared = -.021). [j] R Squared = .005 (Adjusted R Squared = -.043). [k] Computed using alpha = .05.
*p<.05. **p<.01. ***p <. 001.

The output for the between subjects-effects for the main factor faculty gender is in Table 183.

Significant results were observed for faculty gender as a main factor and faculty ethnicity as a covariate. Results were significant for helping students with academic vocabulary (p = .005, observed power = .816), academic writing (p = .002,

observed power = .898), and reading skills (p = .010, observed power = .743). The observed powers for these items ranged from .743 to .898, which would have required between 6-13 participants. Because there were 66 participants in this study, it is likely the case that these results would be reflective of other similar populations.

Significant results were observed for faculty gender as a main factor and faculty ethnicity as a covariate. Results were significant for helping students with academic vocabulary (p = .005, observed power = .816), academic writing (p = .002, observed power = .898), and reading skills (p = .010, observed power = .743). The observed powers for these items ranged from .743 to .898, which would have required between 6-13 participants. Because there were 66 participants in this study, it is likely the case that these results would be reflective of other similar populations.

The output for the between subjects-effects for the main factor faculty gender is in Table 184. Significant results were observed for faculty ethnicity as a main factor and faculty gender as a covariate. Results were significant for helping students with academic writing (p = .032, observed power = .578), and reading skills (p = .019, observed power = .660). The observed powers for these items ranged from .578 to .660, which would have required between 19-28 participants. Because there were 66 participants in this study, it is likely the case that these results would be reflective of other similar populations.

Table 184

Tests of Between-Subjects Effects for Faculty Characteristics Main Factors for Needs/Language Skills

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	Type III Sum of Squares	df	M^2	F	Sig.	Partial η^2	Nonc. Para.	Obs. Power[i]
Corrected Model	grammar.	14.479[a]	8	1.810	1.579	.152	.181	12.631	.642
	sentence structure.	14.537[b]	8	1.817	1.810	.094	.203	14.478	.715
	pronunciation.	8.163[c]	8	1.020	.784	.618	.099	6.274	.327
	general oral skills.	11.564[d]	8	1.446	1.564	.156	.180	12.509	.637
	word choice.	.228[e]	8	.029	2.178	.043	.234	17.428	.808
	academic vocabulary.	.293[f]	8	.037	2.804	.011	.282	22.432	.910
	academic writing.	.423[g]	8	.053	3.748	.001	.345	29.983	.975
	reading skills.	18.277[h]	8	2.285	1.983	.065	.218	15.862	.762
	developing strategies for improving their English.	11.566[i]	8	1.446	1.071	.396	.131	8.571	.449
	making connections between their L1 and English.	11.456[j]	8	1.432	.774	.627	.098	6.188	.323
Intercept	grammar.	16.734	1	16.734	14.599	.000	.204	14.599	.964
	sentence structure.	13.446	1	13.446	13.391	.001	.190	13.391	.949
	pronunciation.	20.342	1	20.342	15.636	.000	.215	15.636	.973
	general oral skills.	15.649	1	15.649	16.928	.000	.229	16.928	.981
	word choice.	.550	1	.550	42.028	.000	.424	42.028	1.000
	academic vocabulary.	.633	1	.633	48.419	.000	.459	48.419	1.000
	academic writing.	.498	1	.498	35.363	.000	.383	35.363	1.000
	reading skills.	14.712	1	14.712	12.768	.001	.183	12.768	.940
	developing strategies for improving their English.	15.990	1	15.990	11.849	.001	.172	11.849	.923
	making connections between their L1 and English.	22.097	1	22.097	11.936	.001	.173	11.936	.925
Faculty Age	grammar.	.004	1	.004	.003	.955	.000	.003	.050
	sentence structure.	.433	1	.433	.431	.514	.008	.431	.099
	pronunciation.	.531	1	.531	.408	.526	.007	.408	.096
	general oral skills.	.997	1	.997	1.079	.303	.019	1.079	.175
	word choice.	.002	1	.002	.156	.694	.003	.156	.067
	academic vocabulary.	.007	1	.007	.553	.460	.010	.553	.113
	academic writing.	.007	1	.007	.475	.494	.008	.475	.104

(table continued)

(table continued)

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	Type III Sum of Squares	df	M2	F	Sig.	Partial η2	Nonc. Para.	Obs. Poweri
	reading skills.	.330	1	.330	.287	.594	.005	.287	.082
	developing strategies for improving their English.	1.390	1	1.390	1.030	.314	.018	1.030	.170
	making connections between their L1 and English.	.000	1	.000	.000	.990	.000	.000	.050
Faculty Gender	grammar.	3.781	1	3.781	3.298	.075	.055	3.298	.431
	sentence structure.	3.484	1	3.484	3.470	.068	.057	3.470	.449
	pronunciation.	.000	1	.000	.000	.989	.000	.000	.050
	general oral skills.	2.951	1	2.951	3.192	.079	.053	3.192	.419
	word choice.	.016	1	.016	1.249	.269	.021	1.249	.196
	academic vocabulary.	.027	1	.027	2.038	.159	.035	2.038	.289
	academic writing.	.068	1	.068	4.811	.032*	.078	4.811	.578
	reading skills.	6.712	1	6.712	5.826	.019*	.093	5.826	.660
	developing strategies for improving their English.	1.539	1	1.539	1.141	.290	.020	1.141	.183
	making connections between their L1 and English.	.136	1	.136	.074	.787	.001	.074	.058
Faculty Ethnicity	grammar.	11.112	6	1.852	1.616	.160	.145	9.694	.572
	sentence structure.	11.387	6	1.898	1.890	.098	.166	11.340	.653
	pronunciation.	7.188	6	1.198	.921	.487	.088	5.525	.334
	general oral skills.	8.025	6	1.337	1.447	.213	.132	8.681	.518
	word choice.	.205	6	.034	2.611	.026	.216	15.669	.814
	academic vocabulary.	.282	6	.047	3.595	.004	.275	21.572	.932
	academic writing.	.341	6	.057	4.032	.002	.298	24.193	.958
	reading skills.	12.583	6	2.097	1.820	.111	.161	10.921	.634
	developing strategies for improving their English.	9.276	6	1.546	1.146	.348	.108	6.874	.414
	making connections between their L1 and English.	11.022	6	1.837	.992	.439	.095	5.954	.359

[a] R Squared = .181 (Adjusted R Squared = .067). [b] R Squared = .203 (Adjusted R Squared = .091). [c] R Squared = .099 (Adjusted R Squared = -.027). [d] R Squared = .180 (Adjusted R Squared = .065). [e] R Squared = .234 (Adjusted R Squared = .127). [f] R Squared = .282 (Adjusted R Squared = .182). [g] R Squared = .345 (Adjusted R Squared = .253). [h] R Squared = .218 (Adjusted R Squared = .108). [i] R Squared = .131 (Adjusted R Squared = .009). [j] R Squared = .098 (Adjusted R Squared = -.029). [k] Computed using alpha = .05.
*p<.05. **p<.01. ***p <. 001.

Teaching experience. For RQ4-b8, Table 185 summarizes the main variables for teaching experience. The main effect is displayed, followed by any significant results.

Table 185

Multivariate Tests for Teaching Experience Main Factors for Needs/Language Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Teaching experience	Pillai's trace	1.159	0.992	70	350	.501	.989
Level faculty teach at	Pillai's trace	0.393	0.753	30	150	.818	.674
Primary modality	Pillai's trace^	0.195	0.539	20	100	.942	.373
Tenure status	Pillai's trace	0.473	0.935	30	150	.568	.799
Rank	Pillai's trace^	1.607	0.957	100	500	.598	.998

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

None of these results were significant.

Number of students. For RQ4-b9, Table 186 displays the multivariate tests for number of students. The main effect is displayed, with any significant results shown after.

Table 186

Multivariate Tests for Number of Students Main Factors for Role/Language Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Num. Students taught each semester	Wilks' lambda	0.489	0.739	50	217	.898	.859
Num. ELLs taught each semester	Pillai's Trace	0.873	1.079	50	255	.345	.972
Num, ELLs taught over career	Pillai's Trace	0.616	1.318	30	153	.143	.943

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

Nonsignificant results were observed for these variables.

International experiences. For RQ4-b10, Table 187 displays the multivariate tests for international experiences. The main effect is shown, followed by any significant results.

Table 187

Multivariate Tests for International Experiences Main Factors for Needs/Language Skills

Main Effect IV-Demographics	Multivariate Test [a]	V	F	Hypothesis df	Error df	Sig.	Obs. Power
Faculty L1	Pillai's trace	0.578	0.844	40	200	.773	.839
Home language	Pillai's trace^	0.717	1.571	30	150	.041*	.978
Foreign language	Pillai's trace	0.103	0.576	10	50	.825	.260
Childhood in US	Pillai's trace^	0.099	0.550	10	50	.846	.248
Where grew up	Pillai's trace^	1.405	1.256	70	350	.097	.999
Time abroad	Pillai's trace^	0.757	0.891	50	250	.680	.922

Note. If Pillai's trace could not be computed, this is noted with ^.
[a] Multivariate tests were chosen based upon the significance of Box's test (Pillai's trace was used when Box's test was significant or if it was not computed because there were fewer than two non-singular cell covariances).
*p<.05. **p<.01. ***p <. 001.

Significant results were observed for the main effect of what language is currently used at home. The output for the between-subjects effects is in Table 188.

Significant results were observed with the language currently spoke in the home as a main factor and where faculty grew up as a covariate. This was seen for general oral skills (p = .034, observed power = .572). This observed power would have required a minimum of 29 participants. Because there were 66 participants in this study, it is likely the case that these results would be reflective of other similar populations.

Table 188

Tests of Between-Subjects Effects for International Experiences Main Factors for Needs/Language Skills

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	Type III Sum of Squares	df	M^2	F	Sig.	Partial η^2	Nonc. Para.	Obs. Power[i]
Corrected Model	grammar.	12.538[a]	8	1.567	1.328	.249	.157	10.622	.551
	sentence structure.	11.049[b]	8	1.381	1.296	.264	.154	10.371	.539
	pronunciation.	8.015[c]	8	1.002	.769	.632	.097	6.148	.321
	general oral skills.	9.842[d]	8	1.230	1.289	.268	.153	10.310	.536
	word choice.	.139[e]	8	.017	1.186	.324	.143	9.485	.495
	academic vocabulary.	.267[f]	8	.033	2.464	.023	.257	19.709	.862
	academic writing.	.302[g]	8	.038	2.328	.031	.246	18.623	.838
	reading skills.	13.046[h]	8	1.631	1.311	.257	.155	10.487	.545
	developing strategies for improving their English.	8.401[i]	8	1.050	.747	.650	.095	5.980	.312
	making connections between their L1 and English.	10.956[j]	8	1.369	.736	.659	.094	5.890	.307
Intercept	grammar.	13.031	1	13.031	11.040	.002	.162	11.040	.904
	sentence structure.	13.513	1	13.513	12.684	.001	.182	12.684	.938
	pronunciation.	13.442	1	13.442	10.312	.002	.153	10.312	.884
	general oral skills.	16.229	1	16.229	17.000	.000	.230	17.000	.982
	word choice.	.369	1	.369	25.153	.000	.306	25.153	.999
	academic vocabulary.	.295	1	.295	21.794	.000	.277	21.794	.996
	academic writing.	.391	1	.391	24.105	.000	.297	24.105	.998
	reading skills.	15.356	1	15.356	12.344	.001	.178	12.344	.932
	developing strategies for improving their English.	6.646	1	6.646	4.730	.034	.077	4.730	.571
	making connections between their L1 and English.	7.569	1	7.569	4.069	.048	.067	4.069	.509
Faculty Foreign Language	grammar.	.369	1	.369	.312	.578	.005	.312	.085
	sentence structure.	.021	1	.021	.019	.890	.000	.019	.052
	pronunciation.	.743	1	.743	.570	.453	.010	.570	.115
	general oral skills.	.668	1	.668	.699	.406	.012	.699	.130
	word choice.	.000	1	.000	.032	.858	.001	.032	.054
	academic vocabulary.	.010	1	.010	.707	.404	.012	.707	.131

(table continued)

(table continued)

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	Type III Sum of Squares	df	M2	F	Sig.	Partial η2	Nonc. Para.	Obs. Poweri
	academic writing.	.040	1	.040	2.453	.123	.041	2.453	.337
	reading skills.	.457	1	.457	.368	.547	.006	.368	.092
	developing strategies for improving their English.	.359	1	.359	.256	.615	.004	.256	.079
	making connections between their L1 and English.	.520	1	.520	.280	.599	.005	.280	.082
Faculty USA Childhood	grammar.	2.850	1	2.850	2.414	.126	.041	2.414	.333
	sentence structure.	3.303	1	3.303	3.100	.084	.052	3.100	.410
	pronunciation.	.470	1	.470	.360	.551	.006	.360	.091
	general oral skills.	.323	1	.323	.339	.563	.006	.339	.088
	word choice.	.014	1	.014	.941	.336	.016	.941	.159
	academic vocabulary.	.013	1	.013	.975	.328	.017	.975	.163
	academic writing.	.044	1	.044	2.698	.106	.045	2.698	.365
	reading skills.	.237	1	.237	.190	.664	.003	.190	.071
	developing strategies for improving their English.	1.008	1	1.008	.717	.401	.012	.717	.132
	making connections between their L1 and English.	.466	1	.466	.250	.619	.004	.250	.078
Faculty Where Grew Up	grammar.	.308	1	.308	.261	.611	.005	.261	.079
	sentence structure.	.149	1	.149	.140	.710	.002	.140	.066
	pronunciation.	.410	1	.410	.315	.577	.005	.315	.086
	general oral skills.	4.527	1	4.527	4.742	.034*	.077	4.742	.572
	word choice.	.010	1	.010	.701	.406	.012	.701	.131
	academic vocabulary.	.027	1	.027	1.991	.164	.034	1.991	.284
	academic writing.	.007	1	.007	.428	.515	.007	.428	.099
	reading skills.	.022	1	.022	.018	.894	.000	.018	.052
	developing strategies for improving their English.	2.553	1	2.553	1.817	.183	.031	1.817	.263
	making connections between their L1 and English.	.484	1	.484	.260	.612	.005	.260	.079
Faculty Resided Outside USA	grammar.	1.794	1	1.794	1.520	.223	.026	1.520	.228
	sentence structure.	.432	1	.432	.405	.527	.007	.405	.096
	pronunciation.	2.887	1	2.887	2.215	.142	.037	2.215	.310
	general oral skills.	4.659	1	4.659	4.880	.031*	.079	4.880	.584

(table continued)

(table continued)

Source	I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their...	Type III Sum of Squares	df	M2	F	Sig.	Partial η2	Nonc. Para.	Obs. Poweri
	word choice.	.011	1	.011	.779	.381	.013	.779	.140
	academic vocabulary.	.055	1	.055	4.042	.049*	.066	4.042	.507
	academic writing.	.049	1	.049	3.052	.086	.051	3.052	.404
	reading skills.	3.638	1	3.638	2.925	.093	.049	2.925	.390
	developing strategies for improving their English.	1.504	1	1.504	1.070	.305	.018	1.070	.174
	making connections between their L1 and English.	5.069	1	5.069	2.725	.104	.046	2.725	.368
Faculty L1	grammar.	.932	1	.932	.789	.378	.014	.789	.141
	sentence structure.	.323	1	.323	.303	.584	.005	.303	.084
	pronunciation.	.764	1	.764	.586	.447	.010	.586	.117
	general oral skills.	.260	1	.260	.272	.604	.005	.272	.081
	word choice.	.007	1	.007	.450	.505	.008	.450	.101
	academic vocabulary.	.024	1	.024	1.765	.189	.030	1.765	.257
	academic writing.	.003	1	.003	.206	.651	.004	.206	.073
	reading skills.	2.024	1	2.024	1.627	.207	.028	1.627	.241
	developing strategies for improving their English.	2.509	1	2.509	1.786	.187	.030	1.786	.260
	making connections between their L1 and English.	2.928	1	2.928	1.574	.215	.027	1.574	.234
Faculty Language Home	grammar.	1.600	3	.533	.452	.717	.023	1.356	.135
	sentence structure.	1.897	3	.632	.594	.622	.030	1.781	.166
	pronunciation.	.571	3	.190	.146	.932	.008	.438	.075
	general oral skills.	2.878	3	.959	1.005	.397	.050	3.014	.259
	word choice.	.043	3	.014	.974	.412	.049	2.921	.252
	academic vocabulary.	.046	3	.015	1.127	.346	.056	3.380	.288
	academic writing.	.098	3	.033	2.018	.122	.096	6.055	.492
	reading skills.	3.505	3	1.168	.939	.428	.047	2.817	.244
	developing strategies for improving their English.	4.795	3	1.598	1.138	.342	.056	3.413	.290
	making connections between their L1 and English.	4.529	3	1.510	.812	.493	.041	2.435	.215

[a] R Squared = .157 (Adjusted R Squared = .039). [b] R Squared = .154 (Adjusted R Squared = .035). [c] R Squared = .097 (Adjusted R Squared = -.029). [d] R Squared = .153 (Adjusted R Squared = .034). [e] R Squared = .143 (Adjusted R Squared = .022). [f] R Squared = .257 (Adjusted R Squared = .153). [g] R Squared = .246 (Adjusted R Squared = .140). [h] R Squared = .155 (Adjusted R Squared = .037). [i] R Squared = .095 (Adjusted R Squared = -.032). [j] R Squared = .094 (Adjusted R Squared = -.034). [k] Computed using alpha = .05.

