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TEACHERS' PERCEPTIONS OF ENGLISH LEARNERS:
A MULTIDIMENSIONAL SCALING APPROACH

CYNDY ALVAREZ

130 Pages

With an influx in immigration across the United States our educational policies have needed to change to meet the instructional needs of our students, especially our English Learners (Koyama, 2004; Mantero & McVicker, 2006). Historically, these educational language policies were an outcome of court cases that highlighted discrimination and racist practices against our English Learners. These cases, such as the Chicano civil rights movements or East L.A. “walkouts” in 1968, *Lau v. Nichols* (1974), *Serna v. Portales Municipal Schools* (1974), *Rios v. Read* (1978), and *U.S. v. Texas* (1981), *Plyver v. Doe* (1982), *Castaneda v. Pickard* (1981), have resulted in policies that provide English Learners access to instruction and support in developing bilingualism. Despite all these language policies that advocate for English Learners’ access to education, there have also been anti-bilingualism sentiments or “English-only” policies. These “English-only” policies are a reflection of individuals in our society being anti-English Learners.

The rise in culturally and linguistically diverse student population is made up of approximately four million of English Learners, with majority of students coming in with Spanish as their native language. Despite the changes in our student population becoming more culturally and linguistically diverse our teacher demographics continue to remain very homogenous encompassing of a majority White-middle class females. These differences between student and teachers have led to cultural and language mismatches that make teachers vulnerable

to stereotypes about students. Previous studies have found that teachers hold misperceptions, stereotypes, myths, deficit-based perceptions, or majoritarian rules (Estrada, Gómez, & Ruiz-Escalante, 2009; Fránquiz, Salazar, & DeNicolo, 2011; Gonzalez & Ayala-Alcantar, 2008; Harper & de Jong, 2004; Kolano & King, 2015; Mantero & McVicker, 2006; Marx, 2002/2009; Ortiz, 2011). These perceptions have been noted to impact teacher practices and instructional approaches, such as using a pedagogy of poverty (Diaz, Whitacre, Esquiedo, & Ruiz-Escalante, 2013; Ghaouar, 2015; Harper & de Jong, 2004). Research has suggested that teachers' perceptions influence students' academic performance and achievement (Diaz, Whitacre, Esquero, & Ruiz-Escalante, 2013; Glock & Kovacs, 2013; Lumdsen, 1997; Mantero & McVicker, 2006; Richardson, 1996).

Considering the strong implications teachers perceptions have upon student performance, this study sought to gather a comprehensive understanding of teachers' perceptions of English Learners. A comprehensive literature review of a mix of qualitative and quantitative based studies was used to gather over 400 teacher statements about English Learners. These statements were sorted into 28 categories that generated 92 consensus stimuli items for the card-sorting task. Participants included a total of 40 teachers (20 pre-service and 20 in-service teachers) from a Historically White institution and a school district in Illinois. Participants completed several questionnaires and card-sorting task that was analyzed with the use of Multidimensional Scaling (MDS). Findings generated a MDSCAL three-dimensional solution that was similar and significantly correlated with INDSCAL by subgroup (Pre-service and In-service) differences. Dimension 1 reflected Positive vs. Negative statements, Dimension 2 reflected statements about students (ELs) vs. statements about teachers, and Dimension 3 reflected Systemic Barriers vs. Resources encountered when teaching ELs. Therefore, all teachers hold similar perceptions and

Pre-service and In-service teachers perceive English Learners similarly; however, In-service teachers attend two Dimension 2 twice as much than Pre-service teachers. Findings indicated that teachers perceptions are influenced by their Teaching Status (Pre-service or In-service), Frequency of Contact with ELs, and Professional Development. It was concluded that teaching experience matters.

KEYWORDS: multidimensional scaling, English Learners, teachers perceptions

TEACHERS' PERCEPTIONS OF ENGLISH LEARNERS:
A MULTIDIMENSIONAL SCALING APPROACH

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TEACHERS' PERCEPTIONS OF ENGLISH LEARNERS:
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CHAPTER I: THE PROBLEM AND BACKGROUND

During the 1960s the teaching force had an increase of teachers for English Learners due to the increase of immigrants and refugee children in the United States (Mantero & McVicker, 2006). This influx led to educational policies and controversies about the use of non-English languages in educational settings (Shin, Leal, & Ellison, 2015). Since then, there have been various federal, state, and local policies that have played a role in accommodating or regulating language programs in educational settings. For example, bilingual education policies started with Congress passing the Bilingual Education Act (1968) as a result of civil rights and Chicano movements (Mantero & McVicker, 2006; Shin et al., 2015). The Bilingual Education Act was a program for students between the ages of 3 and 8 to address the needs of students with limited English speaking abilities. This act was also an action to decrease drop-out rates given that there were higher drop-out rates among non-English speakers than among English-speaking peers.

There were also federal court cases that influenced bilingual education policies as well as Latinx policies. For example, *Lau v. Nichols*, 414 U.S. 563 (1974), found that public schools in San Francisco, California were denying equal educational opportunities to Chinese Americans due to their limited English proficiency. The Supreme Court ruled that non-English speakers were being denied a meaningful education and that public-school policies violated the Civil Rights Act of 1964; thus, the school district was required to provide equal opportunities and access to all students. Other court decisions that influenced bilingual education policies and programs that advocated for meaningful and appropriate education for English Learners were *Serna v. Portales Municipal Schools* (1974), *Rios v. Read* (1978), and *U.S. v. Texas* (1981). These court cases were related to denying equal educational opportunities to English Learners

and, consequently, supported the development of language programs to accommodate English Learners through bilingual or bicultural programs.

Other important Supreme Court and Federal Court cases that impacted language programs include *Plyver v. Doe* (1982) and *Castañeda v. Pickard* (1981) (Mantero & McVicker, 2006). The first case ruled that the Fourteenth Amendment prohibits states from denying students a free appropriate public education on account of their immigration status. This decision has protected English Learners who are often immigrants, including undocumented immigrants. The second case determined that school districts must comply with the Equal Education Opportunities Act (1974) after it was determined that the school district was failing to meet the needs of English Learners. This case resulted from a Mexican-American father claiming racial and ethnic discrimination towards his children from Raymondville Independent School District in Texas.

Despite federal policies supporting bilingual language education programs, state policies have responded to bilingual education programs differently. These responses have aimed to limit or eliminate bilingual education programs. Some of these state policies include California's Proposition 227 (English Language in Public Schools Statute, 1998), Arizona's Proposition 203 (English for the Children, 2000), and Colorado's Initiative 31 (English for the Children of Colorado, 2002). These policies have proposed an ideology of English-only or adopting English as the official language in the United States, thus education and instruction should be English-only. This ideology has been observed to be adopted in more than thirty states, which have passed legislation or amendments promoting English-only instruction (Mantero & McVicker, 2006; Shin et al., 2015).

It is evident that there have been socio-political, cultural influencing language policies that have impacted the immigrant and English Learners population in education settings. Shin and colleagues (2015) argue that these language policies have targeted Latinx immigrants and the Spanish language. This focus may be a result of the sentiments and views toward Latinx immigrants as, “they are not assimilating, they are self-segregating... maintain their language and identifying with one another, not American” (Buchanan, 2007, p. 42, as cited in Shin et al., 2015, p. 378). These attitudes have been a result of “a common belief that large-scale immigration may bring linguistic change that threatens the position of English as a national language and thereby harms the unity of the United States” (Shin et al., 2015, p. 378). Thus, Latinx immigrants’ behaviors and values have been perceived to be a threat against the symbolic American patriotism values (Shin et al., 2015).

Bronfenbrenner (1979) established a conceptual framework for understanding how larger and smaller scale systems interact, which suggests that these socio-political attitudes from a larger macrosystem will ultimately influence and impact smaller microsystems, which encompass teacher’s beliefs. Beliefs have been noted to serve as indicators of our decisions, which is consistent with the literature about teachers’ beliefs and their decisions (Bandura 1986; Fang, 1996; Mantero & McVicker, 2006). Overall, research has indicated that teacher attitudes have been found to influence their teaching practices and consequently impact student’s achievement and performance at school (Ghaouar, 2015; Glock & Kovacs, 2013; Lumsden, 1997; Mantero & McVicker, 2006; Pettit, 2011; van der Bergh et al., 2010, as cited in Glock & Kovacs, 2013).

Currently, there are more than four million English Learners in public schools, with majority of them speaking Spanish as their native language, encompassing about 10 percent of

our K-12 student population (NCELA, 2017; NEA, 2017; U.S. Department of Education, 2017). Despite student demographics becoming more diverse, the teaching force remains predominantly White middle class (Salerno & Kibler, 2013). This shift in student demographics leads to a mismatch between teachers' and students' personal experiences and background; as a result, Latinx English Learners tend to be vulnerable to experience teacher-based prejudices, biases, microaggressions, discrimination, stereotypes, misconceptions, and deficit oriented perceptions (Benner & Graham, 2011; Ford, Scott, Moore, & Amos, 2013; Gonzalez & Ayala-Alcantar, 2008; Staats, 2016). English Learners have also been found to be vulnerable to instruction from a pedagogy of poverty, due to the deficit oriented views teachers have about English Learners (Diaz, Whitacre, Esquierdo, & Ruiz-Escalante, 2013). All these implicit and explicit perceptions contribute to teacher attitudes, which ultimately perpetuate the achievement gap (Ferguson, 1998, as cited in Callahan, 2005). Therefore, it is critical to continue examining teachers (pre-service and in-service) attitudes toward Latinx English Learners. The purpose of the current study is to understand the various perceptual dimensions employed by teachers as they consider English Learners and identify the individual differences among teachers that may explain the differential salience of these dimensions.

Prior research studies have examined teachers' attitudes and perceptions towards English Learners through qualitative and quantitative methods (Byrnes, Kiger, & Manning, 1997; Diaz et al., 2013; Doorn & Schumm, 2013; Glock & Kovacs, 2013; Gonzalez, Ayala-Alcantar, 2008; Griego, 2002; Harper & de Jong, 2004; Kayi-Aydar, 2015; Kolano & King, 2015; Mantero & McVicker, 2006; Markos, 2012; Marx, 2000/2002; Penfield, 1987; Pettit, 2011; Salerno & Kibler, 2013; Sas, 2009; Walker, Shafer, & Iiams, 2004; Youngs & Youngs, 2001). The significant findings of these studies have made important contributions to the literature about

teachers' attitudes. All of these studies, however, have used methods (e.g., used surveys, open-ended questionnaires, journal entries, work samples, or interviews) that pose limitations in measuring implicit attitudes. Another limitation in the use of these methods is that these tasks may allow teachers to use a conscious, thoughtful evaluation of English Learners (Glock & Kovacs, 2013). Another limitation in the use of surveys and self-report measures is that they are known to be influenced by socially desirability; thus, responses may have been more positively skewed. To address the social desirability phenomenon and obtain teachers' implicit perceptions of English Learners, the current study will assess perceptions using a card-sorting task. The sorting data will then be analyzed using Non-metric Multidimensional Scaling (NMDS), which creates a configuration or map that displays dissimilarities among the stimuli as distances within the configuration, which will potentially allow for the identification of perceptual dimensions (Rosenberg & Kim, 1975). Further, an individual differences NMDS method will provide dimension weights that describe the degree to which each participant (or group of participants) attend to each perceptual dimension. The current study will contribute to the research of teacher attitudes by applying the use of NMDS methodology, which will be the first in this area of research. The study will identify the most salient characteristics attributed by teachers towards Latinx English Learners.