*p<.05. **p<.01. ***p <. 001.

Additionally, when language currently spoken in the home was the main factor and whether or not a faculty member resided outside of the U.S. as a covariate, general oral skills were significant (p = .031, observed power = .584) as well as academic vocabulary (p = .049, observed power = .507).

Summary. For how comfortable faculty felt in teaching academic skills, nonsignificant results were shown for IV-Demographics for degree information (RQ4-b1), and for teaching experience (RQ4-b3). Significant results were observed for faculty characteristics (RQ4-b2) for ethnicity as a main variable (for comprehend lectures, understand abstract language, write at the expected academic level, and contribute to class), but not for any of the covariates. Likewise, when the number of ELLs taught each semester (RQ4-b4) was a main factor significant results were seen (write at the expected academic level), but not for any of the covariates.

Significant results were observed for international experiences (RQ4-b5) for home language as the main variable and where the faculty grew up as a covariate for being comfortable teaching their students how to understand varying rhetorical styles, understand abstract language, and contribute to in-class discussions. For home language as the main variable and whether or not the faculty lived outside of the U.S. as a covariate also showed significant results for understanding varying rhetorical styles, reading technical writing, understanding abstract language, and contributing to in-class discussions. Finally, for where the faculty grew up as a main factor and for growing up in the U.S. as a covariate, statistically significant results were observed for comprehending lectures, delivering presentations, writing at the expected academic level, and

contributing to in-class discussions. This suggests that the null-hypothesis can at least be partially rejected, since at least one of the sub variables showed significant results.

The lowest observed power was 0.155 for international experiences and foreign language. With such an observed effect size, this would have required a total sample size of 530. A small effect size was also observed with international experience/childhood in the US with an observed power = .365, which would require a sample size of 87. All other observed powers ranged from .638 (teaching experience level faculty taught at) and .999 (international experience/where grew up, and faculty characteristics/ethnicity). These observed powers would have required between 3-22 participants. Therefore, for all variables aside from international experiences/childhood in the U.S., and international experiences/foreign language these results likely have applicability with other similar populations.

For how comfortable faculty felt in teaching language skills, nonsignificant results were shown for IV-Demographics for degree information (RQ4-b6), teaching experience (RQ4-b8), and number of students (RQ4-b9). Significant results were observed for the variable faculty characteristics (RQ4-b7) with gender as a main factor and ethnicity as a covariate (for comfortability teaching academic vocabulary, academic writing, and reading skills), as well as for ethnicity as a main factor and gender as a covariate (academic writing, and reading skills). Significant results were also observed for international experiences (RQ4-b10) with home language as a main factor with where the faculty grew up as a covariate (teaching general oral skills), and for home language and whether faculty resided outside of the U.S. (general oral skills, and academic

vocabulary). This suggests that the null hypothesis can be partially rejected because there were several variables that did not show a significant result, but at least one that did.

The lowest observed power was .248 for international experiences/childhood in the U.S., which would have required a sample of 201 to observe this effect. A small effect size was also observed for international experiences/foreign languages at observed power = .260, requiring a sample of 182. A small effect was observed for teaching experience/primary modality at observed power = .373, requiring a sample of 83. All other observed powers ranged from .599 (degree information and degree level, and faculty characteristics and age) to .999 (faculty characteristics and ethnicity, and international experiences and where grew up). These observed powers would have required sample size between 3 to 26. Therefore, for all of the variables except for international experience/foreign language, and international experiences/growing up in the U.S., it is possible to say that similar results would be likely in other similar populations.

Summary

In the previous section, I provided a statistical analysis of the results of the survey on *Professional Development in Higher Education: Working with English Language Learners*. This section includes a summary of the general survey results, followed by a summary of the findings for each research question. Conclusions and a discussion follow in Chapter 5.

Summary of Survey Results

Perceptions of academic and language skills of ELLs. The first measure explored in the study was the state of academic skills for ELL students as they enter their coursework in HE. Table 189 summarizes the perceptions of faculty in the sample in relation to how well-equipped the ELLs in their courses were with these academic skills, how comfortable faculty felt addressing these areas (faculty needs), and how responsible the faculty felt that they should address these skills. Responses were collected using a Likert scale with 1 for a strongly negative response (strongly disagree or never), 3 for neutral, and 5 for a strongly positive response (strongly agree or always).

Table 189

Descriptive Statistics: Comparative ELLs Academic Skills

	Students are Well-equipped		Faculty Needs		Faculty Responsibility	
Academic Skills	*M*	*SD*	*M*	*SD*	*M*	*SD*
comprehend lectures	3.35	.936	4.11	.914	3.85	1.026
contribute to in-class discussions	3.12	1.196	3.80	1.026	3.32	1.069
take accurate notes	3.00	1.000	4.18	.763	3.85	.980
deliver presentations	3.21	.937	3.65	1.088	3.29	1.078
understand varying rhetorical styles in speech	2.44	.947	3.80	1.026	3.48	1.113
read technical writing	2.94	1.108	3.71	1.212	3.54	1.133
understand abstract language	2.59	1.007	4.09	.940	3.77	1.005
write at the expected academic level	2.42	.912	4.18	.893	3.89	.994

The faculty indicated responses mostly between disagree and neutral on how well equipped their ELL students were in these academic skills. Responses in this category ranged from $M = 2.42$ (write at the expected academic level) and $M = 3.35$ (comprehend lectures), with an average of the means at $M = 2.89$. The mean responses for how

comfortable faculty were (faculty needs) teaching these skills were between *M* = 3.65 (helping ELLs deliver presentations) and *M* = 4.18 (helping ELLs take accurate notes and write at the expected academic level), with an average of the means at *M* = 3.94. Finally, for whether or not faculty felt it was their responsibility to address these needs, responses were between *M* = 3.29 (deliver presentations) and *M* = 3.89 (write at the expected academic level), with an average of the means at *M* =3.62.

The faculty in the sample were also asked to describe the state of language skills for their ELLs, how comfortable they felt addressing these areas, and how responsible they felt addressing them. This is summarized in Table 190.

Table 190

Descriptive Statistics: Comparative ELLs Language Skills

	Students are Well-equipped		Faculty Needs		Faculty Responsibility	
Language Skills	*M*	*SD*	*M*	*SD*	*M*	*SD*
grammar	2.61	.975	3.82	1.108	3.09	1.286
sentence structure	2.50	.949	3.86	1.051	3.23	1.298
pronunciation	2.98	1.060	3.68	1.125	3.17	1.235
general oral skills	3.26	.997	3.89	.994	3.29	1.160
word choice	2.86	.910	4.09	.890	3.35	1.234
academic vocabulary	2.85	1.056	4.14	.910	3.67	1.244
academic writing	2.35	.868	4.00	.992	3.58	1.216
reading skills	3.38	.968	3.59	1.136	3.14	1.175
developing strategies for improving their English	3.09	1.048	3.52	1.167	3.17	1.365
making connections between their first language and English	3.45	.936	3.02	1.342	2.94	1.310

The faculty indicated responses between disagree and neutral for how well equipped their students were in these language skills with an average of the means at *M* = 2.93. Faculty generally responded with agree for whether they were comfortable teaching these skills,

with an average of the means at *M* = 3.76. Faculty indicated responses between neutral and agree on whether or not it was their responsibility to address these needs with an average of the means at *M* =3.26.

Comparing the language skills of the learners as they enter their courses in HE, there were areas in which the faculty in the sample felt that their ELLs were not well prepared. With respect to language skills, faculty felt that their learners were slightly less prepared with the skills required for success in their courses (an average mean of *M* = 2.89 for language skills) as compared to how well prepared their students were with the academic skills necessary for success (with an average mean of *M* = 2.93). Faculty were generally more comfortable addressing the academic skill gaps of their ELLs (an average mean of *M* = 3.94) as compared to how comfortable they felt addressing the language skills gap (an average *M* = 3.76). Finally, faculty felt more responsible for addressing the academic skills gap of their learners (an average mean of *M* = 3.94) than they did addressing the language skills gap (an average mean of *M* = 3.26).

The faculty in the sample were asked about the accommodations that they provide to their ELLs in class. This is repeated in Table 191. Faculty indicated strongly disagree that their ELLs should be given less coursework (*M* =1.48), have simplified coursework (*M* = 1.58), be graded differently (*M* = 1.67), and be provided content in their native language (*M* = 1.97). Faculty indicated disagree than students should be permitted to use their native language in class with other ELLs who speak the same language as them (*M* = 2.35), but this was only slightly less negative that those that they strongly disagreed on.

Table 191

Descriptive Statistics: Comparative Accommodations for ELLs

	ELLs Need		Faculty Allow ELLs	
Accommodation	M	SD	M	SD
additional time to complete their coursework	3.33	1.128	2.85	1.180
more time to complete coursework than non-ELLs	3.44	1.266	2.58	1.203
less coursework than other students	1.48	.864	1.48	.899
more simplified coursework	1.58	.946	1.58	.946
to use their native language among other ELLs	2.35	1.493	2.88	1.534
to have materials in their native language(s)	1.97	1.109	1.15	.472
to be graded differently than their non-ELL peers	1.67	1.028	1.88	1.259
to have more of my time than other students	3.35	1.196	2.85	1.339

When comparing the measures to actual practices by faculty, the means are very similar in disagreement. Faculty strongly disagreed that they give ELLs less coursework (*M* =1.48), give them more simplified coursework (*M* = 1.58), grade them differently (*M* = 1.88), and give them content in their native language (*M* = 1.15). Faculty also disagreed that they allow their ELL students to use their native language(s) with other ELLs in class (*M* = 2.88). On these measures, the faculty disagreement also mirrors the kind of accommodations that they provided.

Faculty indicated responses slightly more than neutral that their ELLs needed additional time (*M* = 3.33), more so than their non-ELL peers (*M* = 3.44), and that the ELLs require more of the faculty member's time (*M* =3.35). However, faculty generally disagreed that they actually provided ELLs more time to complete their work (*M* = 2.85), more so than their non-ELL peers (*M* = 2.58), and that they give more time to ELLs than other students (*M* = 2.85). This suggests that although faculty recognize that their ELLs may need additional time and support, they are not providing it to their ELL students.

When asked about how successful their ELLs were in comparison to their non-ELL peers, faculty generally were in agreement that students who generally had difficulty passing most classes were also unlikely to succeed in their classes (non-ELL *M* = 2.56, ELL *M* = 2.56). When asked to characterize an average student, the faculty in the sample suggested that a non-ELL would be more likely to succeed than an ELL (non-ELL *M* = 3.79, ELL *M* = 3.56). On whether a student who is generally able to pass most classes without major difficulty could pass their class, faculty again showed that a non-ELL was slightly more likely to pass than an ELL was (non-ELL *M* = 3.53, ELL *M* = 3.45). This is summarized in Table 192.

Table 192

Descriptive Statistics: ELLs vs. Non-ELL Academic Success

Relative to their own personal academic abilities, _____ can be successful in my course.	M	SD
a NON-ELL who, even with significant effort, finds it difficult to pass most classes	2.56	1.125
a NON-ELL who, even with effort, is generally able to pass most classes	3.79	.969
a NON-ELL who, with little effort, is generally able to pass most classes	3.53	1.193
an ELL who, even with significant effort, finds it difficult to pass most classes	2.56	1.111
an ELL who, even with effort, is generally able to pass most classes	3.56	1.040
an ELL who, with little effort, is generally able to pass most classes	3.45	1.267

This suggests that faculty generally feel that their non-ELL students have an edge over their ELL students in whether or not they can be successful in class. It may also be the case that faculty conflate linguistic ability with academic ability, as shown with the data showing the non-ELL and ELL who, even with significant effort, find it difficult to pass most classes have the same mean (*M* = 2.56).

For the open ended question about how the faculty might characterize their role in working with their ELLs, there were a total of 38 responses. Of these responses, 27 were included *guide*, *mentor*, *facilitator*, *colearner*. Three responses used adjectives like *difficult*, *frustrating*, *heartbreaking*, and *ill equipped*. Finally, seven responses indicated phrases that show that some of the faculty felt empathy for their ELL students, but that they felt that the ELLs in their classes needed to be treated equitably with other students. One response highlighted the concern of lower expectations for students "*I am as helpful as possible within reasonable limits, but I can't teach them English and I can't lower academic standards*." These responses provided a window into how the faculty viewed their role. In particular, the faculty in the sample felt a large measure of responsibility for the success of their students, but that there were some limits on what the faculty should do for them.

Educational development needs of faculty. From the previous section, there are clearly areas in which faculty identified needs. Although faculty indicated that they may need support in addressing the academic skills of their ELLs, they more regularly indicated that they may need support in addressing the language skills of their learners. Faculty also indicated that they may not feel as responsible for addressing the language skills of their learners, but they did feel slightly more responsible for addressing the academic skills gaps for their ELLs. This suggests that there may be the perception that faculty may not need to address the language skills gaps in their learners as much as they need to address the academic skills gap. This perception largely mirrors the neutral responses that the faculty gave in response to how well they understood the language

acquisition process as shown in Table 193.

Table 193

Descriptive Statistics: Faculty Understanding of Language Acquisition

I have a good understanding of...	M	SD
the processes involved in learning a second language.	3.39	1.175
how long it would take someone to learn a second language to be able to succeed in university courses.	3.26	1.269

Faculty responses to both questions were roughly neutral. This suggests that the potential apathy that faculty feel in regard to whether they need to address these skills may stem from how knowledgeable faculty are about the processes involved in learning a language.

Faculty were also asked to describe how knowledgeable they were of the academic environment in their ELLs home countries. The results to this question are presented in Table 194.

Table 194

Descriptive Statistics: Faculty's Understanding of ELLs Home Education Systems

I UNDERSTAND what the academic setting is like IN THE HOME COUNTRIES of my ELL students in terms of _____.	M	SD
the style of education employed (examples: student centered, constructive, etc.)	2.95	1.208
the kind of work expected (examples: papers, essays, projects, quizzes, etc.)	2.70	1.163
the amount of work required in a typical semester	2.58	1.151
the grading system	2.38	1.187
interactions that students have with instructors in class	2.98	1.246
interactions that students have with one another in class	2.75	1.173
expectations of the instructor	2.70	1.163

The faculty in the sample responded largely with disagree as to how knowledgeable they felt about the education systems of the home countries of their ELLs. This suggest that

faculty have some gaps in understanding these initial states of their learners as they come to the HE classroom.

Faculty were also asked about whether or not they felt they had the skills necessary to directly address the needs of their ELLs. The results to this question are presented in Table 195.

Table 195

Descriptive Statistics: Faculty's Self-Perceived ED Needs

Question	M	SD
I have the necessary skills and abilities directly related to addressing the specific/unique needs of the ELLs in my courses.	3.02	1.130
I have adequate training or support to TEACH to the specific needs of ELLs.	2.71	1.187
I would like more training or support to TEACH to the specific needs of ELLs.	3.97	.877
My institution provides the necessary training or support to TEACH the specific needs of ELLs.	2.24	1.164
I have adequate training or support to ASSESS the specific needs of ELLs.	2.47	1.205
I would like more training or support to ASSESS the specific needs of ELLs.	3.85	1.011
My institution provides the necessary training or support to ASSESS the specific needs of ELLs.	2.24	1.068

The faculty in the sample indicated neutral responses as to whether they had the necessary skills to address the needs of their ELLs ($M = 3.02$), but they were more inclined to respond as disagree on whether they had the necessary training to teach their ELLs ($M = 2.71$) and assess them ($M = 2.47$). It appeared that faculty also were inclined to respond as disagree with respect to whether their institutions provided them with the necessary training to teach their ELLs ($M = 2.24$) and assess their ELLs ($M = 2.24$). In

contrast, these faculty indicated that they agreed that they wanted more training on teaching their ELLs (M = 3.97) and assessing them (M =3.85).

As shown in Table 196, the faculty in the sample appeared to want more training related to working with ELLs, but the institutions may not have the necessary resources to do so.

Table 196

Descriptive Statistics: Existing ED Resources

In the past 12 months, has/have the following been made available at your institution related to working with ELLs?	Yes	No/Not Sure (No:Not sure)
ELL specialists	18	48 (41:7)
An experienced peer to offer informal advice	23	43 (36:7)
Web resources available on my institution's website	10	56 (41:15)
Trainings/workshops/professional development about ELLs	17	49 (34:15)
A formal professional learning community or other similar group	11	55 (40:15)
A faculty development office (at the university, but not specific to my department/division)	26	40 (28:12)
A faculty development office (in my department/division)	4	62 (52:10)

As indicated in Table 196, resources related to working with ELLs were either lacking or not well publicized, with most of the faculty indicating no or not sure for the resources. The highest percentage indicating "yes" related to specific resources for working with ELLs was for a formal peer to offer advice on working with this population (35% indicated "yes"), and the lowest response was for website resources related to working with ELLs (15% indicating "yes"). What this suggests is the possibility that even low-cost resources that could be made available to faculty are not being provided or used.

The open ended question about what faculty might change about the ED offered at their campuses provided insights into the availability of resources on campus. Some of

the responses ranged from comments like "[I wish that] they would exist." to "If these resources are available, they are not widely publicized at the university I teach at." These comments showed that there may be a lack of publication of even general ED/PD offered within the HEIs where these faculty come from. In general, the rest of the comments focused on wanting more targeted ED opportunities, ED that is more practical, and ED that is more accessible to all faculty (especially, adjuncts). This highlights that even if resources (specific to ELLs or otherwise) exist, they may not be of the highest quality or the most practical.