CHAPTER II: REVIEW OF LITERATURE

Since the 1960s there has been a change in demographics due to Latinx immigration, leading to Spanish becoming the fastest-growing language in the United States with approximately 37 million speakers (Pew Research Center, 2013). This lingual shift has changed the focus from European foreign languages to the Spanish language (Shin et al., 2015). With the growth and change in our nations' demographics, our classrooms' demographics have also changed to encompass more students from culturally and linguistically diverse backgrounds, including English Learners. English Learners (ELs), or English Language Learner (ELLs), or Limited English Proficiency (LEP), are all terms used interchangeably to describe “a pupil who was not born in the United States or whose native language is a language other than English or who comes from an environment where a language other than English is dominant; and whose difficulties in speaking, reading, writing, or understanding the English language may be sufficient to deny the individual the ability to successfully achieve in classrooms where the language of instruction is English, or the opportunity to participate fully in society (Artiles, Rueda, Salazar, & Higareda, 2005, p. 284).

The U.S. Department of Education and the National Clearinghouse for English Language Acquisition (NCELA) reported that in the school year of 2014-2015 there were 4,806,662 English Learners in the United States, which represented about 10 percent of the total K-12 student population (NEA, 2017). Additionally, the National Education Association (NEA) policy brief report reported that about 76 percent of elementary schools and 56 percent of secondary school English Learners are native-born U.S. citizens (Capps, Fix, Murray, Ost, Passel, & Herwanto, 2005; National Education Association, 2008). Thus, English Learners have become the fastest-growing student population, with two-third of them coming from low-income

families, and three out of four English Learner students are Spanish-speaking (English language learners face unique challenges, 2008).

English Learners (ELs) have been noted to encounter challenges such as low academic performance, low achievement scores, and high dropout rates (NEA, 2008). The academic challenges faced by English Learners in our educational system raise concerns of the inequities currently facing these students in our educational systems. As a result of these challenges, it is essential to consider the multifaceted factors that may be perpetuating the educational inequities per se. One of the most evident factors is the mismatch between teachers' and students' cultural and linguistic backgrounds. Carjuzaa (2007) indicates that teachers are becoming more homogenous (i.e., predominantly white, female, monolingual, and middle class), whereas students are becoming more culturally and linguistically diverse. This mismatch is a concern, and studies have found that White teachers tend to hold negative dispositions towards students who are culturally and linguistically different from them (Carjuzaa, 2007). Additionally, Glock and Kovacs (2013) stressed that EL students face disadvantages in educational settings due to the decisions that are made by teachers (i.e., predominately monolingual, White, middle-class teachers referring lower income, bilingual, black and brown children for special education services). Glock and Kovacs established that teachers are involved in tracking students and making special education referrals based on their judgements of those students. Thus, teachers' beliefs, perceptions, and attitudes about their students have significant impacts upon those students' education.

Importance and Impact of Teachers' Perceptions upon Students

Research has found that teachers' implicit biases have detrimental effects in our educational system, including student performance. For example, "racial disparities in discipline

can occur even when black and white students behave similarly” (Staats, 2016, p. 33). Teachers’ implicit biases not only affect grading and evaluation of performance of students but also influence and shape teacher expectations of student achievement. As explicated below, studies have found that teacher’s expectations about student performance are influenced by their implicit ethnic biases. Thus, teachers’ expectations of achievement of students of color tend to be lower or from a deficit given their implicit biases.

Teachers’ attitudes and perceptions, including their beliefs, have been found to have stronger influences than their knowledge upon their teaching approaches (Ghaouar, 2015). Thus, teachers’ attitudes impact students’ learning (Diaz et al., 2013). Research has also found supporting evidence that teachers’ attitudes and perceptions influence their teaching approaches, pedagogy, and classroom decisions that ultimately have an impact on students’ achievement and academic performance (Diaz et al., 2013; Glock & Kovacs, 2013; Lumdsen, 1997; Mantero & McVicker, 2006; Richardson, 1996). For example, studies about teachers’ attitudes towards racial minority students, which include English Learners, have found that racial minority students also tend to have lower standardized test scores when they are in a classroom with teachers who have negative implicit attitudes (van der Bergh et al., 2010, as cited in Glock & Kovacs, 2013). When pre-service teachers have positive implicit attitudes about racial minority students, they tend to rate minority students more positively on academics (Glock & Karbach, 2015; Glock & Kovacs, 2013). Therefore, teachers’ implicit attitudes have a strong impact upon students’ achievement and may perpetuate the achievement gap (Ferguson, 1998, as cited in Callahan, 2005). In the contrary, teachers with attitudes that affirm and validate student’s cultural, linguistic and personal identities create classrooms where students feel respected, liked, and appreciated (Mantero & McVicker, 2006).

Teacher attitudes have also been found to influence the relationship they have with their students (Cummins, 2001). Teachers' attitudes have an impact upon students because students internalize these perceptions (Lumsden, 1997). Students learning a second language have also indicated that teachers' attitudes are essential in their achievement in that language (Abu-Rabia, 2004). Students indicated that teachers with characteristics of being relaxed, open, and having clear communication were "good teachers." Borna (2015) also found that teachers' attitudes will facilitate English Learners' motivation towards learning a second language as well as their ability to achieve a successful self-image. In fact, English Learners may experience anxiety and competitiveness, which can be lessened depending on teachers attitudes. In summary, it can be concluded that teachers' attitudes, perceptions, and beliefs have significant implications upon students' achievement, esteem, motivation, performance, and classroom environment.

Theoretical Explanation of Perceptions and Attitudes

Theoretically, attitudes have been described as consisting of explicit and implicit attitudes (Glock & Kovacs, 2013). Explicit attitudes are an "evaluation of an object resulting from thoughtful, conscious reflection" (p. 512). Implicit attitudes are "automatic evaluation of an object" (p. 504). These conscious or unconscious attitudes are what guide our behaviors according to the Motivation and Opportunity as Determinants (MODE) model (Fazio, 1990; Fazio & Towles-Schwen, 1999; Olson & Fazio, 2009). The MODE model explains the relation between attitudes and behaviors. In other words, teachers' behaviors can be explained based on their implicit or explicit attitudes. The MODE model stipulates that, under specific conditions (i.e., enough time and plentiful resources), individuals' conscious processes will drive their behaviors guided by their explicit attitudes. However, when individuals lack time and resources,

they will rely on their automatic processes, thus their behaviors are guided by their implicit attitudes.

Explicit and implicit attitudes have also been explained by a framework that accounts for how individuals make sense and understand the world (Staats, 2016). Kahneman (2011) presented a cognitive functioning framework that divided processes into two systems: System 1 and System 2. The first system is responsible for what occurs outside conscious awareness and functions automatically and extremely fast, which is what is responsible for implicit biases. The second system is responsible for the conscious processing, for tasks that require effort and concentration, which is responsible for explicit biases. Staats (2016) explained that teachers tend to rely upon System 1 given the conditions that they face throughout the course of a school day. Teachers are often placed under ambiguous situations with incomplete information, subjected to time constraints, fatigued, or preoccupied by conflicting tasks. Therefore, System 1 will influence their decisions and actions that are based on implicit biases. For example, a teacher must make a quick decision about a child's misbehavior, thus relying on their implicit biases in determining the severity of discipline in response to their misbehavior.

Despite the clear defining of attitudes, it should be noted that existing research about teachers views on students has used several terms interchangeably and inconsistently. Across the extant literature, the following terms (attitudes, beliefs, perceptions, perspectives, judgments, etc.) have been used to address a relatively similar construct that aims to get at the most salient perceptions teachers form for their students. Sas (2009) distinguished and defined these different terms and concluded that this inconsistency has contributed to the difficulty of defining and measuring teachers' attitudes. Despite the inconsistency in terminology, research findings emphasize the importance of continuing to research teachers' attitudes and perceptions. For the

purpose of this study, I will use the term perceptions as the construct of interest, and the literature review will include extant studies that include any of the mentioned concepts. The focus in this literature review will be to obtain a comprehensive understanding of the perceptions teachers have towards English Learners.

Literature Review: Teachers' Perceptions towards English Learners

In relation to attitudes, which are influenced by implicit and explicit processes, research has found a range of attitudes toward, perceptions of, and beliefs about English Learners. Thus, pre-service teaching training programs continue to encourage the importance for teachers to analyze their beliefs and perceptions. These attitudes and perceptions have been researched in relation to culturally and linguistically diverse students, ethnic/racial minority students, and immigrant students, which include English Learners.

In a literature review, Glock and Kovacs (2013) found that teachers' attitudes will vary depending on whether those attitudes are explicit or implicit. Teachers' explicit attitudes toward racial minority students, immigrant students, and English Learners have been found to be positive (Glock & Kovacs, 2013; Sas, 2009; Youngs & Youngs, 2001). Teachers' implicit attitudes, however, tend to be more negative toward racial minority students than toward White students. Additionally, teachers' implicit attitudes towards White students tend to be more positive, and implicit attitudes towards racial minority students tend to be neutral (Glock & Karbach, 2015). Considering that English Learners are commonly considered racial minority students, it can be expected that teachers will hold explicit positive perceptions towards English Learners, as well as neutral to negative implicit perceptions. Research has also found that pre-service teachers' perceptions towards English Learners, while not negative, their perceptions are

minimized, trivialized, and reflect a more ethnocentric perception (Doorn & Schuum, 2013; Pappamihel, 2007).

Existing literature reviews have found important contributions about teachers' perceptions towards English Learners (Mantero & McVicker, 2006; Pettit, 2011). Some of the significant findings when analyzing teachers of English Learners, both in-service mainstream teachers and teachers who work predominantly with English Learners, suggest that both groups of teachers have significantly different perceptions of English Learners. English Language Learning teachers tend to have more positive perceptions than mainstream teachers. In both groups of teachers, their perceptions tend to be more positively influenced when they have taught from six to ten years, taken undergraduate courses or graduate training about language minority students, and have had more staff development training. Another significant finding that is reflected across the literature is that teachers hold various misconceptions about English Learners, lack knowledge about Second Language Acquisition, and view themselves as not responsible for teaching English Learners (Pettit, 2011).

These teachers' misconceptions about English Learners are important to analyze, considering that they influence teachers' perceptions and instructional approaches (Ghaouar, 2015; Harper & de Jong, 2004). These misperceptions further explain teachers' instructional approaches being embedded in a pedagogy of poverty (Diaz et al., 2013). Diaz and colleagues have defined the term pedagogy of poverty as an instructional approach that focuses on students' lower level skills and passive learning; thus, students are treated as incapable of performing to higher order level skills or challenging curriculum. These instructional approaches and pedagogy of poverty are also related to deficit-based perceptions that teachers have about English Learners. Ortiz (2011) explained that teachers with deficit perspectives tend to blame problems, including

low performance, upon the students, their families, or their cultures. In fact, a study found that approximately 89% of teachers have deficit perceptions of their Latinx students. A review of the extant literature suggests, therefore, that the perceptions teachers have about English Learners can be categorized as deficit-based or asset-based perceptions; and this distinction contributed to the development of materials (specifically stimuli statements) used in the current study.