In summary, there was a general desire for learning about more effectively addressing the needs of ELLs, but not many resources have actually been put forth to do so for the faculty in the sample. This could be a combination of faculty simply not knowing that these resources exist, or it could be that institutions simply have not prioritized the development of these resources. Either way, faculty want to better address the needs of their ELLs.

Research Question 1

RQ1: Are there significant mean differences in faculty's self-perceived role (as measured by the combination of academic skills or language skills) in the learning process of their ELL students based upon the presence of currently available ED resources?

The dependent variable (DV-Faculty Role) was broken into two main categories for the analysis including: 1) academic skills, and 2) language skills. Separate MANOVA were run comparing the DV-Faculty Role (academic skills and language skills) to the

independent variables (IV-ED): 1) ELL specialists, 2) experienced peers, 3) website resources, 4) trainings, 5) availability of PLCs, 6) a general ED office servicing the entire institution, and 7) an embedded ED office inside of the academic unit.

For the DV-Faculty Role/academic skills, nonsignificant results were found across all of the IVs, suggesting that what existing ED related to working with ELLs had no observable effect on how responsible faculty felt for addressing the academic needs of their ELLs. This suggests that despite the potential existence or absence of ED related to working with this population, there was no observed effect on how responsible faculty felt. Generally, faculty in the sample felt slightly more than neutral that they were responsible for teaching their ELLs the academic skills necessary to succeed at college or university ($M = 3.62$).

For the DV-Faculty Role/language skills, nonsignificant results were also found across all of the IVs. Again, the presence or absence of ED related to working with ELLs had no observable effect on how responsible a faculty member felt for addressing the language skills of their students. Faculty in the sample indicated responses that were slightly more than neutral for whether they felt responsible for teaching their ELLs the language skills necessary to succeed at college or university ($M = 3.26$)

Because nonsignificant results were seen from the MANOVA analysis, it is not possible to reject the null hypothesis that there is no significant relationship between currently available ED resources and a faculty member's self-perceived perceived role in the learning process of ELLs. These nonsignificant results demonstrate that regardless of

the presence of absence of ED related to ELLs, there was no statistical significant shift in how responsible faculty felt.

Research Question 2

RQ2: Are there significant mean differences in faculty's self-perceived preparedness to address the unique needs of their ELL students (as measured by the combination of academic skills or language skills) based upon the presence of currently available ED resources?

The dependent variable (DV-Faculty Needs) was broken into two main categories for the analysis including: 1) academic skills, and 2) language skills. Separate MANOVA were run comparing the DV-Faculty Needs (academic skills and language skills) to the independent variables (IV-ED): 1) ELL specialists, 2) experienced peers, 3) website resources, 4) trainings, 5) availability of PLCs, 6) a general ED office servicing the entire institution, and 7) an embedded ED office inside of the academic unit.

For the DV-Faculty Needs/academic skills, nonsignificant results were found across all of the IVs, suggesting that any existing ED related to working with ELLs had no observable effect on how comfortable faculty felt to address the academic needs of their ELLs. This again suggests that despite the potential existence or absence of ED related to working with this population, there was no observed effect on how comfortable faculty felt. Faculty responded agree on whether they were comfortable teaching their ELLs the academic skills necessary to succeed at college or university ($M = 3.94$).

For the DV-Faculty Needs/language skills, nonsignificant results were also found across all of the IVs. As with previous sections, the presence or absence of ED related to

working with ELLs seemed to have no observable effect on how responsible a faculty member felt for addressing the language skills of their students. Faculty in the sample felt slightly more than neutral that they were comfortable teaching their ELLs the language skills necessary to succeed at college or university ($M = 3.76$)

As with RQ1, nonsignificant results were seen from the MANOVA analysis. Because of this, it is not possible to reject the null hypothesis that there is no significant relationship between faculty needs based on existing ED resources and a faculty member's self-perceived preparedness to address the unique needs of ELLs. These nonsignificant results show, as with the results of RQ1, that regardless of the presence of absence of ED related to ELLs, there was no statistically significant shift in how comfortable faculty felt addressing the language or academic needs of their learners.

Research Question 3

RQ3a: Are there significant mean differences in the self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

RQ3b: Are there significant mean differences in the self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the institutional context?

The dependent variables (DV-Faculty Needs and DV-Faculty Role) were broken into two main categories for the analysis including: 1) academic skills, and 2) language skills. Separate MANCOVA were run comparing the two DVs (DV-Faculty Needs and DV-Faculty Role) to the independent variables (IV-Context): 1) institutional characteristics

(highest degree offered, institution size, public or private status, and academic area), 2) and student characteristics (students primarily study online or on campus, FT or PT status of students, and whether students were primarily commuters or lived on campus).

For IV-Context as compared to the DV-Faculty Needs, nonsignificant results were observed with respect to both language skills and academic skills across all factors in the IV-Context. IV-Context had no observable effect on how comfortable faculty felt in addressing these skill areas. Thus, institutional context did not appear to be a predictor of the comfort levels of faculty.

For the DV-Faculty Role, more nuanced differences existed. For IV-Context, there were no statistically significant differences for DV-Faculty Role/language skills. However, statistically significant results did emerge for DV-Faculty Role/academic skills. For the IV-Context/student characteristics of the full-time or part-time status of students as the main variable for whether faculty felt responsible for addressing their ELLs' abilities in: 1) comprehending lectures, and 2) understanding varying rhetorical styles in speech. This suggests that the characteristics of the students do seem to have some bearing on whether faculty feel responsible for addressing the academic needs of their learners.

Although nonsignificant results were found for DV-Faculty Needs and IV-Context, and for DV-Faculty Role/language skills and IV-Context, significant results were found for DV-Faculty Role/academic skills and IV-Context. Because there was at least one subset of variables that showed significant results, it is possible to at least partially reject the null hypothesis based upon the subvariable IV-Context/full-time or

part-time status of students and the DV-Faculty Role/academic skills. Further research would need to examine this in more depth.

Research Question 4

RQ4a: Are there significant mean differences in the combined self-perceived responsibilities (combined DV-Faculty Role by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

RQ4b: Are there significant mean differences in the combined self-perceived ED needs (combined DV-Faculty Needs by academic skills or language skills) of HE faculty who work with ELLs based upon the combined faculty demographics?

The dependent variables (DV-Faculty Needs and DV-Faculty Role) were broken into two main categories for the analysis including: 1) academic skills, and 2) language skills. Separate MANCOVA were run comparing the two DVs (DV-Faculty Needs and DV-Faculty Role) to the independent variables (IV-Demographics): 1) degree information (faculty degree level, faculty discipline, and length of time since degree completion), 2) faculty characteristics (age, gender, ethnicity), 3) teaching experience (number of years teaching, level taught, modality experience, tenure status, and rank), 4) number of students (number of students taught each semester, number of ELLs taught each semester, and number of ELLs taught over career), and 5) international experiences (faculty's L1, language used at home currently, foreign language experience, where faculty spent their childhood, where faculty grew up, and if they lived outside of the U.S.).

For the perceived faculty role in teaching academic skills, significant results were observed for the number of students, with the number of ELLs per semester as a main factor and the number of ELLs taught over a career as a covariate for responsibility to teach taking accurate notes; and for the number of ELLs over a career as the main factor and the number of ELLs per semester as a covariate for taking accurate notes, and for writing at the expected academic level. Nonsignificant results were shown for IV-Demographics for degree information, faculty characteristics, teaching experience, and for international experiences. This suggests that IV-Demographics/number of students (number of ELLs taught each semester as a main factor, and number of ELLs taught over a career as a main factor) may have some bearing on how responsible faculty feel for addressing the academic skills gap of the ELLs.

For how comfortable faculty felt in teaching academic skills, significant results were observed for the variable for number of students including the number of ELLs taught in a semester as a main factor only and for ethnicity as a main factor only. Nonsignificant results were shown for IV-Demographics for degree information, teaching experience, and for international experiences. IV-Demographics/number of student (number of ELLs taught each semester) and faculty characteristics/ethnicity had a statistically significant impact upon whether or not faculty felt comfortable teaching their ELLs the academic skills that they needed to be successful.

For the perceived faculty role in teaching language skills, significant results were observed for the variable faculty characteristics/ethnicity as a main factor and gender as a covariate. Nonsignificant results were shown for IV-Demographics for degree

information, teaching experience, number of students, and for international experiences. For the IV-Demographics, faculty characteristics (ethnicity*gender) had some impact upon how responsible faculty felt to teach the academic skills to their ELLs.

For how comfortable faculty felt in teaching language skills, significant results were observed for the variable faculty characteristics and international experiences with home language as a covariate; faculty characteristics/ethnicity as a main factor and ethnicity as a covariate; and faculty characteristics/gender as a main factor and ethnicity as a covariate. Nonsignificant results were shown for IV-Demographics for degree information, teaching experience, and number of students. The IV-Demographics/faculty characteristics (gender and ethnicity), and IV-Demographics/international experiences (home language) had an impact upon how comfortable faculty felt addressing the language skill gaps of their ELLs.

Since there were multiple subvariables that showed statistically significant results for both language skills and academic skills, it is possible to at least partially reject the null hypothesis. However, it can only be partially rejected, since several items showed nonsignificant results. Further research would need to see what other factors there might be, as well as their possible impact upon the questions asked in the survey.

Summary

The results of this analysis showed that the existing ED available to faculty had little impact upon their perceived roles in addressing the academic and language skills of their ELLs (RQ1), nor the faculty's needs in working with this populations (RQ2). Nonsignificant results were found with respect to the IV-Context on the DV-Needs, but

statistically significant results were found for at least one of the subvariables for DV-Faculty Role (RQ3), suggesting that institutional characteristics (student full-time or part-time status) may have some influence on how responsible faculty felt for addressing the academic needs of the ELLs, but the institutional characteristics did not have an observable effect on how responsible faculty felt for teaching their ELLs language skills. These institutional characteristics also did not have an observed significant effect on the needs of faculty in the sample in relation to teaching academic or language skills. Finally, statistically significant results were found for some subvariables for IV-Demographics (RQ4) on both DV-Faculty Needs and DV-Faculty Role, suggesting that the demographic characteristics of faculty had some impact upon how responsible they felt for addressing the academic skills needs of their ELLs (with the number of ELLs per semester, and number of ELLs over a career significant results) and language needs (faculty characteristics/ethnicity). For how comfortable faculty felt addressing their ELLs' academic needs, significant results were observed (number of students/number of ELLs taught each semester, and faculty characteristics/ethnicity), as well as for language skills (faculty characteristics/ethnicity and gender, and international experiences/home language).

These results provided a more nuanced understanding of the realities of faculty in relation to working with their ELLs. Chapter 5 includes a discussion of these results in relation to the wider literature on the topic. This will also include a discussion of the limitations of the study, recommendations for the future, and possible implications of the results to the wider field.

Chapter 5: Discussion, Conclusions, and Recommendations

Discussion

The purpose of this quantitative study was to identify and analyze the instructional needs of mainstream HE faculty in U.S. colleges and universities who work with ELLs but who have no formal training in teaching these students. Data were collected from 66 participants using a survey entitled *Professional Development in Higher Education: Working with English Language Learners*. The aim of this study was to better understand and articulate areas in which faculty may need additional support in relation to working with their ELLs. The goal of the study was to provide recommendations on how U.S.-based HEIs can improve or create ED programs to address these concerns.

The theoretical framework used in this study was andragogy, which suggests that several elements must be present in order for truly meaningful ED to take place. These include a learner's the need to know, the self-concept of the learner, the need for prior experiences to be present, readiness to learn, an environment ready for learning, and learner motivation. This study was focused mostly on whether or not the components of andragogy were indeed present in relation to faculty working with ELLs. Based on the results of this study, it appears that the elements of the andragogical model were indeed present, but that the necessary infrastructure for implementation of effective ED seems to be lacking in some institutions. Because andragogy requires all elements of the model, it is unlikely that effective ED related to working with ELLs is present in at least some HEIs represented in the sample.

The findings of this study showed that some subvariables of faculty demographics (RQ4) and institutional contexts (RQ3) had a statistically significant impact on the ED needs of faculty in relation to supporting the language and academic skills of their ELLs, as well as how responsible faculty felt to address these needs. Nonsignificant results were found for whether available ED had an impact upon whether faculty in the sample felt more comfortable addressing these needs (RQ2) and whether or not the presence of ED affected how responsible they felt to do so (RQ1). These results will be interpreted in relation to the wider literature on ED/PD and ELLs in the following section.

Interpretations and Findings

As the literature on ELLs and international students indicated, there are increasing numbers of these students coming to study in the United States (Ballantyne et al., 2008; Farrugia & Bhandari, 2016; IIE, 2017; Jaschik & Lederman, 2015). There is an increasing need to understand the unique needs of these students in order to better address them. Since HE faculty are the primary contact at HEIs with these students (Yunus et al., 2012), they are uniquely positioned to see the needs of these learners and help address them.

The modern HEI often assumes a monolingual English-speaking upper-middle class student as the standard model (de Jong, 2014; Sadykova & Dautermann, 2009). However, these students often have gaps in both linguistic and academic skills. This was borne out in the data, with faculty indicating that they disagree that the ELLs in their courses are well equipped with the required academic skills ($M = 2.89$) and language

skills (M = 2.93). These results match findings in the literature about the gaps in linguistic abilities and academic abilities.

Faculty want to learn how to better address the needs of their ELLs, but they often struggle to do so (Craighead & Ramanathan, 2007; Perry & Hart, 2012; Trice, 2003). This was also borne out in the data with faculty agreeing that they wanted more training on how to effectively teach (M = 3.97) and assess their ELLs (M = 3.85). These findings show that the faculty in the sample felt that addressing the needs of this population was important to them.

There was also a clear problem in that many faculty did not always know if or whether resources existed on their campuses. Often resources may exist, but access to them might not be readily known to the faculty for a variety of reasons (Herman, 2012). Despite some ED resources likely being available on campuses, if faculty do not know about and subsequently gain access to them, it is as if they did not exist.

In relation to RQ1 and RQ2, the results showed that existing ED related to working with ELLs did not have a statistically significant effect on how DV-Faculty Needs and DV-Faculty Role. However, as indicated in Chapter 4, many faculty are unaware of whether or not these resources exist, so this may be a result of faculty simply not knowing what resources exist or who to talk to. These results could also point to the fact that existing ED is often ineffective (Yoon, Duncan, Lee, Scarlos, & Shapley, 2006). While the questions in this survey did not go too deeply into the topic of quality of ED, what is often missing in ED is both a longitudinal focus, and a focus on quality.

Therefore, understanding the frequency, length, and depth of the available ED is an evaluative factor for future research.

RQ3 and RQ4 provided insights into the fact that some faculty are already in tune with the needs of their learners based upon the variables explored in the IV-Context and IV-Demographics. Statistically significant results were found among these IVs and the DVs related to faculty needs and roles. This suggests that some pockets exist across the academy in which faculty are aware of (and possible already addressing) these needs. Given this, there are likely experts already present who could help guide ED and help their colleagues. Promoting this expertise directly connects to the underlying premise of the scholarship of teaching and learning (Hutchings, Taylor Huber, & Ciccone, 2011) and the notion of communities of practice (Wenger, 2008).

Returning to the theoretical model used in this analysis, andragogy, there were clear indications that the environments in which the study's participants work are ripe for the model to be applied. Faculty clearly indicated that they identify personal gaps in needing to effectively address the needs of ELLs, have experience working with these students, are oriented to learning about improving their skills, and are motivated. There is a lack of environmental readiness (resources on campus to address the faculty's pedagogical needs), which also means that the ED related to working with these populations is also not learner-centric (i.e., the faculty as learners). Therefore, in order for the model to be fully applied, HEIs need to focus on building the necessary infrastructure to help these faculty. Here, I have argued for a focus on ED, which requires a long-term individualized approach to addressing faculty's needs. While it appears that most of the

elements of the andragogical model were present in the institutions where participants came from, the academy needs to focus on making ED/PD more effective to specifically help faculty address the needs of the ELLs in U.S.-based HEIs.

Limitations

One of the major limitations in this study was the sample size. Although every effort was made to acquire a broad sample that was large enough to be able to show a small effect size, only 66 participants were included in the final study. Despite the multiple means of recruitment, participation in the study was likely to be small because of the length of the survey (25-35 minutes). Although the survey was long, collection of all sides of the existing reality surrounding working with ELLs was necessary. According to Olejnik (1984) and Gall et al. (2007), the number of participants achieved for this study would have been enough to likely capture a medium to large effect size for the statistical tests used. Additionally, using G*Power, small to medium effect sizes would have been expected from a sample of $N = 66$ observed in this study. Because the sample size was only likely to minimally yield a medium effect size (as opposed to the desired small effect size), every effort was made to compare the power of the results to the sample size throughout the analysis.