Deficit and Asset Based Perceptions towards English Learners

In the literature, most studies designed to assess teachers' perceptions of English Learners have been conducted among pre-service teachers who are taking a course focused on multicultural, diversity, learning to work with English Learners, or second language acquisition (e.g., Doorn & Schumm, 2013; Gonzalez & Ayala-Alcantar, 2008; Kayi-Aydar, 2015; Kolano & King, 2015; Lucas & Frazier, 2014; Markos, 2012; Marx 2002/2009; Pappamihel, 2007). Findings indicated that pre-service teachers in these courses initially had deficit-based or narrow perceptions of English Learners but managed to transition to more asset-based perceptions, more positive attitudes, or a broader understanding of English Learners (Doorn & Schumm, 2013; Kolano & King, 2015; Markos, 2012; Marx, 2002/2009; Pappamihel, 2007).

Teachers' deficit-based perceptions consist of teachers' misconceptions, misperceptions, stereotypes, and myths about English Learners (Estrada, Gómez, & Ruiz-Escalante, 2009; Gonzalez & Ayala-Alcantar, 2008; Harper & de Jong, 2004; Kolano & King, 2015; Marx, 2002/2009; Ortiz, 2011). These deficit-perceptions revolve around language and cultural myths about Latinx English Learners, as well as misunderstanding the development of second language and instructional approaches needed for English Learners (Estrada et al., 2009; Gonzalez & Ayala-Alcantar, 2008; Harper & de Jong, 2004; Kolano & King, 2015). The content of these

perceptions of English Learners aligned in several categories about English Learners that were used in the development of stimuli for the current study, as explicated below.

Fránquiz, Salazar, and DeNicolò (2011) described “majoritarian tales”, which are internalized “narratives rooted in deficit assumptions of race, culture, and language” (p. 281). These majoritarian tales are described as perceptions positioned in the dominant norms and are used to silence the lived experiences of people of color. Both teachers who are White and teachers of racial/ethnic minority background have been noted to be vulnerable to internalize these majoritarian tales, which contribute to perpetuating deficit-based perceptions about English Learners. In contrast, teachers’ asset-based perceptions included principles that research has identified relevant to fostering linguistically responsive teachers (Lucas, Villegas, & Freedson-Gonzalez, 2008). Asset-based perceptions are therefore the opposite of deficit-based perceptions. These asset-based perceptions often reflect a counter-narrative of the majoritarian tales described by Fránquiz et al. (2011). In the extant literature, the counter-narrative, asset-based perceptions of English Learners were noted to revolve around similar categories as that of the deficit-based perceptions, such as language and cultural perceptions.

In reviewing the extant literature about teachers’ perceptions of English Learners, 28 categories were identified and were used to conceptualize teachers’ perceptions towards English Learners. The process of recording these statements, development of these categories, and then development of consensus stimuli items is explained in Chapter III. Table 1 includes the category number, consensus stimuli, and references related to developing the consensus stimuli items.

Table 1

Stimuli of Teachers' Perceptions of English Learners

Stimuli		Consensus Stimuli	References
Category	Item		
1	1	English Learners are lazy and don't care about their education	Marx (2006) Gonzalez & Ayala-Alcantar (2008) Irizarry (2011) Mantero & McVicker (2006) Markos (2012) Pettit (2011) Kolano & King (2015) Irizarry (2011) Marx (2000).
	2	English Learners are members of a gang	
	3	English Learners care about their education, thus they are well-behaved	
2	4	If English Learners would be more intelligent they would learn English more quickly	
	5	English Learners have difficulties because they are not very intelligent	
	6	English Learners have little knowledge to build upon the classroom	
	7	English Learners have street smarts but not school smarts	
	8	English Learners with an accent are less intelligent	
	9	English Learners language skills are not indicative of their intelligence	
	10	English Learners have the capacity to learn despite their language skills	
3	11	I feel more comfortable working with English Learners than other minority students	Marx (2006) Marx (2000) Kayi-Aydar (2013) Kayi-Aydar (2013) Wong, Indiatsi, & Wong (2016)
	12	I can relate to the struggles English Learners encounter and understand their needs	
4	13	English Learners are typically illegal immigrants and drain tax payer resources	
	14	English Learners' families do not want to learn English	

(Table Continues)

Table 1. Continued

Category	Stimuli Item	Consensus Stimuli	References
5	15	English Learners often do not receive support in schools	Marx (2006)
	16	English Learners often do not receive the support they need from home	Marx (2006)
	17	English Learners tend to go to the worst schools, and the worst schools have the most English Learners	Becerra (2012) Doorn & Schumm (2013) Markos (2012) Walker, Shafer, & Iiams (2004)
6	18	English Learners are poor	Marx (2006)
	19	English Learners come from low income families	Marx (2000)
	20	The faster English Learners students assimilate the better of they will be	Franquiz, Salazar, DeNicolò (2011)
	21	The more English Learners insist in maintaining their culture and language the slower they will be to assimilate and learn English and/or the worst off they will be	Gonzalez & Ayala-Alcantar (2008) Sas (2009) Shin, Leal, & Ellison (2015) Walker, Shafer, & Iiams (2004)
7	22	English Learners are at a higher risk for behavioral and/or learning difficulties	Marx (2006) Becerra (2012) Franquiz, Salazar, DeNicolò (2011)
8	23	English Learners' teachers should not be held accountable for their achievement	Marx (2006)
	24	English Learners are so far behind they will never catch up	Marx (2000)
	25	Teachers have low expectations from English Learners	(Pew Hispanic Center, 2004) (Becerra, 2012)
	26	English Learner students are more motivated to succeed than many of their native English-speaking peers	(College Board, 2007) (Becerra, 2012)
	27	English Learners will be academically successful, and are just as capable of going to college as native English speakers	(Portes & Rumbaut, 2001) (Becerra, 2012) Callahan (2005) Doorn & Schumm (2013) Irizarry (2011) Pettit (2011) Walker, Shafer, & Iiams (2004) Sas (2009)

(Table Continues)

Table 1. Continued

Category	Stimuli		References
	Item	Consensus Stimuli	
	28	Mainstream teachers are responsible for English Learners' achievement	
9	29	Teachers should not see color/race in the classroom	Marx (2006); Ladson-Billings (1994); Grant & Sleeter (2003)
	30	I desire to teach English Learner student	Marx (2000) Callahan (2005) Walker, Shafer, & Iiams (2004)
10	31	English Learner students' families expose them to a wide range of cultural experiences	Marx (2006) Kayi-Aydar (2013)
	32	English Learner students are not exposed to cultural enriching experiences by their families	Marx (2000) Gonzalez & Ayala-Alcantar (2008)
	33	English Learners knowledge is due to their enriching cultural experiences	Kolano & King (2015)
	34	English Learner students are not exposed to cultural enriching experiences by their families	Franquiz, Salazar, DeNicolo (2011)
	35	It is important for mainstream teacher to understand and know how English Learner parents' view schools and learning	
11	36	English Learner students have many strengths that they bring with them into the classroom	Irizarry (2011) Barrera (2014)
	37	English Learner students will succeed in school when mainstream teachers affirm their cultural identities	Kolano & King (2015) Markos (2012) Sas (2009)
12	38	English Learners parents do not care about education and don't want their children learning English	Marx (2006) Franquiz, Salazar, DeNicolo (2011)
	39	English Learner's parents want their children to learn English and/or be bilingual	Gonzalez & Ayala-Alcantar (2008) Irizarry (2011)
	40	English Learners struggle because their parents do not care about their education	Walker, Shafer, & Iiams (2004) Becerra (2012) Kolano & King (2015)

(Table Continues)

Table 1. Continued

Category	Stimuli		References
	Item	Consensus Stimuli	
13	41	English Learners have unhappy home lives	Marx (2006)
14	42	English Learners can't speak their native language correctly	Franquiz, Salazar, & DeNicolo (2011)
	43	English Learners can't speak standard English	Marx (2006)
	44	English Learners have weaker language skills	Marx (2000)
	45	English Learners need to be immersed in English-only	Becerra (2012)
	46	Keeping and strengthening native language skills (L1) of English Learners helps their ability to learn English	Doorn & Schumm (2013)
	47	All students in the United States should learn to speak more than one language	Gonzalez & Ayala-Alcantar (2008)
	48	Bilingualism benefits English Learners	Jiménez (n.d.)
	49	Bilingual students have stronger higher-level thinking skills than students who only speak English	Kayi-Aydar (2013)
			Kolano & King (2015)
			Mantero & McVicker (2006)
			Sas (2009)
			Estrada, Gómez, & Ruiz-Escalante (2009)
			Doorn & Schumm (2013)
			Markos (2012)
			Pettit (2011)
			Sas (2009)
			Wolfram (2013)
15	50	English Learners should not be placed in a regular classroom until they are fluent in English	Walker, Shafer, & Iiams (2004)
	51	Having English Learner students in our classrooms is a gift	Doorn & Schumm (2013)
	52	English Learners' inclusion in general education/mainstream classroom can be beneficial for themselves and others	Kayi-Aydar (2013)
	53	It is important for English Learner students to feel comfortable and receive teacher assistance when transitioning into a general education classroom	Mantero & McVicker (2006)

(Table Continues)

Table 1. Continued

Category	Stimuli		References
	Item	Consensus Stimuli	
16	54	Relying on their native language is a barrier to learning English	Estrada, Gómez, & Ruiz-Escalante (2009)
	55	English Learners second language acquisition process involves accessing their native language	Franquiz, Salazar, & DeNicolo (2011)
	56	Spanish language skills are helpful in learning English language as a second language	Gonzalez & Ayala-Alcantar (2008)
	57	English Learners social language skills occur before academic language skills	Harper & de Jong (2004) Pettit (2011)
	58	English Learners who learn to read and write in their native language first acquire stronger English language and literacy skills later.	Walker, Shafer, & Iiams (2004) Doorn & Schumm (2013) Jiménez (n.d.) Lucas, Villegas, & Freedson-Gonzalez (2008) Markos (2012)
17	59	Bilingual or language programs are not necessary and divert resources that would be better spent elsewhere, such as gifted programs	Sas (2009) Doorn & Schumm (2013) Markos (2012) Walker, Shafer, & Iiams (2004)
18	60	English Learners will not succeed without a native English-speaking role model	Marx (2006) Marx (2000)
	61	English Learners need to be helped become Americanized	Sas (2009) Kayi-Adar (2013)
	62	English Learner students need support from teachers beyond academics	Mantero & McVicker (2006)
	63	English Learners need teachers that provide a support system and guides them in schools	Markos (2012) Walker, Shafer, & Iiams (2004)
19	64	English Learners are aggressive; I would worry for my safety in teaching in a school with a lot of English Learners	Marx (2006) Shin, Leal, & Ellison (2015)
	65	I fear teaching English Learners, I would be uncomfortable	Kolano & King (2015)

(Table Continues)

Table 1. Continued

Category	Stimuli Item	Consensus Stimuli	References
	66	I feel prepared in teaching English Learners	
20	67	Teachers' racism impacts English Learners achievement	Marx (2006)
21	68	Only teachers of color can be effective teaching English Learners or relate to English Learner students	Marx (2000) Becerra (2012) Walker, Shafer, & Iiams (2004)
	69	I prefer to teach students from similar backgrounds as me.	Marx (2006)
	70	Cultural and linguistic differences between students and teachers inhibits effective education of English Learners	Doorn & Schumm (2013) Wong, Indiatsi, & Wong (2016) Kolano & King (2015)
22	71	Most teachers are not prepared in working with English Learners	Doorn & Schumm (2013)
	72	Teachers need special training in working with English Learners	Kolano & King (2015) Mantero & McVicker (2006)
	73	Most teachers don't want to work with English Learners	Pettit (2011)
	74	Training all teachers to work with English Learners is a waste of resources	Sas (2009)
	75	English Learners need teachers that can create culturally inclusive learning materials	Walker, Shafer, & Iiams (2004)
	76	I know specific strategies for designing instruction that is responsive to students' language needs	Wong, Indiatsi, & Wong (2016)
	77	I know specific strategies for designing instruction that is responsive to students' cultural differences	
23	78	Teachers lack awareness about English Learners	Kolano & King (2015) Markos (2012)
24	79	Majority of English Learners speak Spanish and come from Mexico	Markos (2012)
	80	English Learners from Spanish-speaking countries tend to be more difficult to work with than students from European countries;	

(Table Continues)

Table 1. Continued

Category	Stimuli		References
	Item	Consensus Stimuli	
25	81	All English Learners are students of color	Kayi-Aydar (2013) Kolano & King (2015) Marx (2006) Walker, Shafer, & Iiams (2004) Kolano & King (2015)
	82	Teaching English Learners is a difficult and scary experience	
	83	Teaching English Learners is a challenging and rewarding experience	
	84	Teaching English Learners has made me a better teacher	
	85	Teaching English Learners is an empathy building experience	
	86	I look forward to having English Learner students in my classroom	
	87	I have worked with a lot of English Learner students	
26	88	I have had the opportunity to develop close relationships with English Learner students and/or their families	Marx (2006) de Jong, Harper, & Coady (2013) Doorn & Schumm (2013) Harper & de Jong (2004) Markos (2012)
	89	Teaching language minority students successfully means above all challenging one's attitudes toward the students, their languages and cultures, and their communities	
	90	The low achievement of English Learner students often is the result of negative teacher attitudes towards them	
27	91	Teachers should differentiate instruction and assessment for English Learners	Doorn & Schumm (2013) Kayi-Aydar (2013) Kolano & King (2015) Mantero & McVicker (2006) Sas (2009) Markos (2012) Harper & de Jong (2004)
	92	It is the responsibility of teachers to be aware of the language diversity of learners in their classrooms and to structure their lessons, as well as adjust their teaching styles, to meet these students' needs	
28	93	English Learner students deserve more support and caring teachers in schools	Kayi-Aydar (2013) Markos (2012)

Factors Influencing Teachers' Perceptions of English Learners

In trying to understand comprehensively teachers' perceptions of English Learners, studies have also examined the possible predictors that influence teachers' attitudes and perceptions (Mantero & McVicker, 2006; Sas, 2009; Youngs & Youngs, 2001). Factors that have been found to influence teachers' perceptions include their demographics. For example, Marx (2002/2009) found that pre-service teachers' perceptions varied significantly based on their racial background (White vs. Hispanic). Sas (2009) also found that teachers' perceptions are influenced by factors such as gender, number of spoken languages, and experience with English Learners. Other factors that have been identified as having a positive influence on teachers' perceptions include years of teaching experience, undergraduate and graduate courses related to English Learners, and training related to English Learners (Mantero & McVicker, 2006). Youngs and Youngs (2001) also found five predictors that influence teachers' perceptions: general educational experiences, English Language Learner training, personal experience with foreign cultures, and contact with English Learner students, and demographic characteristics. Teachers' perceptions and attitudes were positively influenced when they have taken a foreign language course in college, a multicultural education college course, receive staff development training about English Learners, and had prior experience living outside the United States.

Deconstructing Deficit-Based Perceptions

...the majority of those who enter teacher education are from the dominant group, they may or may not be in tune with the plight of those who do not have access to the same cultural capital. Therefore, teacher educators must seek out unique clinical experience sites that will challenge preservice teachers to redefine their definition of diversity and teaching. (Miller & Mikulec, 2014, p. 23)

Research has emphasized the critical importance of deconstructing deficit-based perceptions, which can be accomplished through exposure to counter-narratives, training, cultural immersion or plunge, guided reflection, and courses taught from a critical race theory perspective (Fránquiz et al., 2011; Gonzalez & Ayala-Alcantar, 2008; Kolano & King, 2015; Markos, 2012; Ortiz, 2011). Teachers' perceptions may be changed through experiences that encourage the development of a critical pedagogy or a critical caring praxis, both of which are rooted in Critical Race Theory or Latinx Critical Theory (Carjuzaa, 2007; Fránquiz et al., 2011; Gonzalez & Ayala-Alcantar, 2008; Ortiz, 2011). When teachers develop a critical caring praxis, they "care about students as individuals and critically look at the institutional structures that affect them" (Ortiz, 2011, p. 55). This perspective facilitates the development of a critical consciousness, or the development of a critical awareness of systems of privilege and oppression that perpetuate educational inequities for marginalized-oppressed students, such as English Learners.

The Present Study

The extant research has identified the significant implications and importance of continuing to investigate teachers' perceptions of English Learners. An examination of the extant literature also suggests a plethora of categories of representative statements related to these perceptions, which raises the question of whether there are inherent perceptual dimensions that may account for teachers' perceptions of English Learners and, if so, what do these perceptual dimensions represent. To investigate these perceptual dimensions, the present study has been designed not only to explore the various perceptual dimensions that may be employed by teachers as they consider English Learners but also to identify potential individual differences among teachers in terms of differential salience of each dimension. Both pre-service and in-

service teachers' perceptions towards English Learners will be examined through a card-sorting task that will be analyzed using Non-Metric Multidimensional Scaling (NMDS) techniques. In addition, teachers will also complete a demographic questionnaire and a Critical Consciousness Scale.

The stimuli in the card-sorting task were developed from the extant literature to be broadly representative of teachers' perceptions of English Learners. The participants will be asked to sort the stimuli into groups of similar statements, and the co-occurrence of stimuli within groups across participants will characterize the degree of similarity of the stimuli, and the inter-stimuli similarity data will be analyzed with NMDS to reveal underlying perceptual dimensions. Card-sorting tasks hold the advantages of "ease of administration, low susceptibility to experimental demand characteristics, and economy in handling large numbers of objects or stimuli" (Whaley & Longoria, 2009, p. 105). Card-sorting tasks are used to assess the pairwise similarity of stimuli by having participants attend and sort the stimuli without requiring them to rate the degree of similarity of each possible pair. Thus, with even modest numbers of stimuli, pairwise comparison methods quickly become untenable with undue fatigue and resource demands of the participants. Further, unlike factor analytic methodology, the similarity of the stimuli does not require assessing each stimulus statement in terms of a priori characteristics, such as using a Likert scale to rate agreement with each stimulus statement or to rate veracity of each stimulus statement, etcetera. Previous research with teachers' perceptions of English Learners has required participants to rate the degree to which participants agree with various statements (e.g., Doorn & Schuum, 2013; Mantero & McVicker, 2006; Ortiz, 2011; Sas, 2009; Walker et al., 2004; Wong, Indiatsi, & Wong, 2016) whereas card sorting tasks make no a priori assumptions about the nature or interpretation of the salient dimensions that account for teachers'

perceptions as similarity is inferred directly through group co-occurrence in the sorting task without reference to presumed perceptual characteristics or dimensions. Thus, the card sorting task should reduce social desirability and uncover participants' implicit perceptions.

Data from card-sorting tasks will be analyzed through Non-Metric Multidimensional Scaling (NMDS) techniques. These analysis techniques have been used in particular in social psychology studies to confirm hypotheses about hidden structures (Pecho, 2017; Whaley & Longoria, 2009). This method has also been used to reveal underlying perceptual dimensions from participants' responses while preventing contamination from the researchers' preconceptions (Pecho, 2017; Whaley & Longoria, 2009). MDS and NMDS use proximity data for analysis, meaning that data is "converted into a matrix of proximities [that are used to determine] a geometric configuration (or map of points) in n -dimensional space and uncovers meaningful categories encompassing the semantic relations in the proximity data (i.e., the participants' card sorts)" (Whaley & Longoria, 2009, p. 111). In other words, a cognitive map, known as the stimulus configuration, is derived such that distances in the configuration are as consistent as possible with the similarity data; thus, this configuration serves as a visual representation of the dimensions that explain participants' perceptions of the stimuli. It is important to note that the similarity data is rescaled using a linear transformation so that the rescaled data represent dissimilarity values to make those values commensurate with distances in the configuration. Additionally, NMDS techniques include individual differences approaches to scaling in which each participant or each group of participants have dimension weights that are estimated to explain their individual or group data more effectively by estimating differential weights (i.e., salience) of each dimension.

Therefore, the overarching goal of this study is to examine cognitive maps of teacher perceptions of English Learners and identify individual differences between participants or groups of participants in terms of the degree to which they attend to each dimension in performing the sorting task, specifically in terms of their demographic characteristics and critical consciousness.

Prior studies have used similar tasks and analysis that support the use of NMDS in the current study (Green & Manzi, 2002; Pecho, 2017). The first study used a card-sorting task to study racial perceptions and stereotypes. Findings indicated underlying cognitive structures of stimuli associated with Black individuals, as well as subgrouping. Pecho's (2017) dissertation study examined teachers' perceptions of immigrants using NMDS and a card-sorting task. Those findings support the use of card-sorting and MDS as methods and data analysis when attempting to assess perceptual dimensions employed by teachers.

Given the utility and effectiveness of card-sorting task to assess underlying perceptual dimensions, the current study will use a card-sorting and NMDS analysis to explore structures hidden in the sorting data. It is important to note that the goals for this study do not reflect traditional theory testing with a priori hypotheses (e.g., examining predicted group differences with null hypothesis significance testing), even though the development of stimulus statements were guided by a critical pedagogy framework, Critical Race Theory (CRT), and Latinx Critical Theory. These theoretical frameworks focus on deconstructing majoritarian tales, as well as considering the intersection of race, law, and power. The following research questions guide the current study:

1. What are the underlying perceptual dimensions and structures of English Learners held by pre-service and in-service teachers?

2. What are the factors that influence these perceptual dimensions?
3. What is the influence of teachers' having a Critical Consciousness on their perceptions of English Learners?

CHAPTER III: RESEARCH DESIGN

Participants

Participants were recruited from a public State University that is considered a Historically White Institution (HWI) and a school district in Illinois. The recruited sample for the present study include pre-service teachers ($N = 20$) and in-service teachers ($N = 20$). Participants were grouped into pre-service teachers which included individuals that were in a teaching education program that prepares undergraduate students for the teaching force. In-service participants included teachers that had graduated from a teaching program and had been working in the schools. Considering that the primary analytic techniques, Non-metric Multidimensional Scale (NMDS) are focused on deriving a configuration and not on null hypothesis significance testing, the population size is not required to be extensively large considering the methodology and data analysis for this current study. Thus a minimum of 20 participants for each group was sufficient and 30 is considered to be more than ideal (see Rodgers, 1991).