Based upon a power analysis of the observed powers, some items had small enough effect sizes that would have required a much larger sample. None of the statistically significant results had observed power below the sample size for this study. However, future studies should reevaluate the items with required sample sizes larger

than those in this study by including a larger sample. For RQ1, the following observed powers were recorded that would have required a larger sample size:

- Observed power = .146 for ELL specialists/academic skills, requiring a sample size of 599.
- Observed power = .191 experience peers/language skills, which would have required a sample size of 346.
- Observed power = .378 for ELL website resources/academic skills, requiring a sample size of 80.
- Observed power = .07 for trainings/academic skills, requiring a sample size of 2,641.
- Observed power = .177 for trainings/language skills, requiring a sample size of 404.
- Observed power = .296 for trainings/academic skills, which would have required a sample size of 138.
- Observed power = .274 for PLC/language skills, which would have required a sample size of 163.
- Observed power = .366 for general ED office/language skills, which would have required a sample size of 86.
- Observed power = .087 for general ED office/academic skills, which would have required a sample size of 1,706.
- Observed power = .406 for an embedded ED office/academic skills, which would have required a sample size of 68.

None of these subvariables showed as statistically significant in this study. Although nonsignificant results were produced, future studies with larger sample sizes should reevaluate these variables to see if significant results emerge.

For RQ2, the following observed powers were recorded that would have required a larger sample size:

- Observed power = .227 for ELL specialists/academic skills, requiring a sample size of 242.
- Observed power = .346 for ELL specialists/language skills, requiring a sample size of 98.
- Observed power = .291 for experience peers/academic skills, which would have required a sample size of 143.
- Observed power = .270 experience peers/language skills, which would have required a sample size of 168.
- Observed power = .128 trainings/academic skills, which would have required a sample size of 783.
- Observed power = .140 trainings/language skills, which would have required a sample size of 652.
- Observed power = .332 PLC/academic skills, which would have required a sample size of 107.
- Observed power = .409 PLC/language skills, which would have required a sample size of 67.

- Observed power = .243 for a general ED office/academic skills, which would have required a sample size of 210.
- Observed power = .377 for a general ED office/language skills, which would have required a sample size of 81.

None of these subvariables showed as statistically significant in this study. Although nonsignificant results were produced, future studies with larger sample sizes should reevaluate these variables to see if significant results emerge.

For RQ3, the following observed powers were recorded that would have required a larger sample size:

- Observed power = .343 for IV-Context and the DV-Faculty Needs/academic skills, requiring a sample size of 100 to detect this effect.
- Observed power -= .182 for the IV-Context and DV-Faculty Role/academic skills, which would have required a sample size of 382 to detect this effect.
- Observed power = .304 for the variable for IV-Context/institution's public/private status and DV-Faculty Role/language skills, to be able to observe this kind of effect, a sample size of 130 would have been needed to detect this effect.
- Observed power = .324 for IV-Context and DV-Faculty Role/language skills which would have required a sample size of 113 would have been needed to detect this effect.

None of these subvariables showed as statistically significant in this study. Although nonsignificant results were produced, future studies with larger sample sizes should reevaluate these variables to see if significant results emerge.

For RQ4, the following observed powers were recorded that would have required a larger sample size:

- Observed power = .224 for international experiences and whether they spent their childhood growing up in the U.S. (IV-Demographics) and DV-Faculty Role/academic skills. With such an observed effect size, this would have required a total sample size of 248 to observe this effect.
- Observed power = .302 for international experiences and home language (IV-Demographics) and DV-Faculty Role/academic skills, requiring a sample of 132 to observe this effect.
- Observed power = .362 for the faculty characteristic variable/gender (IV-Demographics) and DV-Faculty Role/academic skills, requiring a sample of 74 to observe this effect.
- Observed power = .173 for international experiences/foreign language (IV-Demographics and DV-Faculty Role/language skills. This would have required a sample of 424 to observe this effect.
- Observed power = .274 for international experiences/growing up in the U.S. (IV-Demographics and DV-Faculty Role/language skills, which would have required a sample of 163.
- Observed power = .155 for international experiences (IV-Demographics) and foreign language for DV-Faculty Needs/academic skills. With such an observed effect size, this would have required a total sample size of 530.

- Observed power = .365 for international experience/childhood in the US (IV-Demographics) for DV-Faculty Needs/academic skills, which would require a sample size of 87.
- Observed power = .248 for international experiences/childhood in the U.S. (IV-Demographics) and DV-Faculty Needs/language skills, which would have required a sample of 201 to observe this effect.
- Observed power = .260 for international experiences (IV-Demographics) and DV-Faculty Needs/language skills, requiring a sample of 182.
- Observed power = .373 for teaching experience/primary modality (IV-Demographics) and DV-Faculty Needs/language skills, requiring a sample of 83.

None of these subvariables showed as statistically significant in this study. Although nonsignificant results were produced, future studies with larger sample sizes should reevaluate these variables to see if significant results emerge.

All of the significant, and most of the nonsignificant items reported in Chapter 4 had observed powers requiring a sample size within the size observed in this study (N = 66). There were some items with observed powers indicative of needing a larger sample for more definitive results. Future studies should reanalyze the items that had observed powers suggesting that a larger sample may be needed. As Larson-Hall (2016) and Cohen (1988) suggested, researchers would always like to have more participants in their studies. Because most of the results in this study showed observed powers indicative of having enough participants in the sample, conclusions can be drawn from the data

analyzed in Chapter 4; however, future research should focus on increasing the sample size in order to test the assumptions found in these results.

As was discussed in Chapter 4, there are ways in which the sample is representative of the larger population. However, there are some key differences, the sample underrepresented faculty who have less than an advanced degree as compared to the 2003 NCES data. The sample also overrepresented the field of education as compared to the comparable NCES data, and underrepresented other fields including agriculture, fine arts, health sciences, and law. The sample also included slightly more women than would be expected in the NCES data. Participants were also slightly less white than the NCES data suggested.

Some additional ways in which the sample population's institutions differed from the NCES data include that the participants largely came from institution that had 4-year or graduate programs, underrepresenting vocational and nondegree programs. The sample also overrepresented public institutions as compared to the NCES. The size of the institutions from which the faculty came also represented a higher proportion of faculty from larger institutions than the NCES data showed. Faculty working in the commonwealth of Virginia were overrepresented, and not all states were represented. However, there was geographical diversity representing faculty across the country.

The sample in this study was limited to HE faculty who have ELLs in their classes, but are not experts in teaching ELLs (i.e., they do not have a degree in language or linguistics, TESOL, or other similar degrees). Since this study was limited in the scope of participation, these results are specific to the cross-section of faculty in HE who are

not experts in working with ELLs. Future studies would need to explore the realities of faculty who are indeed experts in these areas.

Because the sample required self-selection, participants who actually completed the survey likely have some vested interest in the topic. These could be faculty who have had some frustrations or successes working with this student population, or who may not have had any exposure to this populations and wanted to learn more. It is likely that participants fall into the former grouping; therefore, the results should be understood as likely representative of participants who have some motivation behind their participation.

As a result of some scores being outside of the acceptable threshold during the validity testing, several questions and entire sections were omitted from the final analysis. Because these sections related to what ED and PD are generally available to faculty (beyond just working with ELLs), their results had the potential to add to a more holistic understanding of ED/PD at HEIs across the country. Because the goal was to ensure the validity of survey results, these sections were not evaluated. Future studies, with larger samples may allow for such information to be collected and analyzed.

An additional limitation is researcher bias. As I stated in Chapter 1, I work with international students who are ELLs, and have worked as an ESL teacher in post-secondary institutions, and thus I expected that the results might show some limitations for the faculty in the sample. However, I tried to rely as much as possible on the statistical analysis to guide the interpretation of the data. Although I attempted to limit bias from the interpretation, it is still present, as with all research.

Recommendations

This was an exploratory study into the realities of HE faculty working with and addressing the needs of ELLs. Although it was attempted to ensure that the methods were broad enough in scope to look at the problem from many angles, it is not possible to do so with a single study. Therefore, future research should explore the qualities of faculty who have the most success with working with ELLs in HE. This could include case studies of best practices from faculty who have ELLs. Extending this concept, looking at what does not work may also be of use to provide the opposite of best practices (i.e., what not to do).

The scope of this study was limited to U.S.-based HEIs. Future studies should look at other contexts of HEIs, including those institutions outside of the U.S. to see if similar results are found. There is a growing body of literature in other, non-U.S. contexts, especially in Australia (see Kettle, 2017 and others for examples). It would be of interest to see how the findings in this study might differ with other contexts focusing both on the student populations, which may be of a different makeup than those in the U.S., and focusing on the institutional differences between the U.S. context and other HE systems.

Future research could also compare the results found here to the results of faculty who do have a background in language teaching. A major question would be whether or not the results of this study would be similar to those with backgrounds in these areas. A further exploration of this idea would be to look at results for ESL teachers as compared to non-ESL teachers to see what similarities might exist.

As mentioned in the limitations section, some questions and sections were omitted from the final analysis because of concerns with validity. Future studies could repeat the Professional Development section of the survey, which was omitted from the final analysis. This section could be repeated either alone, or with the full survey, but with a larger sample. Better understanding the diversity of ED/PD that faculty have access to is important to improving ED, but also in helping institutions to understand ways in which they can improve or supplement their existing ED with other best practices. Therefore, future analysis should aim at surveying the variety of ED and PD available across U.S.-based HEIs.

Further probing responses and attitudes of faculty with respect to preparedness of their students would also provide potentially fruitful research. As one respondent said to me in an email, the intent and scope of the questions also apply to other populations in HE. Indeed the results here likely have some relation to other populations in HE that require additional support to be successful. Future research could explore the assumptions and attitudes that faculty have about other populations in HE in relation to their preparedness for post-secondary or graduate education.

An underlying, unstated question that serves as a foundation for this study (and any study particularly focused on HE supporting international students) is that of why HEIs recruit these students. While it might be safe to suggest the notion that diversity is an important reason for the recruitment of such students (of which I fundamentally support), there is an often-understood premise that international students serve as a significant financial boon to HEIs because they are usually charged higher rates than

domestic students (especially as out-of-state students). According to Farrugia and Bhandari (2016), international students make up roughly 5% of the total population in U.S.-based HE. Because these students are such a small percentage of the total population, their needs are often forgotten. Given HE's noble ethos of "opening minds and exposing all students to the realities of an intercultural connected environment" (Martin, 2017, p. 23), this premise still needs to be tested for how it works in practice.

Future studies could also expand upon the very minor exploration undertaken in just a small portion of this study about how different educational systems are across the globe. Faculty in the study indicated that they know little about the education systems from their international students' home countries. Having worked with many international students, I can say that there are stark differences (and similarities) about primary, secondary, and tertiary education across the globe. Understanding these differences through future research would help out students, faculty and staff, and institutions to better address the needs of these students.

Further studies should also expand beyond the methods used in this analysis. As the American Statistical Association suggested, alternate methods beyond just reporting *p* values provide for a richer data analysis (Wasserstein & Lazar, 2016). They advocate for alternate modeling, which could be used in a future study, beyond just statistical analysis to include more rich narratives. Alternatively even richer data could be elicited that includes mixed methods and qualitative methods. By expanding beyond the statistical data, it is more likely that the results would become more expansive and even richer.

As was evident in the results of this study, many faculty did not know what resources were actually available at their institutions. Although it is assumed that many institutions actually do have some resources available to faculty related to teaching and learning, a major question to be resolved is what the actual prevalence of ED offices or centers is on HE campuses. One of the difficulties that I had when compiling a list of ED offices for the recruitment procedures was that the locus of ED/PD on campuses was often in wildly different locations (from independent offices, to subdivisions of the provost's office, to separate entities within individual schools of study). Therefore, future studies need to focus on what exists (or not) at HEIs in the U.S., but also in other contexts around the globe. By understanding what exists, it is then possible to identify what the strengths of these centers are, and the variety of resources available at them.

A further line of research should explore why institutions do or do not implement the necessary ED infrastructure for their faculty. The results of the study demonstrated that many institutions might not widely enough publish their resources to their faculty. Future research could explore the barriers for institutions to implement or promote these resources, with a focus on the successes of existing ED offices.

I would be remiss if I did not re-acknowledge Guskey's (2009) suggestion that the literature related to ED is replete with examples of bad ED/PD, but does not focus enough on what makes them effective. Unfortunately, portions of this study aimed at identifying what not to do in ED/PD with RQs 1 and 2. While significant results were not evident, a more fruitful future question would be to look at the frequency, quality, and

depth of successful ED programs. Therefore, future research should focus on identifying successful programs, and expounding on what makes them so successful.

Implications

The results of this study have the potential for positive social change in several ways. Firstly, the results can provide ED offices across the country with data on where their faculty may need some additional support. Because the sample was diverse in nature, ED offices could likely benefit from applying some of the recommendations, as well as focus on better understanding their own institutional needs across the faculty. Additionally, these findings likely have some applicability to populations outside of the faculty, including staff and administrators who interface with these students.

Secondly, the study contributes to understanding the gaps in both academic and linguistic skills of international students who are ELLs. These students clearly have ways in which they struggle as they come to their U.S.-based HEI. While the diversity that these students bring to a campus can be incredibly impactful on the institution and its learning community, it is important that these difficulties be both acknowledged and better understood so that institutions can ensure that their needs are met. Based upon these results, institutions can study their own student populations in more depth to understand the ways in which their students (ELLs specifically, and all other students more generally) might struggle. If institutions do not name and acknowledge their difficulties, they cannot address them. Therefore, the results of this study provide points of discussions and points of debarkation for future studies.

Thirdly, the results can provide HE faculty with some insights into areas for focus in their own PD. That is, the results can provide some ways for faculty to reflect on their own experiences and potential gaps. The fact that nonsignificant results emerged across broad contextual and demographic areas suggests that faculty across the academy could benefit from learning more about international students and ELLs. If faculty want to learn more about this student population, they could explore professional and special interest organizations outside of their content areas that focus on the needs of this population including organizations like the TESOL International organization, the Institute of International Education, or other similar organizations. If faculty expose themselves to information beyond their content areas like those explored in this study, they can continue to develop themselves in a targeted manner independent of, or supplementary to those provided by their own institutions.

Fourthly, a more interdisciplinary approach should be adopted that allows for faculty to have a space for growing and learning beyond their content areas. Although faculty continue to learn about their discipline, learning about curriculum, instruction, and assessment for general and specific populations can have a dramatic impact upon their own teaching. Additionally, professional organizations should encourage opening up membership beyond a singular focus to allow for special interest groups for "noncontent experts" to join. Allowing space for membership beyond a narrow focus could allow for more sharing between organizations, groups, institutions, and departments.

Fifthly, the results contribute to the understanding of what infrastructures institutions can focus on to specifically support their ELLs. HEIs need to better understand the students that they admit from abroad beyond the assumed panaceas of standardized exams, GPA, or other similarly required entrance requirements used as predictors of success. The results of this study showed that ELLs come to their HEIs with both linguistic and academic gaps that must still be filled post-matriculation. If HEIs wish to increase their international student populations (Jaschik & Lederman, 2015), they must also be willing to support them in addressing these gaps.

Finally, the results provided some clues into the fact that faculty also think that their domestic students may need support. As reported in Chapter 4, faculty felt that low performing ELLs and non-ELLs were equally likely to succeed in their courses ($M = 2.56$ for both ELL and non-ELL), suggesting that some of the same difficulties faced by ELLs and non-ELLs serve as barriers to success equally to both groups. Presumably, helping to address what makes an ELL successful would also support the non-ELLs in HE. Future research should focus on whether the supports provided to ELLs would also be beneficial to non-ELLs.

Conclusion

What is clear is that there are indeed ED needs, as indicated by the faculty in the sample, in relation to working with ELL populations. There is also a desire on the part of the faculty to improve in relation to these needs. The reason why it is important to help faculty to work with this student population is summed up in the fact that helping faculty in their craft of teaching has wider ramifications for curriculum, instruction, and

assessment (Condon et al, 2016; Giraldo, 2014; Henderson et al., 2011; Mackay, 2017; Shaha & Ellsworth, 2013a; Shaha & Ellsworth, 2013b; Wang, et. al, 2013), which can have a direct impact upon the performance of students (Condon et al., 2016; Johnson & Fargo, 2014; Shah, Glassett, & Ellsworth, 2015; Shaha, Glassett, & Copas, 2015a; Song & Samimy, 2015). This was explained in Figure 4:

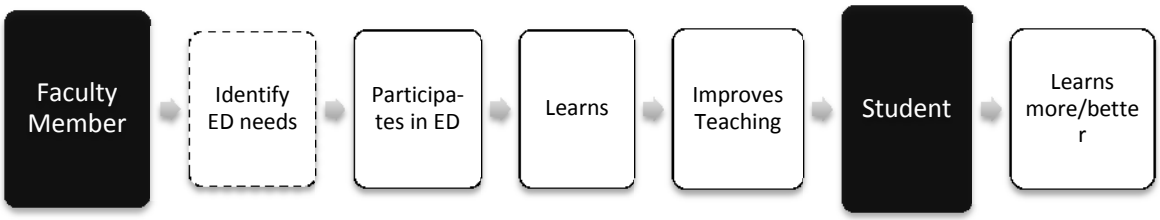

Figure 4. The Adapted Direct Path Model. Adapted from Condon et al. (2016)

Weighing on these findings is the simple fact that institutions have to prioritize where to place their limited financial resources. With budgetary limits, increasing infrastructure and overhead to provide ED for faculty and to support populations like ELLs would be unlikely to get significant consideration given other priorities. However, HE 's noble ethos requires something to be done, if it is to remain relevant and competitive. Therefore, the proposals outlined in this chapter acknowledge that there are likely many ways to achieve the model outlined in Figure 4, and these proposals also encourage innovation and right-fitting at the institution and departmental level. Achieving and sustaining the Adapted Direct Path Model can be done in a myriad of ways. As the literature has suggested, leaving faculty to their own devices sometimes leads to a narrow conception of how to get PD/ED (Alsalahi, 2015), and the targets are

often of mixed quality (Stout, 1996). Therefore, implementing and achieving sustained ED requires some intent and focus institutionally.