Pre-service teachers was comprised of individuals ages 19 to 32 ($M = 21.70$, $SD = \pm 3.01$), and in-service teacher comprised of individual ages 24 to 58 ($M = 39.25$, $SD = \pm 11.50$). Pre-service teachers also comprised of 14 Females and 6 Males, and in-service teachers comprised of 16 Females and 4 Males. Participants were also asked to provide a race and ethnicity, which was unclear for many to differentiate. For purposes of analyses, individuals were grouped into a Person of Color (POC) or White according to their responses on both the race and ethnicity item. Pre-service participants comprised a majority of White ($N = 13$, 65 %) teachers. This group of pre-service teachers also included seven teachers (35%) who identify as belonging to an ethnic or racial underrepresented group (Hispanic/Latinx, Black/African American, and Asian/Pacific Islander, Native American, etc.). In-service teachers also included

mostly teachers who identify as White ($N = 16$, 80%). This group of in-service teachers also included four teachers (20%) who identified as belonging to an ethnic or racial underrepresented group. Across all participants, both pre-service and in-service there were a total of 10 individuals (25%) that could be identified as a Person of Color (POC). This group of POC, also included three individuals that self-identified as “White” under the category of Race, but were still considered a POC due to their responses on the ethnicity item.

Materials

Stimuli for Card-Sorting Task

The stimuli for the current study were developed from the existing literature on teachers’ attitudes, perceptions, beliefs, misconceptions, misperceptions towards English Learners. I examined the existing literature and coded the perceptions, which included quotations, facts, statements, common misperceptions, or myths. A total of approximately 400 individual statements were obtained from the extant literature. These statements were initially arranged into two separate, broad lists, one for deficit-based statements and the other for asset-based statements. Each statement was given a brief label to identify what it was addressing, for example, personality, intelligence, racism, immigration, culture, family, etc. Statements were then arranged into categories to identify similar or overlapping perceptions. I then developed consensus wording from the statements in each category. These consensus statements reflected the common themes of statements within each category and served as the stimuli for the card sorting task. These proposed stimuli were reviewed and approved by the co-chairs of my committee for validation and consensus. I developed a total of 28 categories that included statements from both deficit-based and asset-based perceptions. Across these 28 categories, a total of 93 stimuli items were developed to depict perceptions towards English Learners that

were to be used for the card-sorting task. Each stimuli item was worded in common structure and format to diminish variability due to the format of the items. Each item was printed on a 3x5 index card.

Demographics and Background Questionnaire

Participants completed a questionnaire package where they reported their demographic characteristics: age, gender, race, ethnicity, level of education, and education program. They also reported to the investigator if they were in-service or pre-service teachers (see Appendix A). Data were also collected on other background factors that have been indicative in the extant literature to be possible influential factors towards teachers' perceptions (Mantero & McVicker, 2006; Marx, 2002/2009; Sas, 2009; Youngs & Youngs, 2001). The questionnaire items included years of teaching experience, the number of languages fluency, experiencing learning a second language, undergraduate courses focused on English Learners, professional development and training focused on English Learners, experience with English Learners, and frequency of contact to English Learners. In addition to assessing the experience or contact teachers have had with English Learners, it was important to consider teachers' exposure to English Learners, either through their own educational experiences or in their teaching classrooms. Therefore, we included questionnaire items such as number of English Learners taught over the course of their careers. Data gathered from this questionnaire was used to find patterns across participants' that influence their perceptions towards English Learners.

Truthfulness Stimuli Likert Rating Scale

The current study measured explicit perceptions by having participants rate 93 stimuli items on a 7-point Likert scale that ranged from completely false (1) to completely true (7). This aspect of the questionnaire intended to measure teachers' degree of agreement with each stimuli

item (see Appendix D), and it is important to note that these ratings were performed after the sorting task was completed. Participants also completed item #34 but it was omitted in data analyses given that it was a repeated statement of item 32.

Critical Consciousness Scale

The extant literature emphasizes that teachers' perceptions are influenced by their degree of critical consciousness. Therefore, researchers have recommended that teachers develop a critical consciousness by being exposed to critical pedagogy or critical care praxis (Carjuzaa, 2007; Fránquiz et al., 2011; Ortiz, 2011) to deconstruct internalized majoritarian tales or deficit-based perceptions of English Learners. Given the importance of critical consciousness, the current study will measure teacher participants' critical consciousness with the use of a 22-item *Critical Consciousness Scale* (CCS; Diemer, Rapa, Park, & Perry, 2017; see Appendix E). This scale is composed of three subscales: (1) Critical Reflection: Perceived Inequality, (2) Critical Reflection: Egalitarianism, (3) Critical Action: Sociopolitical Participation. The first subscale measures participants' consciousness to socioeconomic, racial/ethnic, and gendered constraints on educational and occupational opportunity. The second subscale measures participants' endorsement to societal equality or all groups treated as equals, within society. The third subscale measures participants' engagement in social and political activities to change the perceived inequalities. Higher scores on each subscale indicate a greater critical reflection or critical action. This 22-item scale, CCS, was developed and proven to hold validity after an exploratory factor analysis study by Diemer and colleagues (2017) found that the three subscales are internally consistent, with a Cronbach's alpha estimate of .90 (Critical Reflection: Perceived Inequality), .88 (Critical Reflection; Egalitarianism) and .85 (Critical Action: Sociopolitical Participation). The exploratory factor analysis was cross-validated by a confirmatory factor

analysis, which found a Cronbach's alpha estimate of .89 (Critical Reflection: Perceived Inequality), .87 (Critical Reflection; Egalitarianism) and .76 (Critical Action: Sociopolitical Participation). These studies provide evidence that the 22-item scale has a strong model fit and high estimate of internal consistency. Despite, the supporting evidence for the use of CCS, the modest sample sizes needed for NMDS preclude assessing reliability or validity per se with the current study's sample.

Procedure

All participants completed the tasks individually in a private quiet room. The tasks were administered by a white-female/European descent researcher assistant and a Chicana/Mexican descent co-principal investigator. The Co-Principal investigator trained the research assistant on the procedure of the study. The study initiated by explaining to participants that the purpose of the current study is to investigate the characteristics among English Learners or students they may potentially have in their classroom. Participants were provided a hard-copy consent form, and assigned a random 4-digit ID number to complete all following tasks. Participants completed the demographic questionnaire, card-sorting task, and the questionnaire packet (i.e., Truthfulness Stimuli Likert Rating Scale and the Critical Consciousness Scale). This sequence was selected as to avoid priming effects from the questionnaires that might influence the card-sorting task. Participants' were then given a \$25 visa gift card for their participation in the study and their random 4-digit ID number was written in a Log that was turned into the University for Grant Reimbursement Purposes.

Card-Sorting Practice

Participants were provided a trial to practice the card-sorting task to demonstrate understanding of the task. The researcher assistant or Co-PI read the study's instructions to the

participants and provide them with nine laminated cards (see Appendix B) to sort based on similarities. Once participants indicated an understanding of sorting cards through the practice trial, participants were then instructed to sort the stimuli items of perceptions towards English Learners. Both the practice trial and card sorting task were timed for research purposes and participants were explained that they could take as long as needed to complete the task.

Card-Sorting Task

The researcher assistant and/or Co-PI provided participants with standardized instructions and explained that they were to sort the 92 stimuli cards into piles to create conceptually similar piles (see Appendix C). The instructions also included a reminder to focus on sorting the cards on similarity, and not the degree of agreement or disagreement with each stimuli item. They were also reminded that there was no right or wrong way of sorting the cards. After participants indicated they were done sorting the cards into piles, they were instructed to bind each pile with a rubber band. Each participant was also be provided with several sticky-notes and instructed to label each pile. The participants were then asked if they were satisfied with their sorting and labeling and were be provided with an opportunity to re-sort any stimuli items they were not satisfied with. The purpose of the card-sorting task was to have participants tie stimuli items together to indicate the underlying perceptual constructs of English Learners.

Questionnaire Packet

After participants completed the card-sorting task, they were asked to complete a Likert rating scale questionnaire on the Truthfulness of each stimuli item (see Appendix D) and a Critical Consciousness Scale (CCS; see Appendix E). The questions about the stimuli required participants to rate the items on a 7-point Likert scale. The CCS was used to measure

participants' consciousness in relation to critical reflection on perceived inequality, critical reflection on egalitarianism, and their critical action on sociopolitical participation.

Data Entry

Data was entered and analyzed according to the guidelines presented by Whaley and Longoria (2009) as well as a prior dissertation study by Pecho (2017). For each participant, data from the demographic questionnaire, card sorting task, Truthfulness Likert Rating Scale, and Critical Consciousness Scale were initially entered into Excel and transferred into SPSS for data analyses purposes. Participants' data was entered with correspondence to their assigned random 4-digit number and a code of 001 to 020 for pre-service participants and 021 to 040 for in-service participants. The card sorting data required pre-processing to construct a co-occurrence matrix for each participant where stimuli represent both rows and columns and where a value of 1 indicates that the row and column stimulus pair was placed in the same pile and 0 otherwise (see Figure 1). These co-occurrence matrices were then summed across all participants or across the in-service and pre-service teacher training groups so that each similarity value represents the number of participants who co-classified each pair of stimuli together. For more details see, Whaley and Longoria (2009).

Supporting Research

Whaley and Longoria (2009) indicate that prior studies have used MDS and card sorting. These studies indicated the heuristic value of using MDS as a statistical technique as well as the effectiveness of using a card sorting task methodology. Existing research has indicated that card sorting tasks "may be superior to or, at minimum, equally effective as other methods of data collection for MDS" (p. 109).

Figure 1. Example of participant 001 similarity ratings of 93 items with item 34 deleted.

Whaley and Longoria (2009) emphasized the advantages these studies have highlighted about MDS, such as MDS allows for dimensional comparisons in the data across different groups. Another advantage is the practicality in that the technique allows for different levels of measurements, such as interval, ordinal, and nominal data, to be analyzed. Related to this current study and topic, a prior study by Green and Manzi (2002) investigated racial stereotypes and perceptions associated to Black individuals. This study found that MDS was a stronger statistical technique given that it revealed the complexity of the data and underlying subgroups. Therefore, another advantage that MDS holds is that it reveals the subgroups and complexity of data that may be hidden or undiscovered with the use of other analysis. Thus, MDS has been indicative to

be a useful technique for studying “participants’ thinking or decision-making process” (Whaley & Longoria, 2009, p. 109).

Data Analysis

MDS is a class of exploratory data analysis techniques that condense large amounts of data into a spatial map to represent visually the dissimilarities and similarities among stimuli items (Jaworska & Chupetlovska-Anastasova, 2009). At the same time, MDS also allows one to analyze data with different levels of measurements, such as interval, ordinal, and nominal data. Whaley and Longoria (2009) explain that the measurement level of data influences the type of MDS analysis technique. Metric MDS is used with interval level data, whereas nonmetric MDS is used with ordinal and nominal level data. Non-metric MDS will be used in the current study given the use of card-sorting task with ordinal level data.

Literature about MDS explains that there are three different models each producing a different outcome (Giguère, 2006). These three models include, Classical MDS (CMDS), Replicated MDS (RMDS), and Weighted MDS (WMDS). Weighted MDS is also known as Individual differences scaling. The first step in analysis will be to conduct a classic non-metric MDS analysis without differentiating by subgroup. Subsequently, individual differences NMDS will be used to compare the in-service and pre-service teachers’ perceptions by examining similarity matrices aggregated within each group. Finally, individual differences NMDS will be attempted to compare each individual’s perceptions without any aggregation of co-occurrence matrices. This last analysis, however, may not produce interpretable results due to the binary nature of the data. This outcome was also supported in a previous study by Pecho (2017) that used similar methodology and data analyses. Thus, the second modeling endeavor is expected to be the most appropriate for the current study due to the interested in examining individual

differences among participants, thus Weighted MDS (WMDS) was used for the current study. WMDS is also explained to provide a stimulus space and a participant's space, which "indicate the differential weighting given to dimensions in the common stimulus spaces by each participant, and the models fit to each participants data" (Giguère, 2006, p. 31).

Interpreting NMDS Output

MDS produces a cumulative matrix that is comprised of all the individual matrices of the 40 participants in this study. This matrix was converted into a geometric configuration with an n -dimensional space (i.e., cognitive map), referred to as a MDS solution. The MDS solution with the most interpretable solution was found by analyzing the measures of fit: R^2 and *Kruskal's stress index* (Giguère, 2006; Whaley & Longoria, 2009) to find the most optimal MDS solution. The first measure of fit, R^2 measures the 'goodness of fit' indicating the amount of variance that is explained by the n -dimensional configuration. Therefore, higher R^2 suggest a better fit. The second measure of fit, *Kruskal's stress index* measures the 'badness of fit,' in relation to the produced n -dimensional configuration. A smaller *Kruskal's stress index* value indicates a better fit. According to Kruskal and Wish (1978) a stress value should be at least <0.15 and preferably ≤ 0.10 .

The dimensions in NMDS were interpreted by examining the configuration of stimuli and contrasting stimuli with coordinates located at the extremes of each dimension. One complication in interpreting NMDS dimensions in classical scaling models is that the configurations may be rotated arbitrarily in Euclidean space without degrading the degree of fit, as measured by S-Stress, between the configuration and the dissimilarity data. Because distances between points in the configuration represent dissimilarities, orthogonal rotation of the dimensions will not change the distances between each pair of stimulus points, but these

rotations will change the coordinates of each stimulus. Thus, the interpretation of the dimensions involves reviewing the configuration per se to identify interpretable directions or vectors. Rotated coordinates may then be used to contrast stimuli at opposing ends of the rotated dimension for interpretation.

With individual differences NMDS, the geometric orientation of each dimension in the group or common configuration is non-arbitrary in that each dimension is weighted for each source of data. Thus, the configuration is determined to optimize the congruence of weighted distances of stimulus pairs to each sources' dissimilarity data. The weights for each source on each dimension, therefore, represent salience of that particular dimension to the given source of data, which can be modeled as either a sub-group or an individual, as mentioned above.

Dimension Interpretation

After the optimal MDS solution was found considering the 'goodness of fit' measures, there was an n -dimensional solution that was selected for interpretation. Interpreting the dimensions involved inspecting the stimuli items with their dimension weights that were produced in the configuration for the optional n -dimensional MDS configuration. In addition to visually inspecting the stimuli and the clusters of data, this current study also used correlational and multivariate analyses for interpreting the dimensions that teachers attend to when perceiving English Learners.

Examining Group Differences

Previous studies have indicated various factors that appear to impact teachers' perceptions towards English Learners. To analyze these group differences, subject weights were used to find the importance of each dimension to each subgroup. This current study examined group differences based on teaching status (Pre-service teacher vs. In-service teacher).

CHAPTER IV: RESULTS

The purposes of this study were to use a more quantitative methodology that has not been previously used, such as MDS, to (1) examine teachers' perceptions towards English Learners, by finding the underlying perceptual dimensions held by pre-service and in-service teachers (2) identify the factors (i.e., individual differences from demographic questionnaire) that influence these perceptual dimensions, and (3) find the influence of teachers' having a Critical Consciousness on their perceptions of English Learners.

Card-Sorting Variables: Number of Piles, Labels, and Sorting Time

Perceptions towards English Learners were examined using MDS analyses to uncover the underlying dimensions. These underlying dimensions were a result of a card-sorting task that involved analyzing the similarity ratings across all 40 participants, as well as between pre-service vs. in-service teachers. Additional variables were also gathered from each participant from the card-sorting task, such as the number of piles created by participants and the labels provided to the piles. Table 2 provides the frequencies for the number of piles created across all 40 participants ($M = 6.78$, $SD = \pm 4.39$) from the card-sorting task. Creating three piles was the most common among participants, accounting for 27.5%.

When analyzing the piles based on education status of being a pre-service teacher or in-service teacher, it can be noted that there are some differences between both groups in regards to the numbers of piles created in the card-sorting task. Table 3 provides frequencies for the number of piles created among pre-service teachers ($M = 5.85$, $SD = \pm 4.18$) and in-service teachers ($M = 7.70$, $SD = \pm 4.50$) in the card-sorting task. Creating three piles was the most common among pre-service teachers (45%), and 40% of pre-service teachers created more than five or more

piles. Table 3 also includes the frequencies for the number of piles in-service teachers created which varied a lot more with frequencies from 1 to 3 for creating from 2 to 21 piles.

Table 2

Card-Sorting Task Outcomes in All 40 Participants

Variable name	Group	Frequency	%
Number of sorted piles	2	1	2.5%
	3	11	27.5%
	4	4	10%
	5	3	7.5%
	6	4	10%
	7	4	10%
	8	3	7.5%
	9	1	2.5%
	10	3	7.5%
	11	2	7.5%
	13	1	2.5%
	16	1	2.5%
	18	1	2.5%
	21	1	2.5%

Table 3

Card-Sorting Task Outcomes in Pre-service vs. In-service Participants

Variable name	Pre-service Teachers			In-service Teachers		
	Group	Frequency	%	Group	Frequency	%
Number of sorted piles	3	9	45%	2	1	5%
	4	4	20%	3	2	10%
	5	1	5%	4	1	5%
	6	1	5%	5	2	10%
	7	1	5%	6	3	15%
	8	1	5%	7	3	15%
	10	1	5%	8	2	10%
	11	1	5%	9	1	5%
	13	1	5%	10	2	10%
	18	1	5%	11	1	5%
				16	1	5%
				21	1	5%

Data was also gathered on the label names given to each pile. Appendix F provides a list of all the labels given to each pile created by pre-service and in-service teachers along with the duration for the practice-trial and the card-sorting task. Duration for the card-sorting task was rounded to the nearest whole minute to calculate an average duration for the card-sorting task. Duration data on the card-sorting task suggests that Pre-service teachers had an average duration of 14 minutes ($M = 14.10$, $SD = 7.06$) and In-service teachers had an average of 23 minutes ($M = 22.50$, $SD = 12.38$), these times were significantly different, $t(38) = -2.64$, $p = .012$. Pre-service teachers appeared to take less time when sorting the stimuli cards than in-service teachers.

Multidimensional Scaling Analysis with MDSCAL

A non-metric multidimensional scaling analysis approach of MDSCAL was used to develop cognitive maps of all participants to reflect their perceptions about EL students. Data included a total of 92 statements, with item 34 omitted and deleted due to being a replicate of item 32. The MDSCAL solution provided a data matrix of all the similarity ratings of the 92 item aggregated across all 40 participants. Kruskal's stress index and R^2 were examined to identify the optimal MDS solution and number of dimensions. An optimal solution requires for the n -dimensional configuration to have a small *Kruskal's stress index* and a high R^2 value, an optimal solution would include a stress value of at least <0.15 and preferably ≤ 0.10 (Kruskal & Wish, 1978). Table 4 includes the stress index and R^2 values for each potential solution from six through two dimensions. Through examining each of these values, a solution with 3 dimensions is considered optimal due to having the most acceptable stress index and R^2 values.

Table 4

MDSCAL: Stress and R^2 Values for Dimensions 6-2

Number of dimensions	Stress	R^2
6	0.059	0.977
5	0.067	0.972
4	0.079	0.966
3	0.094	0.958
2	0.144	0.919

Dimension Interpretation

MDSCAL data produced a 3-dimensional configuration, as represented in Figure 2, which represents the visual mapping of all 92 statements sorted and aggregated across all 40 participants.

Figure 2. Stimulus configuration derived in three dimensions.

Each dimension is composed of cards that were sorted and perceived most similar to each other producing a group space. These group configurations produced a 3-dimensional solution that was interpreted through a visual sorting using the statements and their configuration values. Statements were sorted from smallest to largest configuration values producing two extremes of each dimension. Statements at each extreme of the dimension were analyzed and interpreted according to their shared content and thematic similarities.

MDSCAL dimension 1: Positive vs. negative statements. Dimension 1 had statements that ranged from configuration value of -1.898 to 1.666 (see Appendix G) where participants perceived the stimuli items being positive to negative statements about English Learners. On the positive end of the dimension, it included Card #35 with the statement of, “It is important for mainstream teachers to understand and know how English Learner parents’ view schools and learning.” On the negative end of the dimension, it included Card #64 with the statements of, “English Learners are aggressive; I would worry for my safety in teaching in a school with a lot of English Learners.”

These two ends on dimension 1 indicated that across all 40 participants, their perceptions were heavily influenced whether they perceived a statement to be positive or negative. Statements that were on the positive end (i.e., statements with a negative loading on the dimension or negative configuration value) all shared the commonality of being positive statements about English Learners’ culture, instructional needs, experience teaching them, inclusion into the classroom, achievement and expectations, intelligence, and language skills. On negative end (i.e., statements with a positive loading on the dimension or positive configuration value) all shared the commonality of being negative statements about English Learners. These statements came from the categories such as Fear of English Learners, Segregation & Lack of

Support, Immigration, Assimilation, Intelligence, Parents Influence, Personality & Behavior, Culture Influence, etc. These statements included perceptions of English Learners as aggressive, illegal immigrants, being poor, needed to assimilate, very low achievement and expectations, lower intelligence, parents not caring, or being “at-risk”.

MDSCAL dimension 2: Student statements vs. teacher statements. Dimension 2 was comprised of statements that ranged from configuration values of -1.521 to 1.807 (see Appendix H) where participants perceived the stimuli items to be statements about students (i.e., English Learners) or statements about Teachers. One end of the dimension was comprised of Student statements, such as Card #26 with the statement of, “English Learner students are more motivated to succeed than many of their native English-speaking peers.” In contrast, the other end of the dimension included Card #11 with the statement of, “I feel more comfortable working with English Learners than other minority students.”

These two ends on dimension 2 indicated that across all 40 participants their perceptions were heavily influenced whether they perceived a statement to be either about students (i.e., English Learners) or to be about teachers. Statements that were on the About Students end (i.e., statements with a negative loading on the dimension or negative configuration value) all shared the commonality of being about English Learners and started with “English Learners....”, whereas statements that were on the About Teachers end (i.e., statements with a positive loading on the dimension or positive configuration value) all shared the commonality of starting with “I...” and directly related to teachers.

MDSCAL dimension 3: Systemic barriers vs. resources. Dimension 3 has statements that ranged from configuration values of -1.706 to 1.267 (see Appendix I) where participants perceived the stimuli items to range from barriers encountered when working with English

Learners to assets or resources that English Learners bring with them. The Systemic Barriers end of the dimension included Card #78 with the statement, “Teachers lack awareness about English Learners”, whereas the Resources end of the dimension included Card #39 with the statement, “English Learners’ parents want their children to learn English and/or be bilingual.”