In order for ED related to working with ELLs to move forward within the academy, institutions must undertake the task of building the necessary resources and infrastructure to address the needs of international students (Martin, 2017). In order for andragogy to be effective, all aspects of the model must be present. Based upon the results of this study, the situation is prime for doing so. All that is needed is the addition of targeted, long-term ED aimed at addressing the needs of ELLs.

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Appendix A: Final Survey Instrument

The final survey instrument was administered electronically using GoogleForms. It was accessible at the following URL: https://goo.gl/forms/wDTSXDilJ38dCErc2. A text version of the final survey is provided in this appendix.

Professional Development in Higher Education: Working with English Language Learners

Study Self-Selection

The following are self-selection questions. If you answer "NO" to any questions below, you are encouraged to exit the survey. If you select "NO", but still complete the survey, your results may not be used in the current study, but may be used in future studies. Useful Definitions: For the purpose of this study, the group of students of interest are adult international students pursuing university degrees in the United States dealing with sophisticated academic language use. These language learners are users of English as an additional language (i.e., English is not the student's first language). The term English language learner (ELL) will be used throughout this survey to reference this population of students. For questions that follow, an ELL can include a student who already completed an ESL program and is currently taking courses in their content area. An ELL can also include a student who is currently taking ESL courses in addition to courses in their content area. This definition may be repeated later in this survey to aid in recalling this definition.

Are you a current or retired instructor/faculty member in higher education?
(If you cannot clearly answer "yes" or "no", please describe your situation under "other"). Mark only one oval.

- o Yes
- o No
- o Other: _____

Can you confirm that you are NOT a specialist in teaching English as a second language, linguistics, or language acquisition? (If you cannot clearly answer "yes" or "no", please describe your situation under "other"). Mark only one oval.

- o Yes
- o No
- o Other: _____

Do you now have, or have you ever had students whose first language is not English (i.e., ELLs) in your course(s)? Mark only one oval.

- o Yes
- o No
- o Not sure

Are you teaching in a U.S.-based higher education institution? Mark only one oval.

- o Yes
- o No

Is this the first time that you are completing the survey? Mark only one oval.

- o Yes
- o No

How did you find out about this survey? Fill in the textbox

_____

If you found out about this survey through a listserv, please specify which listserv(s). Fill in the textbox

_____

Needs of English Language Learners

Please respond to the following questions about your perception of the needs of the ELLs in your course(s). The following questions ask you to respond to a statement on a scale from 1 to 5. Unless otherwise noted, respond with 1 being strongly disagree, 3 being neutral, and 5 being strongly agree. Optionally, space is provided at the end of this section for any comments or concerns that you might wish to elaborate on with respect to any of your responses. Recall that an English language learner (ELL) is a student who learned English as an additional language (i.e., English is not the student's first language).

Respond to the following statements: "The ELL students in my courses are well-equipped to _____ common in academic settings." Mark only one oval per row.

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
comprehend lectures	O	O	O	O	O
take accurate notes	O	O	O	O	O
deliver presentations	O	O	O	O	O
understand varying rhetorical styles in speech	O	O	O	O	O
read technical writing	O	O	O	O	O
understand abstract language	O	O	O	O	O
write at the expected academic level	O	O	O	O	O
contribute to in-class discussions	O	O	O	O	O

Respond to the following statements: "The ELL students in my courses are well-equipped with the skills required for an academic program relative to their abilities in_____" Mark only one oval per row.

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
grammar.	O	O	O	O	O
sentence structure.	O	O	O	O	O
pronunciation.	O	O	O	O	O
general oral skills.	O	O	O	O	O
word choice.	O	O	O	O	O
academic vocabulary.	O	O	O	O	O
academic writing.	O	O	O	O	O
reading skills.	O	O	O	O	O
developing strategies for improving their English.	O	O	O	O	O
making connections between their first language and English.	O	O	O	O	O

Respond to the following: "I UNDERSTAND what the academic setting is like IN THE HOME COUNTRIES of my ELL students in terms of _____." Mark only one oval per row.

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
the style of education employed (examples: student centered, constructive, etc.)	O	O	O	O	O
the kind of work expected (examples: papers, essays, projects, quizzes, etc.)	O	O	O	O	O
the amount of work required in a typical semester	O	O	O	O	O
the grading system	O	O	O	O	O
interactions that students have with instructors in class	O	O	O	O	O

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
interactions that students have with one another in class	O	O	O	O	O
expectations of the instructor	O	O	O	O	O

Respond to the following statements: "ELLs..." Mark only one oval per row.

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
need additional time to complete their coursework.	O	O	O	O	O
need more time to complete their coursework than their non-ELL peers.	O	O	O	O	O
should receive less coursework than other students.	O	O	O	O	O
should have more simplified coursework.	O	O	O	O	O
should be permitted to use their native language in my course among other ELLs.	O	O	O	O	O
should be provided materials in their native language(s).	O	O	O	O	O
should be graded differently than their non-ELL peers.	O	O	O	O	O
require more of my time than other students.	O	O	O	O	O

Complete the sentence: "Relative to their own personal academic abilities, _____ can be successful in my course with normal effort." Mark only one oval per row.

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
a NON-ELL who, even with significant effort, finds it difficult to pass most classes	O	O	O	O	O
a NON-ELL who, even with effort, is generally able to pass most classes	O	O	O	O	O
a NON-ELL who, with little effort, is generally able to pass most classes	O	O	O	O	O

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
an ELL who, even with significant effort, finds it difficult to pass most classes	O	O	O	O	O
an ELL who, even with effort, is generally able to pass most classes	O	O	O	O	O
an ELL who, with little effort, is generally able to pass most classes	O	O	O	O	O

Optionally, are there any comments that you would like to add to any of your responses from this section? Fill in the textbox.

_____

Working With English Language Learners

Please respond to the following questions about your beliefs about teaching the ELLs in your courses. The following questions ask you to respond to a statement on a scale from 1 to 5. Unless otherwise noted, respond with 1 being strongly disagree, 3 being neutral, and 5 being strongly agree. Optionally, space is provided at the end of this section for any comments or concerns that you might wish to elaborate on with respect to any of your responses. Recall that an ELL is a student who learned English as an additional language (i.e., English is not the student's first language).

Respond to the following statements: "I have a good understanding of...." Mark only one oval per row.

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
the processes involved in learning a second language.	O	O	O	O	O
how long it would take someone to learn a second language to be able to succeed in university courses.	O	O	O	O	O

Respond to the following statements on a scale from 1-5 (with 1 being "An ELL is completely responsible" and 5 being "I am completely responsible."): "Who is responsible for…" Mark only one oval per row.

	1 (An ELL is completely responsible.)	2	3 (The ELL and I are jointly responsible.)	4	5 (I am completely responsible.)
the success of ELLs in my courses?	O	O	O	O	O

	1 (An ELL is completely responsible.)	2	3 (The ELL and I are jointly responsible.)	4	5 (I am completely responsible.)
helping ELL students adjust to the US-based higher education experience?	O	O	O	O	O
assisting ELLs in improving their LANGUAGE skills?	O	O	O	O	O
assisting ELLs in improving their ACADEMIC skills?	O	O	O	O	O
assisting ELLs in improving their knowledge of COURSE CONTENT?	O	O	O	O	O

If you had to describe your role with respect to working with ELLs, what phrases come to mind? Fill in the textbox.

_____

Complete the sentence: "If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better..." Mark only one oval per row.

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
comprehend lectures.	O	O	O	O	O
take accurate notes.	O	O	O	O	O
deliver presentations.	O	O	O	O	O
understand varying rhetorical styles in speech.	O	O	O	O	O
read technical writing.	O	O	O	O	O
understand abstract language.	O	O	O	O	O
write at the expected academic level.	O	O	O	O	O
contribute to in-class discussions.	O	O	O	O	O

Complete the sentence: "IT IS MY RESPONSIBILITY to help ELLs improve their ability to..." Mark only one oval per row.

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
comprehend lectures.	O	O	O	O	O
take accurate notes.	O	O	O	O	O
deliver presentations.	O	O	O	O	O
understand varying rhetorical styles in speech.	O	O	O	O	O
read technical writing.	O	O	O	O	O
understand abstract language.	O	O	O	O	O
write at the expected academic level.	O	O	O	O	O
contribute to in-class discussions.	O	O	O	O	O

Complete the sentence: "If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their..." Mark only one oval per row.

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
grammar.	O	O	O	O	O
sentence structure.	O	O	O	O	O
pronunciation.	O	O	O	O	O
general oral skills.	O	O	O	O	O
word choice.	O	O	O	O	O
academic vocabulary.	O	O	O	O	O
academic writing.	O	O	O	O	O
reading skills.	O	O	O	O	O
developing strategies for improving their English.	O	O	O	O	O
making connections between their first language and English.	O	O	O	O	O

Respond to the following statements: "IT IS MY RESPONSIBILITY to help ELLs improve their..." Mark only one oval per row.

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
grammar.	O	O	O	O	O
sentence structure.	O	O	O	O	O
pronunciation.	O	O	O	O	O
general oral skills.	O	O	O	O	O
word choice.	O	O	O	O	O
academic vocabulary.	O	O	O	O	O
academic writing.	O	O	O	O	O
reading skills.	O	O	O	O	O
developing strategies for improving their English.	O	O	O	O	O
making connections between their first language and English.	O	O	O	O	O

Respond to the following statements. Mark only one oval per row.

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
I welcome the inclusion of ELLs in my courses.	O	O	O	O	O
The inclusion of ELLs in my courses creates a positive educational atmosphere.	O	O	O	O	O
The inclusion of ELLs in my courses benefits all students.	O	O	O	O	O
ELLs should be required to attain a minimum level of English proficiency before being included in my courses.	O	O	O	O	O
The inclusion of ELLs in my courses increases my workload.	O	O	O	O	O

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
I have enough time to deal with the needs of ELLs.	O	O	O	O	O

Respond to the following statements. Mark only one oval per row.

	1 (never)	2	3 (not more than other students)	4	5 (all of the time)
I allow ELLs additional time to complete their coursework.	O	O	O	O	O
I allow more time for ELLs to complete their work than their non-ELL peers.	O	O	O	O	O
I give ELLs less coursework than their non-ELL peers.	O	O	O	O	O
I simplify coursework for ELLs.	O	O	O	O	O
I allow ELLs to use their native language(s) with other ELLs in my course.	O	O	O	O	O
I provide materials for ELLs in their native language(s).	O	O	O	O	O
I grade the work of ELLs differently than their non-ELL peers.	O	O	O	O	O
I give ELLs more of my time than other students.	O	O	O	O	O

Optionally, are there any comments that you would like to add to any of your responses from this section? Fill in the textbox.

_____

Professional Development Needs Working with English Language Learners

This section asks about possible professional development needs that you may have/wish to have in terms of working with ELLs in your courses. The following questions ask you to respond to a statement on a scale from 1 to 5. Unless otherwise noted, respond with 1 being strongly disagree, 3 being neutral, and 5 being strongly agree. Optionally, space is provided at the end of this section for any comments or concerns that you might wish to elaborate on with respect to any of your responses.

Respond to the following statements. Mark only one oval per row.

	1 (strongly disagree)	2	3 (neutral)	4	5 (strongly agree)
I have the necessary skills and abilities directly related to addressing the specific/unique needs of the ELLs in my courses.	O	O	O	O	O
I have adequate training or support to TEACH to the specific needs of ELLs.	O	O	O	O	O
I would like more training or support to TEACH to the specific needs of ELLs.	O	O	O	O	O
My institution provides the necessary training or support to TEACH the specific needs of ELLs.	O	O	O	O	O
I have adequate training or support to ASSESS the specific needs of ELLs.	O	O	O	O	O
I would like more training or support to ASSESS the specific needs of ELLs.	O	O	O	O	O
My institution provides the necessary training or support to ASSESS the specific needs of ELLs.	O	O	O	O	O

In the past 12 months, have any of the following resources been made available to you at your place of work related to working with ELLs? Mark only one oval per row.

	Yes	No	I'm not sure
ELL specialists	O	O	O
An experienced peer to offer informal advice	O	O	O
Text resources (examples: books/brochures/flyers made available from your institution on teaching these students)	O	O	O
Web resources available on your institution's website	O	O	O
Trainings/Workshops/Professional development about ELLs	O	O	O
A formal professional learning community or other similar group	O	O	O
A faculty development office (at the university, but not specific to my department/division)	O	O	O
A faculty development office (in my department/division)	O	O	O

If you could change three things about the professional development options at your college/university, what would they be?
Fill in the textbox.

_____

Optionally, are there any comments that you would like to add to any of your responses from this section? Fill in the textbox.

_____

Professional Development

Please respond to the type of professional development that you have received in the last 12 months. Optionally, space is provided at the end of this section for any comments or concerns that you might wish to elaborate on with respect to any of your responses.

In the past 12 months, did you participate in ANY FORM of professional development (a workshop, a class, conference, seminar, etc.)? Mark only one oval.

- o Yes
- o No

In the past 12 months, did you engage in professional development offered by your PLACE OF WORK? Mark only one oval.

- o Yes
- o No

Estimate the number of hours of professional development OFFERED by your PLACE OF WORK over the last 12 months? Mark only one oval.

- o 0 hours
- o 1-5 hours
- o 6-10 hours
- o 11-15 hours
- o 16-20 hours
- o 21-25 hours
- o Other: _____

How many hours of overall professional development DID YOU ACTUALLY ENGAGE in from your PLACE OF WORK over the last 12 months? Mark only one oval.

- o 0 hours
- o 1-5 hours
- o 6-10 hours
- o 11-15 hours
- o 16-20 hours
- o 21-25 hours
- o Other: _____

In the past 12 months, did you participate in any professional development offered by a PROFESSIONAL ORGANIZATION? Mark only one oval.

- o Yes

- o No

How many hours of overall professional development did you engage in from a PROFESSIONAL ORGANIZATION over the last 12 months? Mark only one oval.

- o 0 hours
- o 1-5 hours
- o 6-10 hours
- o 11-15 hours
- o 16-20 hours
- o 21-25 hours
- o Other: _____

If you did take advantage of professional development from a PROFESSIONAL ORGANIZATION did you or your institution have to pay for it? Mark only one oval.

- o Yes, I paid for it.
- o Yes, my place of work paid for it.
- o Yes, I shared the cost with my place of work.
- o No, it was free.
- o I'm not sure
- o N/A
- o Other: _____

In the past 12 months, did you participate in ANY FORM of professional development related to working with ELLs? Mark only one oval.

- o Yes
- o No

In the past 12 months, did you participate in any form of professional development offered by your PLACE OF WORK related to working with ELLs? Mark only one oval.

- o Yes
- o No

How many hours of professional development related to working with ELLs did you engage in from your PLACE OF WORK over the last 12 months? Mark only one oval.

- o 0 hours
- o 1-5 hours
- o 6-10 hours
- o 11-15 hours
- o 16-20 hours
- o 21-25 hours
- o Other: _____

In the past 12 months, did you participate in any form of professional development offered by a PROFESSIONAL ORGANIZATION related to working with ELLs? Mark only one oval.

- o Yes
- o No

How many hours of professional development did you engage in related to working with ELLs from a PROFESSIONAL ORGANIZATION over the last 12 months? Mark only one oval.

- o 0 hours
- o 1-5 hours
- o 6-10 hours
- o 11-15 hours
- o 16-20 hours
- o 21-25 hours
- o Other: _____

How do you primarily gain knowledge about your DISCIPLINE/CONTENT AREA? Mark only one oval per row.

	Yes	No
Resources from professional organizations about my discipline	O	O
Taking courses related to my discipline	O	O
Attending conferences or workshops about my discipline	O	O
Reading books related to my discipline/content area	O	O
Reading academic publications about my discipline	O	O
From my own research about my discipline	O	O
Engaging with colleagues about my discipline	O	O
Work experience	O	O
Searching on the internet about my content area.	O	O

How do you primarily gain knowledge about TEACHING SKILLS?
Mark only one oval per row.

	Yes	No
Resources from professional organizations about teaching	O	O
Taking courses related to teaching	O	O
Attending conferences or workshops about teaching	O	O
Reading books related to teaching skills	O	O

	Yes	No
Reading academic publications about teaching	O	O
From my own research about teaching	O	O
Engaging with colleagues about teaching	O	O
Actual teaching experience and personal reflection	O	O
Searching on the internet about teaching.	O	O

Are you ever asked to provide input on the kind of training offered by your PLACE OF WORK? If so, how often are you asked? Mark only one oval.

- o Yes, I am asked each semester that I teach to provide input.
- o Yes, I am asked at least once per year, but not every semester.
- o No, I have never been asked.

Respond to the following on a scale of 1-5 (1 being strongly disagree and 5 being strongly agree): "My PLACE OF WORK is actually open to implementing feedback on training given by the faculty." Mark only one oval.

- o 1 (strongly disagree)
- o 2
- o 3 (neutral)
- o 4
- o 5 (strongly agree)

Optionally, are there any comments that you would like to add to any of your responses from this section? Fill in the textbox.