Interpreting Dimension 3 was less straightforward than interpreting Dimensions 1 and 2. However, the stimuli items on the *Systemic Barriers* end of the Dimension (i.e., statements with a negative loading on the dimension or negative configuration value) all shared the commonality of being systemic barriers that teacher encounter related to being held accountable for ELs achievement, providing an equitable education, responsibilities in teaching, training needs, and importance of understanding ELs experiences. The cards on the *Resources* end of the dimension (i.e., statements with a positive loading on the dimension or positive configuration value) all shared the commonality of reflecting stimuli content related to things that English Learners bring with them, such as parents with aspirations, unique needs and experiences, language skills, cultural experiences, motivation, knowledge, relationships, positive personality and behavioral traits, intelligence, and positive experiences when working with them.

Individual Differences Scaling Analysis with INDSCAL

INDSCAL was used to analyze the individual differences across individual participant-by-participant data as well as to find subgroup differences among participants status (e.g., pre-service vs. in-service).

Participant-by-Participant Differences with INDSCAL

Generating an INDSCAL solution required an input of 40 data matrices, with each participant’s matrix including binary data from their card-sorting task (i.e., values of 1 indicate that a pair of stimuli were sorted in the same pile, whereas values of 0 indicate that a pair of

stimuli were sorted into different piles) . Similar to MDSCAL analyses, INDSCAL also generated stress indices and R^2 values that were used to identify the optimal solution. An ideal solution requires a small *stress index* and a high R^2 value, with a stress value of at least <0.15 and preferably ≤ 0.10 (Kruskal & Wish, 1978). Table 4 provides the stress values and R^2 values for each potential solution with six to two dimensions.

Examination of these values indicated that as R^2 values increase the stress index became elevated. Therefore, INDSCAL across all 40 participants did not generate an optimal solution (see Table 5). This produced similar findings in Pecho (2017), who concluded that the data from INDSCAL did not produce favorable data for individual differences across all 40 participants. It was hypothesized that the nature of the sorting data being binary (i.e., 0 = different pile or 1 = same pile) did not allow for the necessary sensitivity to explain individual differences across all 40 participants. The lack of acceptable stress and R^2 values in this study led to supporting this same hypothesis.

Table 5

INDSCAL: Stress and R^2 Values for Dimensions 6-2

Number of dimensions	Stress	R^2
6	0.239	0.18
5	0.271	0.19
4	0.296	0.27
3	0.336	0.22
2	0.443	0.22

A Pearson product-moment correlation coefficient was computed to assess if the 3 dimensions generated through INDSCAL across all 40 participants were correlated to the 3 dimensions from MDSCAL analysis. There were no consistent patterns to the correlations between the dimensions from MDSCAL and INDSCAL by participant (see Table 6).

Table 6

Correlations between MDSCAL Dimensions and INDSCAL Dimensions

	INDSCAL Participant-By-Participant Dimensions		
	Dim 1	Dim 2	Dim 3
MDS Dimension 1	-.204	.446**	.246*
MDS Dimension 2	.003	-.115	-.149
MDS Dimension 3	-.020	.104	.027

Note. MDS = MDSCAL. $n = 92$. ** indicated $p < .01$. * indicated $p < .05$

Pre-Service vs. In-Service Subgroup Differences with INDSCAL

INDSCAL was also used to analyze individual differences among participants according to their subgroups (Pre-service teachers vs. In-service teachers). To generate subgroup differences using INDSCAL, individual data matrices (i.e., each participant's matrix with binary data) were aggregated into two groups (i.e., one data matrix for the 20 pre-service teachers and one for the 20 in-service teachers). Similar to MDSCAL analyses, the output generated stress index and R^2 values to identify the optimal solution. As previous analysis an ideal solution requires a small *stress index* and a high R^2 value. Table 7 provides the stress values and R^2 values for each potential solution with five to two dimensions. Examination of these values indicates that an optimal solution would have 3 dimensions.

Table 7

INDSCAL: Stress and R^2 Values for Dimensions 5-2

Number of dimensions	Stress	R^2
5	0.116	0.92
4	0.160	0.86
3	0.160	0.87
2	0.206	0.83

INDSCAL generated a solution with 3 dimensions to account for the individual differences across subgroup of Pre-service and In-service teachers. Examination of these three

dimensions involved the similar process as in MDSCAL of sorting stimuli items with the use of their configuration values and analyzing the stimuli items on the extremes of each dimension. These three dimensions were also compared to the dimensions produced by MDSCAL to notice whether they produced the same constructs.

Correlations: MDSCAL and INDSCAL dimensions. Prior to interpreting each dimension generated from individual differences by subgroups, it was important to analyze the level of similarity across the dimensions from MDSCAL and INDSCAL by subgroup. A Pearson product-moment correlation coefficient was computed to assess the relationship between MDSCAL's 3 dimensions and INDSCAL's 3 dimensions. Results indicated that there was a strong, positive correlation between MDS Dimension 1 and INDSCAL Dimension 1, $r = 0.98$, $n = 92$, $p = 0.000$. There was also a strong, positive correlation between MDS Dimension 2 and INDSCAL Dimension 2, $r = 0.89$, $n = 92$, $p = 0.000$. Finally, there was a strong, positive correlation between MDS Dimension 3 and INDSCAL Dimension 3, $r = 0.95$, $n = 92$, $p = 0.000$. These strong, positive correlations between MDSCAL dimensions and INDSCAL dimensions (see Table 8) suggest that the Dimensions across these two analyses consisted of similar constructs. These results were further verified by interpreting the dimensions produced from INDSCAL individual differences by subgroup.

Table 8

Correlations between MDSCAL Dimensions and INDSCAL Subgroup Dimensions

	INDSCAL Subgroup Dimensions		
	Dim 1	Dim 2	Dim 3
MDS Dimension 1	.979**	.442**	-.267*
MDS Dimension 2	-.151	.894**	.108
MDS Dimension 3	.059	-.168	.949**

Note. MDS = MDSCAL. $n = 92$. ** indicated $p < .01$. * indicated $p < .05$

Dimension Interpretation

INDSCAL dimension 1. Dimension 1 generated configuration values from -1.454 to 1.223 (see Appendix J) and indicated that the statements ranged from Positive to Negative statements, similar interpretations to MDSCAL Dimension 1. The Positive statements end of the dimension included Card #92 with the statement of “It is the responsibility of teachers to be aware of the language diversity of learners in their classrooms and to structure their lessons, as well as adjust their teaching styles, to meet these students’ needs.” The Negative statements end of the dimension included Card #32 with the statement of “English Learner students are not exposed to cultural enriching experiences by their families.” Examining the stimuli items on each extreme indicated similar positive and negative statements about English Learners. Therefore, Dimension 1 was the same across both MDSCAL and INDSCAL analyses.

INDSCAL dimension 2. Dimension 2 generated configuration values from -2.005 to 1.810 (see Appendix K) and indicated that the statements ranged from Students statements to Teacher statements, with similar interpretations to MDSCAL Dimension 2. The Students statements end of the dimension included Card #26 with the statement, “English Learner students are more motivated to succeed than many of their native English speaking peers.” The Teacher statements end of the dimension included Card #69 with the statement, “I prefer to teach students from similar background as me.” A comparison of the stimuli on the extreme ends of Dimension 2 on INDSCAL configuration had similar patterns to that of Dimension 2 on the MDSCAL configuration. Therefore, Dimension 2 was the same across both MDSCAL and INDSCAL analyses.

INDSCAL dimension 3. Dimension 3 generated configuration values from -2.429 to 1.891 (see Appendix L) and indicated that the statements ranged from Systemic Barriers to

Resources, similar interpretations to MDSCAL Dimension 3. The Systemic Barriers end of the dimension included Card #78 with the statement, “Teachers lack awareness about English Learners.” The Resources end of the dimension included Card #47 with the statement, “All students in the United States should learn to speak more than one language.” Dimension 3 on INDSCAL configuration had similar patterns to that of Dimension 3 on MDSCAL configuration, such that it ranged from barriers encountered when working with English Learners to assets or resources that English Learners bring with them. Therefore, Dimension 3 was the same across both MDSCAL and INDSCAL analyses.

Subject Weights Analysis

Another component that was analyzed was the consideration of subject weights, which measure the importance of each dimension to each subgroup of participants (i.e., Pre-service teachers vs. In-service teachers). Across all three dimensions, Dimension 1 was weighted more strongly by both pre-service and in-service participants (see Table 9). Therefore, both pre-service and in-service teachers attended primarily to whether statements were positive or negative (i.e., Dimension 1: Positive vs. Negative Statements); furthermore, these weights are roughly the same, which suggests that dimension one was equally salient to both groups. After attending to Dimension 1, both pre-service and in-service teachers attended to whether statements were about students or teachers, (i.e., Dimension 2: Student Statements vs. Teacher Statements). When examining Dimension 2 across both subgroups of teachers, it was also noted that they attend to this dimension with roughly equal weights, again suggesting equal salience for Dimension 2. Examination of Dimension 3 (i.e., Systemic Barriers vs. Resources) revealed a difference in subject weights across the subgroups of teachers, such that in-service teachers (subject weight = 0.31) attended about two times as much to this dimension in comparison to pre-service teachers

(subject weight = .18). Dimension 3 was related to Systemic Barriers and Resources teachers' encounter when teaching English Learners

Table 9

Subject Weights on Dimensions 1, 2, and 3 by Teaching Status

Subgroup	Subject Weights		
	Dim. 1	Dim. 2	Dim. 3
Pre-service	0.823	0.372	0.183
In-service	0.812	0.371	0.306

Correlations with Other Factors

MDSCAL Dimensions, INDSCAL Dimensions, and Truthfulness Ratings

Participants completed a Truthfulness Likert scale in which they rated the 92 statements from Completely True to Completely False. This measure gathered additional data of teachers' perceptions towards English Learners. A Pearson product-moment correlation coefficient was conducted to examine the relations between the average Truthfulness ratings from pre-service teachers, in-service teachers, and all participants with each dimension identified in MDSCAL and INDSCAL analysis (see Table 10). There was a highly significant positive correlation between the average Truthfulness ratings of pre-service teachers and MDSCAL Dimension 1, $r = 0.28$, $n = 92$, $p = 0.006$. There was a highly significant positive correlation between the average Truthfulness ratings of in-service teachers and MDSCAL Dimension 1, $r = 0.28$, $n = 92$, $p = 0.007$. There was a highly significant positive correlation between the average Truthfulness ratings of all participants/teachers and MDSCAL Dimension 1, $r = 0.28$, $n = 92$, $p = 0.006$. Therefore, teachers' average Truthfulness of the 92 stimuli items was related to Dimension 1: Positive vs. Negative Statements.