_____

Demographic and Professional Background

The following final two sections relate to the collection of information about you and your background. The collection of this data will make it possible to analyze the data collected from participants in terms of biographical and professional details.

Faculty Background

This section is about you and your background as of the time that you are taking this survey.
What is the highest degree that you currently possess? Mark only one oval.

- o Professional Degree (D.V.M, J.D., M.D., etc.)
- o Doctoral Degree

- o Post-master's Certificate
- o Master's Degree
- o Post-baccalaureate Certificate
- o Bachelor's Degree
- o Associate's Degree
- o Professional Certificate (Post-high school)
- o Other: _____

In what discipline/areas/specializations is your highest degree? (Choose all that apply). Check all that apply.

- o The Arts
- o Business
- o Computer Science
- o Divinity/Religious Studies
- o Design
- o Education
- o Engineering
- o Environment and Natural Science
- o Food or Agriculture
- o General Education
- o Health Science
- o Humanities
- o Interdisciplinary
- o Journalism
- o Law
- o Language
- o Mathematics
- o Medical/Dental/Pharmacy
- o Political Science
- o Public Affairs/Policy
- o Nursing
- o Science
- o Visual and Performing Art
- o Other: _____

How long has it been since you completed your highest degree? Mark only one oval.

- o 0-5 years
- o 6-9 years
- o 10-15 years
- o 16-19 years
- o 20-25 years
- o 26-29 years
- o 30-35 years
- o 36-39 years
- o 40-45 years
- o 46-49 years
- o 50+ years

How old are you? Mark only one oval.

- o 18-19 years old
- o 20-29 years old
- o 30-39 years old
- o 40-49 years old
- o 50-59 years old
- o 60-69 years old
- o 70-79 years old
- o 80-89 years old
- o 90-99 years old
- o 100+ years old

What gender do you identify with? Mark only one oval.

- o Male
- o Female
- o Other: _____
- o Choose not to say

What is your ethnicity?
Mark only one oval.

- o Asian
- o Black
- o Hispanic or Latino
- o Native American or Alaska Native
- o Native Hawaiian
- o Other Pacific Islander
- o White
- o Two or more races
- o Other: _____
- o Choose not to say

When I WAS GROWING UP, my family spoke _____ at home. Mark only one oval.

- o only English
- o primarily English and another language
- o equally English and another language
- o primarily another language and English
- o only a language other than English

CURRENTLY, my family speaks _____ at home. Mark only one oval.

- o only English
- o primarily English and another language
- o equally English and another language
- o primarily another language and English
- o only a language other than English

Have you ever studied a foreign or second language beyond the intermediate level? Mark only one oval.

- o Yes

- o No

Did you spend most of your childhood growing up in the U.S.A.? Mark only one oval.

- o Yes
- o No

Where did you primarily grow up? Mark only one oval.

- o North America
- o South America
- o Central America
- o Europe
- o Russia and the former Soviet Republics
- o Southern Asia (examples: Afghanistan, India, Nepal, etc.)
- o East Asia (examples: China, Korea, Japan, Mongolia)
- o Southeast Asia (examples: Malaysia, Singapore, Thailand, etc.)
- o Middle East (examples: Jordan, Saudi Arabia, Turkey, etc.)
- o Northern Africa (examples: Morocco, Libya, Egypt, etc.)
- o Western Africa (examples: Nigeria, Mali, Liberia, etc.)
- o Central Africa (examples: Angola, Chad, Cameroon, etc.)
- o Eastern Africa (examples: Ethiopia, Kenya, Zimbabwe, etc.)
- o Southern Africa (examples: South Africa, Namibia, etc.)
- o Australia
- o Pacific Region
- o Other: _____

Have you ever resided outside of the U.S? If so, how much collective time did you live outside of the U.S? Mark only one oval.

- o No. I have lived in the US my entire life.
- o Less than 1 year
- o 1-4 years
- o 5-9 years
- o 10-14 years
- o 15-19 years
- o 20-24 years
- o 25-29 years
- o Other: _____

If you have ever resided outside of the United States, what was your main purpose in doing so? Choose all that apply. Check all that apply.

- o Not applicable
- o An expatriated worker
- o Short-term study abroad (examples: semester abroad, summer abroad, etc.)
- o Long-term study abroad (examples: study abroad for an academic year, or receiving degree from abroad, etc.)
- o Living abroad not associated with school or work
- o I am a citizen of another country and was living abroad.
- o Other: _____

Approximately how long have you been teaching at the college/university level? Mark only one oval.

- o Less than 6 months
- o 6 months to 1 year
- o 1-4 years
- o 5-9 years
- o 10-14 years
- o 15-19 years
- o 20-24 years
- o 25-29 years
- o Other: _____

Complete the following sentence: "I primarily teach..." Mark only one oval.

- o in a non-degree professional program (example: cosmetology, medical assisting, welding, etc.)
- o in a community college.
- o at the undergraduate level.
- o at the graduate level.
- o Other: _____

Complete the following sentence: "I primarily teach..." Mark only one oval.

- o on campus.
- o online.
- o equally on campus and online.
- o Other: _____

Do you have tenure? Mark only one oval.

- o Yes, I am tenured.
- o No, but I am on a tenure track.
- o No, I am not on a tenure track, but my institution does offer tenure.
- o No, my institution does not offer tenure.

What best describes your rank or title at the college/university in which you teach: Mark only one oval.

- o Professor
- o Associate Professor
- o Assistant Professor
- o Visiting Professor
- o Lecturer
- o Instructor
- o Adjunct Faculty
- o Full-time Faculty
- o Part-time Faculty
- o Teaching Administrator
- o Other: _____

In a typical semester, how many total students on average do you have in a single course? Mark only one oval.

- o 1-5
- o 6-10
- o 11-15
- o 16-20
- o 21-25
- o 26 or more

In a typical semester, how many ELLs on average do you have in a single course? Mark only one oval.

- o 1-5
- o 6-10
- o 11-15
- o 16-20
- o 21-25
- o 26 or more

About how many ELLs have you taught over your entire career? Mark only one oval.

- o Fewer than 10
- o Between 10-50
- o Between 50-100
- o 100 or more

Do you have specific training or experience working with ESL students? Mark only one oval.

- o No
- o Yes, experience, but no formal training.
- o Yes, formal training, but no experience.
- o Yes, both formal training and experience.

Your Teaching Context

This section is about the primary institution in which you teach.
The majority of courses at the institution in which I primarily teach are... Mark only one oval.

- o offered on campus.
- o offered online.
- o offered equally on campus and online.

The institution in which I teach is... Mark only one oval.

- o public.
- o private/non-profit
- o private/for-profit.
- o Other: _____

The highest degree awarded by the institution in which I primarily teach is a(n)... Mark only one oval.

- o career or technical certificate.
- o associate's degree.

- o bachelor's degree.
- o master's degree.
- o doctoral degree.
- o I'm not sure.

The size of the institution in which I primarily teach is approximately... Mark only one oval.

- o 999 students or fewer.
- o 1,000 to 4,999 students.
- o 5,000 to 9,999 students.
- o 10,000-19,999 students.
- o 20,000-29,999 students.
- o 30,000-39,999 students.
- o 40,000-49,999 students.
- o 50,000-59,999 students.
- o More than 60,000 students.
- o I'm not sure.

At the institution in which I primarily teach, students in my courses primarily live ... Mark only one oval.

- o on campus.
- o off campus.

At the institution in which I primarily teach, students in my courses are generally... Mark only one oval.

- o full-time students.
- o part-time students.

If the majority of your teaching is done in a physical campus, in what state or territory is the institution in which you teach located? Choose from the drop-down options.

- o I primarily teach online.
- o AL
- o AK
- o AR
- o AS
- o AZ
- o CA
- o CO
- o CT
- o DC
- o DE
- o FL
- o GA
- o GU
- o HI
- o ID
- o IL
- o IN
- o IA
- o KS

- KY
- LA
- ME
- MD
- MA
- MI
- MN
- MS
- MO
- MP
- MT
- NE
- NV
- NH
- NJ
- NM
- NY
- NC
- ND
- OH
- OK
- OR
- PA
- PR
- RI
- SC
- SD
- TN
- TX
- UT
- VT
- VA
- VI
- WA
- WV
- WI
- WY

In what academic area or division do you primarily teach? Mark only one oval.

- The Arts
- Business
- Computer Science
- Divinity/Religious Studies
- Design
- Education
- Engineering
- Environment and Natural Science
- Food or Agriculture
- General Education
- Health Sciences
- Humanities

- Interdisciplinary
- Journalism
- Law
- Language
- Mathematics
- Medical/Dental/Pharmacy
- Political Science
- Public Affairs/Policy
- Nursing
- Science
- Visual and Performing Arts
- Other: _____

Are there students in your courses currently taking an ESL course IN ADDITION to your content area course? Examples of such situations include a student who is in a "bridge program" or who is conditionally admitted with the assumption that s/he will complete an English proficiency requirement.
Mark only one oval.

- Yes
- No
- I'm not sure.

Thank you!

Thank you for your time! If you have any questions, please email kevin.martin@waldenu.edu As a reminder, results will be available in an executive summary posted on my personal website (http://www.kevjmartin.com) once the results have been analyzed and summarized. This executive summary will be available for at least one year from the date that it is posted.

Please be sure to push SUBMIT before exiting from your browser.

Appendix B: Pilot Survey Instrument

The original pilot survey is available for viewing at the following link:

https://goo.gl/7kkfnE

Appendix C: Reeves Original Survey Instrument Sections A & B

The following is taken from an appendix to Reeves (2006, pp. 140-141).

Appendix
English-as-a-second-language (ESL) Students in Mainstream Classrooms
A Survey of Teachers

Section A
Please read each statement and place a check in the box that best describes your opinion.

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. The inclusion of ESL students in subject-area classes creates a positive educational atmosphere.	□	□	□	□
2. The inclusion of ESL students in subject-area classes benefits all students.	□	□	□	□
3. ESL students should not be included in general education classes until they attain a minimum level of English proficiency.	□	□	□	□
4. ESL students should avoid using their native language while at school.	□	□	□	□
5. ESL students should be able to acquire English within two years of enrolling in U.S. schools.	□	□	□	□
6. Subject-area teachers do not have enough time to deal with the needs of ESL students.	□	□	□	□
7. It is a good practice to simplify coursework for ESL students.	□	□	□	□

8. It is a good practice to lessen the quantity of coursework for ESL students.	□	□	□	□
9. It is a good practice to allow ESL students more time to complete coursework.	□	□	□	□
10. Teachers should not give ESL students a failing grade if the students display effort.	□	□	□	□
11. Teachers should not modify assignments for the ESL students enrolled in subject-area classes.	□	□	□	□
12. The modification of coursework for ESL students would be difficult to justify to other students.	□	□	□	□
13. I have adequate training to work with ESL students.				
14. I am interested in receiving more training in working with ESL students.	□	□	□	□
15. I would welcome the inclusion of ESL students in my class.	□	□	□	□
16. I would support legislation making English the official language of the United States.	□	□	□	□

1. Have you ever had an ESL student enrolled in your classes? □ Yes □ No (If no, please skip to Section C.)
2. How many ESL students were enrolled in your classes during this (2001–2002) school year? _____
3. Approximately how many ESL students have enrolled in your classes throughout your teaching career? _____

Section B

Which, if any, of the following are descriptive of your classes when ESL students are enrolled? Please indicate the extent to which each of the following apply in your classes.

	Seldom or never	Some of the time	Most or all of the time
Classroom Practices			
1. I allow ESL students more time to complete their coursework.	□	□	□
2. I give ESL students less coursework than other students.			
3. I allow an ESL student to use her/his native language in my class.	□	□	□
4. I provide materials for ESL students in their native languages.	□	□	□
5. Effort is more important to me than achievement when I grade ESL students.	□	□	□
Impact of Inclusion			
6. The inclusion of ESL students in my classes increases my workload.	□	□	□
7. ESL students require more of my time than other students require.	□	□	□
8. The inclusion of ESL students in my class slows the progress of the entire class.	□	□	□
Teacher Support			
9. I receive adequate support from school administration when ESL students are enrolled in my classes.	□	□	□
10. I receive adequate support from the ESL staff when ESL students are enrolled in my classes.	□	□	□
11. I conference with the ESL teacher.	□	□	□

Appendix D: Final Study Listserv Communication Email Template

This appendix contains the email communication used for the purposes of the final survey. It was posted on various listservs, social media, and via direct email. For listservs and social media that allow longer text, I used the following recruitment email:

Subject: Invitation to Participate in a Survey on Professional Development in Higher Education

Dear Colleague,

You are being invited to participate in a **survey** aimed at identifying the educational development needs of higher education faculty who currently work with or have worked with students who have recently completed English language courses (ESOL, ESL, EFL, etc.). The ultimate higher education faculty participants in this study will not have a degree or specialization in working with ELLs (e.g., a background in linguistics, TESOL, ESL pedagogy, etc.), but who are content-area faculty. The survey is titled: **Professional Development in Higher Education: Working with English Language Learners.**

If you wish to participate, **you will be asked to take an electronic survey that should take roughly 25-30 minutes to complete**.

To participate, please click the following link or copy it to your browser:
https://goo.gl/forms/kCpdi5NwSdv1Z2sE3

The survey will be available until **September 24th, 2017 at 11:59pm ET**.

If you do not wish to participate in this survey, please disregard the email. Apologies in advance for any cross-postings.

If you know of anyone who might be a good potential participant for this study, please feel free to pass it along.

Thank you in advance for your time and consideration!

Respectfully,
Kevin Martin
Ph.D. in Education Candidate
Walden University

For other social media and listservs that require alternate formatting (for example, images instead of text or character-limited text), I adapted the recruitment email to fit into a format that would work for that medium. For example, for twitter, I needed to reduce the text to fit within the requisite character limit. Therefore, I reduced the text of the posting to "Seeking research study participants: Professional Development in Higher Education: Working with ELLs. https://goo.gl/forms/kCpdi5NwSdv1Z2sE3", and I posted an image of the full invitation email.

Appendix E: Direct Email to Potential Institutions Template

This appendix contains the email communication used for the purposes of the final survey for direct emails to potential institutions. I emailed the office responsible for ED activities for the institutions listed in Table 4.

Subject: Invitation to Participate in a Survey on Professional Development in Higher Education

Dear *Dr. Smith*,

My name is Kevin Martin, and I am a current doctoral student studying at Walden University. I am conducting a survey as part of my dissertation on the **Educational Development Needs of Higher Education Faculty Working With English Language Learners (ELLs)**. My ultimate goal is to help improve educational/professional development for higher education faculty who have ELLs in their classes. Given that your institution has a high number of international students, I would like to invite your faculty to participate in my survey.

My study has been approved by Walden University's IRB approved (approval number: 03-20-17-0439955), I can provide the actual approval letter if, if it would be of use.

The ultimate participants in this study will not have a degree or specialization in working with ELLs (e.g., a background in linguistics, TESOL, ESL pedagogy, etc.). The survey is titled: **Professional Development in Higher Education: Working with English Language Learners.**

Participating faculty would **take an electronic survey that should take roughly 25-30 minutes to complete**. The survey can be access here: https://goo.gl/vE3XCc

The survey will be available until **September 24th, 2017 at 11:59pm ET**.

If you would be interested in your institution's faculty participating in this study, I have included a PDF of the invitation letter/email to recruit potential participants for my study. Please feel free to forward this request for participation to any and all faculty who may be a good fit for this study. Alternatively, if you are not the best person to communicate with regarding my study, please let me know who I need to contact to obtain approval to conduct the study at your institution.

If, however, you do not wish for your faculty to participate in this survey, please disregard the email. Apologies in advance for any cross-postings.

If you might know of anyone who might be a good potential participant for this study, please feel free to pass it along.

Thank you in advance for your time and consideration!

Respectfully,
Kevin Martin
Ph.D. in Education Candidate
Walden University

Appendix F: Pilot Recruitment Email Template

This appendix contains an email used for the purpose of the pilot:

Subject: Invitation to Participate in a Pilot on Professional Development in Higher Education

Dear Colleague,

You are being invited to participate in a **pilot survey** as part of a dissertation study. The goal of the study is to identify the educational development needs of higher education faculty who currently work with or have worked with students who have recently completed English language courses (ESOL, ESL, EFL, etc.). The ultimate participants in this study will not have a degree or specialization in working with ELLs (e.g., a background in linguistics, TESOL, ESL pedagogy, etc.). The survey is titled: **Professional Development in Higher Education: Working with English Language Learners.**

If you wish to participate, you will be asked to:

1. **Take an electronic survey for around 25-35 minutes** on campus or virtually. I will be available in person or via a web-based communication service (i.e., Skype) while you take the survey in case you have any questions or comments about the survey instrument.
2. **Answer follow-up interview questions for approximately 10 minutes** about your impressions of the instrument and any feedback that you might wish to offer.

In total, **participants can expect to spend roughly 35-45 minutes** of their time.

Your participation will help to improve the final instrument prior to implementation and will work to help to improve the quality of educational/professional development offered to other higher education faculty in the future.

To participate, **please email me at kevin.martin@waldenu.edu** to schedule a day and time that is convenient for you by July 17th, 2017. Appointments can be made between July 17th and August 4th, 2017 (Monday through Sunday from 9:00am to 9:00pm) for a day and time that is convenient for you. Please let me know what days/times might work best for your schedule, and I will try to accommodate.

If you do not wish to participate in the pilot of this survey, please disregard the email. Apologies in advance for any cross-postings.

Thank you in advance for your time and consideration!

Respectfully,
Kevin Martin
Ph.D. Candidate
Walden University

Appendix G: Email to Dr. Reeves

This appendix contains an email requesting access to Dr. Jenelle Reeves's (jreeves2@unl.edu) survey instrument from Reeves (2006):

Request to Modify an Existing Survey Instrument

Dear Dr. Reeves,

My name is Kevin Martin, and I am a current doctoral student studying at Walden University. I am conducting a survey as part of my dissertation on the **Educational Development Needs of Higher Education Faculty Working With ELLs**. Your work on secondary teachers in your 2006 article on secondary teacher attitudes has been a formative part of my work, and I would like to request to use your survey in a modified format. Since I am looking at the needs of higher education faculty, I would need to reword some of your questions to fit them in to my overall survey.

My ultimate goal is to help improve educational/professional development for higher education faculty who have ELLs in their classes, and your survey would greatly help in the development of my survey instrument.

Thank you in advance for your time and consideration.

Respectfully,
Kevin Martin
Ph.D. Candidate
Walden University
kevin.martin@waldenu.edu

Dr. Reeves's (jreeves2@unl.edu) response from May 2, 2016:

Jenelle Reeves via uofnelincoln.onmicrosoft.com May 2 (6 days ago)

to me

Hello Kevin,

Your research sounds very interesting! You have my permission to use or adapt my survey, as I it appeared in JER in 2006, for your own research. I would love to hear what you find out.

Best,

Jenelle Reeves

Appendix H: Expert Review Panel Communication Email Template

This appendix contains the email communication used to recruit expert panel participants. It was directly emailed to potential expert panel participants prior to the pilot study.

Subject: Invitation to serve as an Expert Review Panel for a Survey on Professional Development in Higher Education

Dear Colleague,

As part of the study conducted for my doctoral dissertation at Walden University, I am recruiting potential expert review panel members to help me to review the survey that I will be implementing.

I am inviting you to participate on an expert review panel because of your research expertise, and your work in higher education.

The survey for my study is titled: **Professional Development in Higher Education: Working With English Language Learners**. This survey explores the educational development needs of higher education faculty who currently work with or have worked with students who have recently completed English language courses (ESOL, ESL, EFL, etc.). The results of the survey have the potential to improve our understanding of the educational development needs of higher education faculty who have students who are English language learners in their classrooms.

I anticipate that your participation may take up to 60 minutes, and your assistance will greatly aid in the improvement of my survey instrument. To respect your time and efforts, I hope to minimize your time commitment by making all necessary resources available to you electronically. If you were able to commit time to this review, I would ask that you complete and submit your review within two weeks of this email.

Because I know that you are a busy person, I understand if you are unable to participate at this time. Not participating in this panel will not affect our relationship, nor will it affect your current or future relationship with Walden University.

If you would be interested in participating, please reply to this email with your intention to participate, and I will send you additional information about participation.

Thank you in advance for your time and consideration!

Respectfully,
Kevin Martin
Ph.D. in Education Candidate
Walden University

Once panel participants indicated their willingness to participate, I sent a follow-up email including the instructions for expert panel participants. It was directly emailed to expert panel participants who agreed to participate.

Subject: Expert Review Panel instructions for a Survey on Professional Development in Higher Education

Dear Colleague,

Thank you for agreeing to participate as an expert reviewer for the survey to be conducted as part of my doctoral dissertation. The survey for my study is titled: **Professional Development in Higher Education: Working with English Language Learners.**

To complete your review, you will need to access the survey instrument (a link is provided below) with attention to survey questions, content, and flow. I particularly ask you to focus on any potential issues with confusing wording or terminology, potential bias, or other aspects that might improve the validity of the instrument. I encourage you to provide me with feedback in whatever form is most convenient for you including face-to-face, email narrative, or in open-ended questions on the survey itself.

You can access the survey here:
https://docs.google.com/forms/d/e/1FAIpQLSfinSrYV7pqb0b-eh_hr9dn1JTYdH90LvItghEiuZYu0e5mbQ/viewform

I ask that you please complete your review within two weeks of the original recruitment email.

Because things do come up, if your time commitments have changed, and you will be unable to participate in this review, please let me know as soon as possible so that I can recruit another reviewer.

Thank you in advance for your time and consideration!

Respectfully,
Kevin Martin
Ph.D. in Education Candidate
Walden University

Appendix I: Pilot Study Interview Protocol

This appendix contains a script and interview protocol used for the pilot study.

Pilot Study: Educational Development Needs of Higher Education Faculty Working With English Language Learners

Date/Time of Participation (to associate with pilot data): _____ [MM/DD/YYYY at XX:XX XM) [*Do not record the names, affiliation, or other personally identifiable information of participants*.]

Interviewer: Kevin J. Martin (Ph.D. Candidate, Walden University)

PART I. Administration of Pilot Survey

The pilot participant will take the survey on campus or virtually. I will be available in person or via a web-based communication service (i.e., Skype) while the participant takes the survey in case they have any questions or comments about the survey instrument while they are taking it. A brief introduction to the study and a script that will be used prior to administration of the survey will be used as defined below:

Script

I would like to thank you for your willingness to participate in this pilot study. The purpose of this study is to better understand the professional/educational development needs of faculty who have English language learners in their classrooms.

As I outlined in the pilot participant recruitment email, participation in this survey should take around 25-35 minutes. Upon completion of the survey, I will ask a series of follow-up questions that should take approximately 10 minutes to complete.

I will remain in the room [or, available via Skype] while you take the survey in case you have any comments or questions that you would like to share while you take it. I will also be monitoring the length of time that you take to complete the survey in order to have an approximate average of the time that it takes to complete the survey.

The survey begins with an informed consent outlining the procedures, implications, and consequences of the research study. Upon reading, understanding, and agreeing to participate in the study, you are giving consent to participate. If at any time during the survey you wish to stop taking it, you are

permitted to exit the survey. Would you still like to proceed with your participation at this time?

[If yes,] thank you, once again. Do you have any questions before we begin? [If yes, answer the questions and then proceed with the script. If no, proceed with the script]. We will begin the survey now.

- *[For participants who are taking the survey on campus] On the computer in front of you, you will find the survey is open and ready for you to complete it.*
- *[For participants who are taking the survey via Skype] Here is a link to complete the survey. Please click on the link and you will be able to complete the survey.*

START TIME: _____
COMPLETION TIME: _____

[If no,] I would like to thank you for your initial interest, and for your willingness to discuss my intended research with you.

PART II. Post-Survey Interview

Following completion of the Pilot Survey, I will ask the following interview questions about their impressions of the instrument and any feedback that they might wish to offer to help improve the survey.

I will use the following script:

Script

Thank you for completing the survey. I have a few follow-up questions that I would like to ask you in regard to the survey instrument in order to improve it. Would you like to take a brief break before we continue, or would you like to continue with the follow-up questions?

[If the participant wants a brief break,] let's take a five-minute break and then return here at [insert time]. [Continue with the script once the participant returns.]

[If the participant wishes to continue,] I will read a series of questions, and I will be taking notes on your responses. These notes will help me to better understand your perspectives on the survey instrument in order to improve it.

Interview Questions

1. *What, if any, items were confusing or unclear to you? Please explain.*

2. *Were there any items that were difficult to answer?*

3. *What might you do to improve any questions in the survey?*

4. *Did any items display any bias on the part of the researcher?*

5. *Are there any other comments that you would like to make about the survey instrument?*

6. *When you first saw the title of the survey, what was your first reaction? What would make the title of the survey more appealing to you upon first glance?*

I would like to thank you once again for your participation in my pilot study. Your participation is an invaluable part of my study, and I am very appreciative of your time. If you have any questions, please feel free to contact me at any time.

Appendix J: Outliers for Included Questions

Table A1 shows the descriptive statistics including the mean values and standard deviations. This table was used to explore the SD to see if any values should be excluded as outliers.

Table A1

Descriptive Statistics

Question	N	Min	Max	M	SD
The ELL students in my courses are well-equipped to _____ common in academic settings. [comprehend lectures]	66	1	5	3.35	.936
The ELL students in my courses are well-equipped to _____ common in academic settings. [take accurate notes]	65	1	5	3.00	1.000
The ELL students in my courses are well-equipped to _____ common in academic settings. [deliver presentations]	66	1	5	3.21	.937
The ELL students in my courses are well-equipped to _____ common in academic settings. [understand varying rhetorical styles in speech]	66	1	5	2.44	.947
The ELL students in my courses are well-equipped to _____ common in academic settings. [read technical writing]	66	1	5	2.94	1.108
The ELL students in my courses are well-equipped to _____ common in academic settings. [understand abstract language]	66	1	5	2.59	1.007
The ELL students in my courses are well-equipped to _____ common in academic settings. [write at the expected academic level]	66	1	5	2.42	.912

(table continued)

(table continued)

Question	N	Min	Max	M	SD
The ELL students in my courses are well-equipped to _____ common in academic settings. [contribute to in-class discussions]	66	1	5	3.12	1.196
The ELL students in my courses are well-equipped with the skills required for an academic program relative to their abilities in: [grammar.]	66	1	5	2.61	.975
The ELL students in my courses are well-equipped with the skills required for an academic program relative to their abilities in: [sentence structure.]	66	1	5	2.50	.949
The ELL students in my courses are well-equipped with the skills required for an academic program relative to their abilities in: [pronunciation.]	66	1	5	2.98	1.060
The ELL students in my courses are well-equipped with the skills required for an academic program relative to their abilities in: [general oral skills.]	66	1	5	3.26	.997
The ELL students in my courses are well-equipped with the skills required for an academic program relative to their abilities in: [word choice.]	66	1	5	2.86	.910
The ELL students in my courses are well-equipped with the skills required for an academic program relative to their abilities in: [academic vocabulary.]	66	1	5	2.85	1.056
The ELL students in my courses are well-equipped with the skills required for an academic program relative to their abilities in: [academic writing.]	66	1	5	2.35	.868
The ELL students in my courses are well-equipped with the skills required for an academic program relative to their abilities in: [reading skills.]	64	2	5	3.38	.968
The ELL students in my courses are well-equipped with the skills required for an academic program relative to their abilities in: [developing strategies for improving their English.]	66	1	5	3.09	1.048
The ELL students in my courses are well-equipped with the skills required for an academic program relative to their abilities in: [making connections between their first language and English.]	65	2	5	3.45	.936

(table continued)

(table continued)

Question	N	Min	Max	M	SD
I UNDERSTAND what the academic setting is like IN THE HOME COUNTRIES of my ELL students in terms of _____. [the style of education employed (examples: student centered, constructive, etc.)]	66	1	5	2.95	1.208
I UNDERSTAND what the academic setting is like IN THE HOME COUNTRIES of my ELL students in terms of _____. [the kind of work expected (examples: papers, essays, projects, quizzes, etc.)]	66	1	5	2.70	1.163
I UNDERSTAND what the academic setting is like IN THE HOME COUNTRIES of my ELL students in terms of _____. [the amount of work required in a typical semester]	66	1	5	2.58	1.151
I UNDERSTAND what the academic setting is like IN THE HOME COUNTRIES of my ELL students in terms of _____. [the grading system]	66	1	5	2.38	1.187
I UNDERSTAND what the academic setting is like IN THE HOME COUNTRIES of my ELL students in terms of _____. [interactions that students have with instructors in class]	66	1	5	2.98	1.246
I UNDERSTAND what the academic setting is like IN THE HOME COUNTRIES of my ELL students in terms of _____. [interactions that students have with one another in class]	65	1	5	2.75	1.173
I UNDERSTAND what the academic setting is like IN THE HOME COUNTRIES of my ELL students in terms of _____. [expectations of the instructor]	66	1	5	2.70	1.163
ELLs... [need additional time to complete their coursework.]	66	1	5	3.33	1.128
ELLs... [need more time to complete their coursework than their non-ELL peers.]	66	1	5	3.44	1.266
ELLs... [should receive less coursework than other students.]	66	1	4	1.48	.864
ELLs... [should have more simplified coursework.]	66	1	5	1.58	.946
ELLs... [should be permitted to use their native language in my course among other ELLs.]	66	1	5	2.35	1.493
ELLs... [should be provided materials in their native language(s).]	66	1	5	1.97	1.109
ELLs... [should be graded differently than their non-ELL peers.]	66	1	5	1.67	1.028
ELLs... [require more of my time than other students require.]	66	1	5	3.35	1.196

(table continued)

(table continued)

Question	N	Min	Max	M	SD
Relative to their own personal academic abilities, _____ can be successful in my course with normal effort. [a NON-ELL who, even with significant effort, finds it difficult to pass most classes]	66	1	5	2.56	1.125
Relative to their own personal academic abilities, _____ can be successful in my course with normal effort. [a NON-ELL who, even with effort, is generally able to pass most classes]	66	1	5	3.79	.969
Relative to their own personal academic abilities, _____ can be successful in my course with normal effort. [a NON-ELL who, with little effort, is generally able to pass most classes]	66	1	5	3.53	1.193
Relative to their own personal academic abilities, _____ can be successful in my course with normal effort. [an ELL who, even with significant effort, finds it difficult to pass most classes]	66	1	5	2.56	1.111
Relative to their own personal academic abilities, _____ can be successful in my course with normal effort. [an ELL who, even with effort, is generally able to pass most classes]	66	1	5	3.56	1.040
Relative to their own personal academic abilities, _____ can be successful in my course with normal effort. [an ELL who, with little effort, is generally able to pass most classes]	66	1	5	3.45	1.267
I have a good understanding of... [the processes involved in learning a second language.]	66	1	5	3.39	1.175
I have a good understanding of... [how long it would take someone to learn a second language to be able to succeed in university courses.	66	1	5	3.26	1.269
Who is responsible for... [the success of ELLs in my courses?]	66	1	4	2.91	.518
Who is responsible for... [helping ELL students adjust to the US-based higher education experience?]	66	1	5	3.12	.869
Who is responsible for... [assisting ELLs in improving their LANGUAGE skills?]	66	1	4	2.45	.788
Who is responsible for... [assisting ELLs in improving their ACADEMIC skills?]	66	1	5	3.11	.825
Who is responsible for... [assisting ELLs in improving their knowledge of COURSE CONTENT?]	66	1	5	3.41	.744

(table continued)

(table continued)

Question	N	Min	Max	M	SD
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better... [comprehend lectures.]	66	1	5	4.11	.914
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better... [take accurate notes.]	66	1	5	3.80	1.026
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better... [deliver presentations.]	66	2	5	4.18	.763
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better... [understand varying rhetorical styles in speech.]	66	1	5	3.65	1.088
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better... [read technical writing.]	66	1	5	3.80	1.026
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better... [understand abstract language.]	66	1	5	3.71	1.212
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better... [write at the expected academic level.]	66	1	5	4.09	.940
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs by helping them better... [contribute to in-class discussions.]	66	1	5	4.18	.893
IT IS MY RESPONSIBILITY to help ELLs improve their ability to... [comprehend lectures.]	66	1	5	3.85	1.026

(table continued)

(table continued)

Question	N	Min	Max	M	SD
IT IS MY RESPONSIBILITY to help ELLs improve their ability to... [take accurate notes.]	66	1	5	3.32	1.069
IT IS MY RESPONSIBILITY to help ELLs improve their ability to... [deliver presentations.]	66	1	5	3.85	.980
IT IS MY RESPONSIBILITY to help ELLs improve their ability to... [understand varying rhetorical styles in speech.]	66	1	5	3.29	1.078
IT IS MY RESPONSIBILITY to help ELLs improve their ability to... [read technical writing.]	66	1	5	3.48	1.113
IT IS MY RESPONSIBILITY to help ELLs improve their ability to... [understand abstract language.]	65	1	5	3.54	1.133
IT IS MY RESPONSIBILITY to help ELLs improve their ability to... [write at the expected academic level.]	66	1	5	3.77	1.005
IT IS MY RESPONSIBILITY to help ELLs improve their ability to... [contribute to in-class discussions.]	66	1	5	3.89	.994
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their... [grammar.]	66	1	5	3.82	1.108
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their... [sentence structure.]	66	1	5	3.86	1.051
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their... [pronunciation.]	66	1	5	3.68	1.125
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their... [general oral skills.]	66	1	5	3.89	.994
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their... [word choice.]	66	1	5	4.09	.890

(table continued)

(table continued)

Question	N	Min	Max	M	SD
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their... [academic vocabulary.]	66	1	5	4.14	.910
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their... [academic writing.]	66	1	5	4.00	.992
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their... [reading skills.]	66	1	5	3.59	1.136
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their... [developing strategies for improving their English.]	66	1	5	3.52	1.167
If I were to encounter issues with abilities of ELLs in my courses, I WOULD BE COMFORTABLE ADDRESSING my ELL students' needs in terms of their... [making connections between their first language and English.]	66	1	5	3.02	1.342
IT IS MY RESPONSIBILITY to help ELLs improve their... [grammar.]	66	1	5	3.09	1.286
IT IS MY RESPONSIBILITY to help ELLs improve their... [sentence structure.]	66	1	5	3.23	1.298
IT IS MY RESPONSIBILITY to help ELLs improve their... [pronunciation.]	66	1	5	3.17	1.235
IT IS MY RESPONSIBILITY to help ELLs improve their... [general oral skills.]	66	1	5	3.29	1.160
IT IS MY RESPONSIBILITY to help ELLs improve their... [word choice.]	66	1	5	3.35	1.234
IT IS MY RESPONSIBILITY to help ELLs improve their... [academic vocabulary.]	66	1	5	3.67	1.244
IT IS MY RESPONSIBILITY to help ELLs improve their... [academic writing.]	66	1	5	3.58	1.216
IT IS MY RESPONSIBILITY to help ELLs improve their... [reading skills.]	66	1	5	3.14	1.175
IT IS MY RESPONSIBILITY to help ELLs improve their... [developing strategies for improving their English.]	66	1	5	3.17	1.365
IT IS MY RESPONSIBILITY to help ELLs improve their... [making connections between their first language and English.]	65	1	5	2.94	1.310
I allow more time for ELLs to complete their work than their non-ELL peers.	66	1	5	2.58	1.203

(table continued)

(table continued)

Question	N	Min	Max	M	SD
I give ELLs less coursework than their non-ELL peers.	66	1	4	1.48	.899
I simplify coursework for ELLs.	66	1	4	1.58	.946
I allow ELLs to use their native language(s) with other ELLs in my course.	66	1	5	2.88	1.534
I provide materials for ELLs in their native language(s).	66	1	3	1.15	.472
I grade the work of ELLs differently than their non-ELL peers.	66	1	5	1.88	1.259
I give ELLs more of my time than other students.	66	1	5	2.85	1.339
I have the necessary skills and abilities directly related to addressing the specific/unique needs of the ELLs in my courses.	66	1	5	3.02	1.130
I have adequate training or support to TEACH to the specific needs of ELLs.	66	1	5	2.71	1.187
I would like more training or support to TEACH to the specific needs of ELLs.	66	1	5	3.97	.877
My institution provides the necessary training or support to TEACH the specific needs of ELLs.	66	1	5	2.24	1.164
I have adequate training or support to ASSESS the specific needs of ELLs.	66	1	5	2.47	1.205
I would like more training or support to ASSESS the specific needs of ELLs.	66	1	5	3.85	1.011
My institution provides the necessary training or support to ASSESS the specific needs of ELLs.	66	1	4	2.24	1.068
In the past 12 months, have any of the following resources been made available to you at your place of work related to working with ELLs? [ELL specialists]	66	0	3	.59	.944
In the past 12 months, have any of the following resources been made available to you at your place of work related to working with ELLs? [An experienced peer to offer informal advice]	66	0	3	.67	.934
In the past 12 months, have any of the following resources been made available to you at your place of work related to working with ELLs? [Text resources (examples: books/brochures/flyers made available from your institution on teaching these students)]	66	0	3	.62	1.078

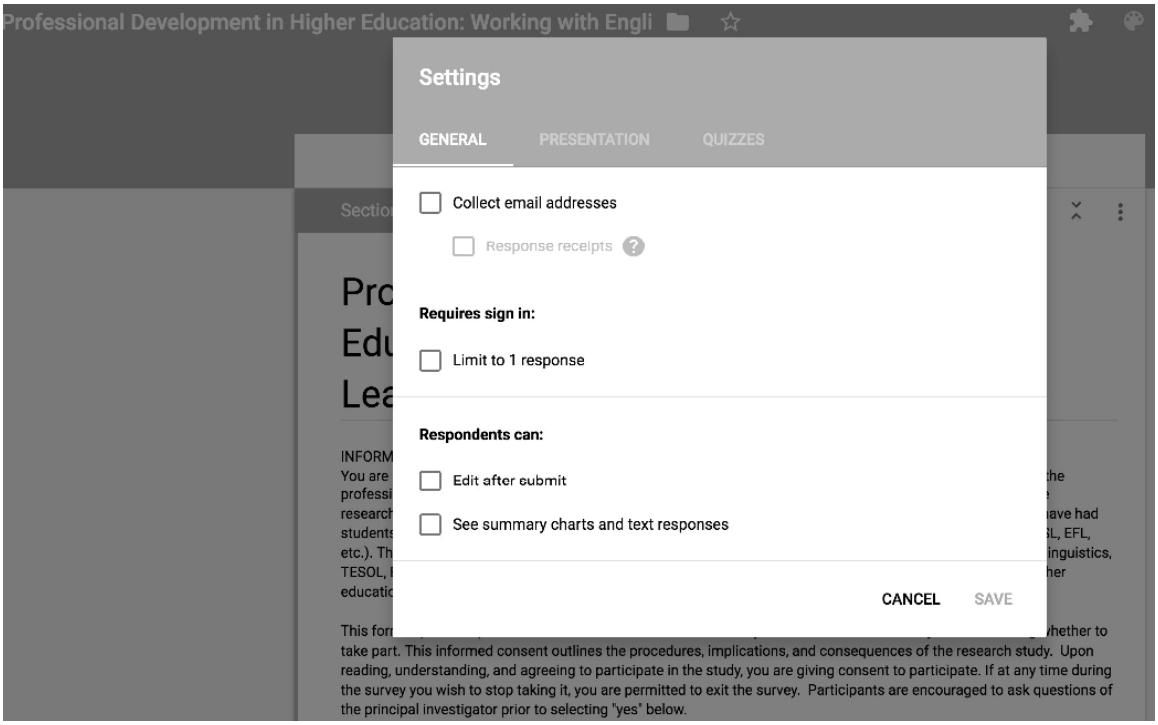
(table continued)

(table continued)

Question	N	Min	Max	M	SD
In the past 12 months, have any of the following resources been made available to you at your place of work related to working with ELLs? [Web resources available on your institution's website]	66	0	3	.83	1.235
In the past 12 months, have any of the following resources been made available to you at your place of work related to working with ELLs? [Trainings/Workshops/Professional development about ELLs]	66	0	3	.94	1.201
In the past 12 months, have any of the following resources been made available to you at your place of work related to working with ELLs? [A formal professional learning community or other similar group]	66	0	3	.85	1.231
In the past 12 months, have any of the following resources been made available to you at your place of work related to working with ELLs? [A faculty development office (at the university, but not specific to my department/division)]	66	0	3	.94	1.080
In the past 12 months, have any of the following resources been made available to you at your place of work related to working with ELLs? [A faculty development office (in my department/division)]	66	0	3	.52	1.085
Resources from professional organizations about teaching	66	0	1	.82	.389
Taking courses related to teaching	66	0	1	.47	.503
Attending conferences or workshops about teaching	66	0	1	.71	.456
Reading books related to teaching skills	66	0	1	.73	.449
Reading academic publications about teaching	66	0	1	.83	.376
From my own research about teaching	66	0	1	.76	.432
Engaging with colleagues about teaching	66	0	1	.94	.240
Actual teaching experience and personal reflection	66	0	1	.95	.210
Searching on the internet about teaching	66	0	1	.62	.489

Appendix K: Survey Collection Settings

I used Google Forms to create and collect my survey. The following screenshot shows the settings used for the survey. As is shown, no personally identifiable information (email addresses, IP addresses, etc.) is collected through the survey platform.



Curriculum Vitae

Kevin J. Martin

kevjmartin@gmail.com

Teaching/Coaching Philosophy

I am an outside the box thinker with a teaching/coaching philosophy to challenge in a supportive and formative way. I approach each person with my professional values to include:

- Coaching – Coaching has the potential to instill passion and growth in individuals on a deep level. My role as an educator is to coach people in a way that is personalized and meaningful.
- Integrity –Education has its foundations in striving to move learners beyond themselves and to promote learner-centered practices. My commitment to those that I serve is grounded in an unwavering commitment to do the right thing and instill a positive learning environment.
- Excellence –I strive to go above and beyond the curriculum in a commitment to fostering a learner centered environment.
- Passion –Passion includes the desire to promote active learning in and out of the classroom, and to demonstrate compassion for struggles and challenges faced by learners.
- Growth –At times challenging, education is meant to move people beyond their initial state to help them meet and exceed their desired outcomes

Additionally, I believe that learning is a life-long process. This shapes my growth and development as an instructor as I constantly seek to increase my professional knowledge. I have joined and actively participate in professional organizations keep abreast of professional developments in the field.

Academic Background

Walden University **2013-2018**
Ph.D., Curriculum, Instruction, and Assessment
Dissertation Title: Educational Development Needs of Higher Education Faculty Working With ELLs
Knowledge Area Module VI: Leadership in Curriculum, Instruction, and Assessment
Knowledge Area Module V: The Social Nature of Learning

Georgetown University, Washington, DC **2012**
Masters of Science, Theoretical Linguistics (Language Acquisition)
Master's Research Project: A grammatical basis for the acquisition of case: A case study of Naima

The University of Dayton, Dayton, OH **2005**
Bachelor of Arts, French

The University of Dayton, Dayton, OH **2005**
Bachelor of Science, Biology

L'Institut Catholique de Paris, France August, 2005
Intermediate language certificate, French

Areas of Expertise

- Working with and supporting international students
- Working with diverse populations/ages/cultures/language backgrounds
- Educational and institutional assessment

- Developing/implementing curriculum
- Program design/development/administration
- Conference planning
- Strategic planning

Professional Experience

Virginia International University, Fairfax, VA January 2013-Present
Associate Dean, School of Education *June 2013 -Present*
Served as head of the School of Education overseeing faculty, students, and curriculum for master's programs in education, linguistics, and TESOL.

Director, Educational Assessment November *2016 -Present*
Served as the founding Director of Educational Assessment, overseeing all educational assessment practices on campus.

Director, General Education August *2014 –July 2016*
Served as chair/director of the General Education Department overseeing the university's General Education faculty and curriculum.

Founder/Executive Director, Writing, Research, and Media Center May *2013 –July 2016*
Served as founding Executive Director of the Writing, Research, and Media Center (WRMC) providing coaching on writing for students and staff. Created policy manuals, faculty/staff resources, website content, and departmental forms.

TESOL Program Director *January 2013-June 2013*
Served as program administrator overseeing the MA in TESOL and Graduate Certificate in TESOL programs.

Medtech (formerly Sanz School), Silver Spring, MD/Falls Church, VA July 2007-December 2012
Director of Education *–Silver Spring, MD Campus July 2010-December 2012*
Served as chief academic officer for the Silver Spring campus overseeing all programs (English as a Second Language, English Language Literacy, Medical Assisting and Medical Billing and Coding Specialist). Oversaw the Office of the Registrar, Student Services, and all Program Directors.

Director of Career Services *–Silver Spring, MD Campus September 2008-August 2010*
Served in the capacity of Career and Job Placement Advisor for the Silver Spring campus in multiple programs including ESL, Medical Assisting and Billing/Coding. Turned around Placement and Completion percentages within one month to meet accrediting commission standards and continually maintained solid numbers thereafter.

ESOL Program Director *–Falls Church, VA Campus April-October 2008*
While the school sought new accreditation, was brought in to reform department at the Falls Church campus. Reviewed and revised all existing policies and procedures.

ESOL Instructor *–Silver Spring, MD Campus July 2007-December 2012*

Taught ESL classes from beginning to advanced, creating course materials, lessons, and activities.

French Education Ministry, Dieppe, France August 2006-July 2007
Assistant de Langues Étrangères
Taught EFL classes to over 300 children from kindergarten through middle school, creating course materials, lessons, and activities.

Selected Courses Taught and Developed

- LING 105 Language and the Human Experience (online and onground)
- ENGL 120 Academic Writing (online and onground)
- ENGL 499 Writing at the Graduate Level (onground)
- COMM 110 Oral Communication Skills (online and onground)
- APLX 686 Practicum (onground and online)
- APLX 530 Methods of Teaching SLA (online)
- APLX 615 Language Structure (online)
- APLX 630 Sociolinguistics for Language Teachers (online)
- APLX 610 Teaching Pronunciation (onground and online)

Outcomes Based Curriculum Development Expertise

As curriculum designer, the following programs/courses were developed directly under my purview:

- Master of Arts in TESOL; Graduate Certificate in TESOL
- Master of Education in Higher Education
- Master of Science in Applied Linguistics
- Master of Education in Secondary Education
- English as a Second Language Program and Course Content
- Language Instructor Training Program and Course Content
- Language for Health Professionals Program Courses (Spanish, English, and French)

Professional Affiliations, Activities, and Committees

Member –TESOL (Teachers of English to Speakers of Other Languages) 2008-Present
Member –WATESOL (Washington TESOL organization) 2008-Present
Member – AERA (American Educational Research Association) 2017-Present
Member – American Evaluation Association 2015-Present
Member – ASCD (American Society of Curriculum Developers) 2013-Present
Member – Kappa Delta Pi 2014-Present
Member –Association for the Assessment of Learning in Higher Education 2018-Present

Professional Service

Chair, Higher Education Interest Section – TESOL International 2017-2019
Assistant Chair, Higher Education Interest Section – TESOL International 2014-2017
Proposal Reviewer – TESOL International Convention 2013-2018
Proposal Reviewer – Professional and Organizational (POD) Network 2018

Proposal Reviewer – The Conference on Language, Learning, and Culture 2014-2018
Conference Chair – The Conference on Language, Learning, and Culture 2014**:** *Innovations at the intersection of language, learning, and culture*
Conference Co-Chair – The Conference on Language, Learning, and Culture 2015: *Next-generation in assessment*
Conference Co-Chair – The Conference on Language, Learning, and Culture 2016**:** *Reimagining International Education: Interdisciplinary approaches to language, learning, and culture.*
Conference Co-Chair – The Conference on Language, Learning, and Culture 2017: *Enhancing and advancing teacher education: Professional identities, communities, beliefs, and practices*
Conference Co-Chair – The Conference on Language, Learning, and Culture 2018: *Making Research Matter: Motivated inquiry for actionable insights*
Committee Member– Institutional Effectiveness Committee, VIU 2014-Present
Chair– Institutional Curriculum Committee, VIU 2016-Present
Chair– Deans' Assessment Council, VIU 2016-Present
Committee Member– General Education Committee, VIU 2015-Present
Committee Member– Emergency Preparedness Committee, VIU 2013-Present
Committee Member - ESL Advisory Board, Medtech Institute/Sanz School 2008-2013
Committee Member – Allied Health Advisory Board, Medtech Institute/Sanz School 2010-2013

Selected Publications

Martin, K. J. (2017). International students in higher education: More than a fish out of water. In L. Leavitt, S. Wisdom, & K. Leavitt (eds.) *Cultural Awareness and Competency Development in Higher Education.* Hershey, PA: IGI Global. doi:10.4018/978-1-5225-2145-7.ch002

Selected Presentations

Martin, K. J. (2018). Planning and Assessing Student Learning: A workshop on learning outcome development. Presentation for the Conference on Language, Learning, and Culture. Fairfax, VA.
Martin, K. J. (2018). Roundtable on Overcoming NNEST Workplace Discrimination in Higher Education. Presentation for the TESOL International Convention. Chicago, IL.
Martin, K. J. (2018). The Benefits of a Diverse Faculty: Hiring non-native English speaking teachers in language programs. Presentation for the TESOL International Convention. Chicago, IL.
Martin, K. J. (2017). From IEP to degree: Strategies for successful transitions. Presentation for the TESOL International Convention. Seattle, WA.
Martin, K. J. (2017). Workshopping learning outcomes and assessments for ESL classrooms and programs. Presentation for the TESOL International Convention. Seattle, WA.
Martin, K. J. (2017). Peering through the leans: International student expectations of academic work. Presentation for the TESOL International Convention. Seattle, WA.
Martin, K. J. (2016). Addressing the unique needs of international students. Presentation for the Faculty Educational Development Summit, Fairfax, VA.
Martin, K. J. (2016). Applying the fundamentals of Andragogy to the higher education classroom. Presentation for the Faculty Educational Development Summit, Fairfax, VA.

Martin, K. J. (2014). Implementing online learning for the ESL classroom: Tips and strategies for starting or improving the online second language classroom. Presentation for SITE (Society of Information Technology and Teacher Education).

Martin, K. J. (2013). Socially Responsible Leadership in Language Programs. A professional presentation for the 2013 International TESOL Convention, Dallas, TX. March 2013.

Martin, K. J. (2013). The Socially Responsible Classroom a professional presentation for the 2013 International TESOL Convention, Dallas, TX. March 2013.

Martin, K. J. (2012). Second Language Acquisition and the modern student: a product knowledge workshop on the marketing and improved selling techniques of English as a Second Language training for Sanz School, Silver Spring, MD.

Martin, K. J. (2011). Motivation in the Second Language Classroom: A training workshop for Sanz School on how to tap into and utilize student centered motivation, Silver Spring, MD.

Martin, K. J. (September, 2010). What is ESL and why is it important for me and my instruction? A training workshop for Javelin Training College on the importance of understanding ESL students and their needs in the classroom setting, Atlanta, GA.

Martin, K. J. (August, 2010) What is ESL and Developing a New ESL Program? A how-to workshop for JTC Education executives on implementing ESL programs, Silver Spring, MD.

Martin, K. J. (November, 2008). Strategies for the Successful Resume. A career training workshop for the Literacy Council of Montgomery County, Rockville, MD.

Martin, K. J. (November, 2008). Strategies for the Successful Job Search. A career training workshop for the Literacy Council of Montgomery County, Rockville, MD.

Languages

English (native-fluent all proficiencies)
French (reading: advanced, writing: advanced, speaking/listening: intermediate)
Spanish (reading: elementary, writing: elementary, speaking/listening: elementary)