Table 10

Correlations between Dimensions and Average Truthfulness Ratings

Analyses Dimension	Average Truthfulness Ratings		
	Pre-service	In-service	All Teachers
MDSCAL Dim. 1	.282**	.279**	.284**
MDSCAL Dim. 2	-.001	-.039	-.022
MDSCAL Dim. 3	.042	.025	.033
Subgroup INDSCAL Dim. 1	.273**	.275**	.278**
Subgroup INDSCAL Dim. 2	.118	.091	.105
Subgroup INDSCAL Dim. 3	-.045	-.062	-.055
By Participant INDSCAL Dim. 1	-.914**	-.946**	-.943**
By Participant INDSCAL Dim. 2	.165	.192	.182
By Participant INDSCAL Dim. 3	.290**	.133	.211*

Note. $n = 92$. ** indicated $p < .01$. * indicated $p < .05$

INDSCAL Dimensions and Critical Consciousness Variables

Participants also completed a Critical Consciousness Scale (CCS) to measure their consciousness about perceived inequality, egalitarianism, and sociopolitical participation (i.e., CCS subscales). Pearson product-moment correlation coefficients was computed to examine the relation between participants Critical Consciousness and their perceptions towards English Learners based on the card sorting task data across all 40 participants. There were no significant correlations between the three different subscales of the CCS with Dimension 1, 2, or 3 (see Table 11). Therefore, CCS does not explain how people are attending to Dimension 1, 2, or 3.

Table 11

Correlations between Critical Consciousness Subscales and Dimensions

CCS Subscales	INDSCAL Dimensions		
	Dim. 1	Dim. 2	Dim. 3
Critical Reflection of Perceived Inequality	.047	-.047	.077
Critical Reflection of Egalitarianism	.089	.123	.103
Critical Action of Sociopolitical Participation	-.230	-.174	-.220

Note. $n = 92$. ** indicated $p < .01$. * indicated $p < .05$

Results did indicate various correlations among the different subscales as summarized in Table 12. Overall, the more a participant perceives inequality the more involved they are in sociopolitical actions, $r = 0.368$, $n = 40$, $p = .020$. Also, the more a participant can perceive inequality the less they endorse in egalitarianism or viewing that all groups are treated as equal within society, $r = -0.274$, $n = 40$, $p = .087$. And, the more a participant endorsed egalitarianism the less they participated in social and political activities to change perceived inequalities, $r = -0.392$, $n = 40$, $p = .012$.

Table 12

Correlations across Critical Consciousness Subscales

CCS Subscales	Perceived Inequality	Egalitarianism	Sociopolitical Participation
Perceived Inequality	1	-.274	.368*
Egalitarianism	-.274	1	-.392*
Sociopolitical Participation	.368*	-.392*	1

Note. $n = 40$. ** indicated $p < .01$. * indicated $p < .05$

Repeated Measures MANOVAs

Several Repeated Measures MANOVAs were conducted to examine the influence of various factors upon Dimension 1, 2, and 3. These factors were selected based on previous research studies have indicated to impact teachers' perceptions of English Learners (Mantero & McVicker, 2006; Marx, 2002/2009; Sas, 2009; Youngs & Youngs, 2001).

Individual Factors Influencing Perceptual Dimensions

Teaching status. Results revealed that the dimension main effect was highly significant (Wilks' $\Lambda = .15$, $F [2, 37] = 106.15$, $p = .000$, $\eta^2_p = .85$); thus, participants were not attending to the dimensions equally based on teaching status (pre-service or in-service). The Dimension by Teaching Status interaction, the effect of interest, was highly significant, $\Lambda = .78$, $F (2, 37) = 5.07$, $p = .011$, $\eta^2_p = .22$; the main effect of teaching status was non-significant, ($F [1, 38] = 0.73$,

$p=.399$, $\eta^2_p=.019$). The significant interaction between dimensions and status (represented in Figure 3 by lines that are not parallel) suggests that in-service teachers' perceptions and the salience of these perceptions of ELs are significantly different from pre-service teachers' perceptions (see Figure 3).

Figure 3. Teaching Status means and Dimension weights.

Gender. Participants included both women ($n = 30$) and men ($n = 10$). Results also revealed the dimension main effect was highly significant ($\Lambda=.16$, $F [2, 37] = 95.72$, $p = .000$, $\eta^2_p = .84$); the main effect of gender was non-significant ($F [1, 38] = 0.27$, $p = .605$, $\eta^2_p = .007$); and the dimension by gender interaction, the effect of interest, was non-significant, $\Lambda=.92$, $F (2, 37) = 1.65$, $p = .206$, $\eta^2_p = .08$.

Race/ethnicity. Participants were categorized into “White” ($n = 30$) or “People of Color” ($n = 10$) based on their responses to race and ethnicity questions. Results revealed that the

dimension main effect was highly significant ($\Lambda=.19$, $F [2, 37] = 81.46$, $p = .000$, $\eta^2_p = .82$); the main effect of People of Color (POC) was non-significant ($F [1, 38] = 0.88$, $p = .353$, $\eta^2_p = .02$); and the dimension by POC status, the effect of interest, was non-significant, $\Lambda=.98$, $F (2, 37) = 0.29$, $p = .750$, $\eta^2_p = .015$.

Follow up analysis included adding the three subscales (Perceived Inequality, Egalitarianism, Sociopolitical Action) from the Critical Consciousness Scale as covariates. Results revealed that the dimension main effect was non-significant ($\Lambda=.947$, $F [2, 34] = 0.96$, $p = .395$, $\eta^2_p = .05$); the main effect of Inequality was non-significant ($F [1, 35] = .65$, $p = .426$, $\eta^2_p = .018$); and the Dimension by Inequality interaction, the effect of interest, was non-significant, $\Lambda=.976$, $F (2, 34) = .41$, $p = .666$, $\eta^2_p = .02$. The main effect of Egalitarianism was non-significant ($F [1, 35] = .01$, $p = .907$, $\eta^2_p = .00$); and the Dimension by Egalitarianism interaction, the effect of interest, was non-significant, $\Lambda=.999$, $F (2, 34) = .01$, $p = .988$, $\eta^2_p = .001$. The main effect of Sociopolitical Action was non-significant ($F [1, 35] = 2.01$, $p = .156$, $\eta^2_p = .06$); and the Dimension by Sociopolitical Action interaction, the effect of interest, was non-significant, $\Lambda=.960$, $F (2, 34) = .71$, $p = .497$, $\eta^2_p = .040$.

Language fluency. Participants were categorized into either being fluent in one ($n = 30$) or two ($n = 10$) languages. Results revealed that the dimension main effect was highly significant, ($\Lambda=.183$, $F [2, 37] = 82.76$, $p = .000$, $\eta^2_p = .82$); the main effect of Language Fluency was non-significant ($F [1, 38] = .24$, $p = .628$, $\eta^2_p = .006$); and the Dimension by Language Fluency interaction, the effect of interest, was non-significant, $\Lambda=.989$, $F (2, 37) = .20$, $p = .820$, $\eta^2_p = .01$.

Frequency of contact with English learners. Participants' responses were coded into different levels (Never, Less than once a month, Once a week, Several times a week, and Every day) of contact frequency they have with English Learners. Results indicated that the dimension main effect was highly significant, ($\Lambda=.298$, $F [2, 34] = 40.13$, $p = .000$, $\eta^2_p = .70$); the main effect of EL Frequency Contact was non-significant ($F [4, 35] = 2.16$, $p = .095$, $\eta^2_p = .20$); and the Dimension by EL Frequency Contact interaction, the effect of interest, was marginally significant, $\Lambda=.648$, $F (8, 68) = 2.06$, $p = .052$, $\eta^2_p = .20$. Thus, teacher's frequency of contact with English Learners may have subtle influences on dimension weights (*i.e.*, the salience of the different perceptual dimensions of English Learners), marginally significant results, however, are to be interpreted with caution, especially given the small samples under each level.

Additional multivariate analyses were conducted with frequency of contact recoded as Never ($n = 0$), Some ($n = 15$), or Every Day ($n = 20$) to address the concerns with sample sizes. Results revealed that the dimension main effect was highly significant, ($\Lambda=.199$, $F [2, 36] = 72.46$, $p = .000$, $\eta^2_p = .80$); the main effect of EL Frequency Contact was marginally significant ($F [2, 37] = 2.65$, $p = .084$, $\eta^2_p = .13$); and the Dimension by EL Frequency Contact interaction, the effect of interest, was significant, $\Lambda=.699$, $F (4, 72) = 3.54$, $p = .011$, $\eta^2_p = .16$. This finding indicated that dimension weights are stronger when there is more contact with English Learners (see Figure 4).

Figure 4. ELL Frequency Contact (re-coded) means and Dimension weights.

Education factors. Previous research studies also indicated various factors that were related to education, such as teachers' obtained level of education, teaching level, number of undergraduate courses taken that focused on ELs, and professional development about working with ELs.

Participant's level of education included holding an Associates ($n = 5$), Some College ($n = 15$), Bachelors ($n = 13$), and Masters Degree ($n = 7$). Results revealed that the dimension main effect was highly significant ($\Lambda = .170$, $F [2, 35] = 85.70$, $p = .000$, $\eta^2_p = .83$); the main effect of Education Level was non-significant ($F [3, 36] = 1.13$, $p = .349$, $\eta^2_p = .09$); and the Dimension by Education Level interaction, the effect of interest, was non-significant, $\Lambda = .785$, $F (6, 70) = 1.51$, $p = .189$, $\eta^2_p = .11$. Therefore, participants Education Level does not influence dimension weights.

Participants also provided information on the various types of training they had (i.e., Education Training), ranging from Bilingual Education, Early Education, Secondary Education,

Special Education, English as a Second Language (ESL), or a combination of two of the above (see Table 13). Multivariate results revealed that the dimension main effect was highly significant ($\Lambda=.172$, $F [2, 31] = 74.51$, $p = .000$, $\eta^2_p = .83$); the main effect of Education Training was significant ($F [7, 32] = 2.59$, $p = .031$, $\eta^2_p = .36$); and the Dimension by Education Training interaction, the effect of interest, was non-significant, $\Lambda=.591$, $F (14, 62) = 1.33$, $p = .215$, $\eta^2_p = .23$.

Table 13

Descriptives on Participants Education Training

Education Trainings	<i>n</i>	<i>M (SD)</i>	95%CI
Bilingual Education	4	.257 (.028)	[.199, .314]
Early & Bilingual Education	1	.366 (.056)	[.251, .481]
Early & Secondary Education	5	.252 (.025)	[.200, .303]
Early Education	13	.277 (.016)	[.245, .309]
Secondary Education	14	.233 (.015)	[.203, .264]
Special Education	1	.412 (.056)	[.297, .527]
Special Education (with ESL)	1	.164 (.056)	[.049, .279]
Special Education (with Learning & Behavior)	1	.262 (.056)	[.147, .377]

Another factor that was analyzed was the number of Undergraduate courses focused on teaching English Learners that participants had taken during their training. Nine participants reported having taken 0 courses; 19 participants reported having taken 1 course; 2 participants reported having taken 2 courses; 3 participants reported having taken 2; 4 participants reported having taken 2 courses; and 6 participants reported having taken more than 4 courses. Results revealed that the dimension main effect was highly significant ($\Lambda=.284$, $F [2, 33] = 41.65$, $p = .000$, $\eta^2_p = .72$); the main effect of EL Undergraduate Courses was non-significant ($F [5, 34] = .589$, $p = .708$, $\eta^2_p = .08$); and the Dimension by EL Undergraduate Courses interaction, the effect of interest, was non-significant, $\Lambda=.784$, $F(10, 66) = .853$, $p = .581$, $\eta^2_p = .11$.

Finally, participants indicated Yes ($n = 21$) or No ($n = 19$) if they had received professional development related to teaching ELs (see Figure 5). Multivariate results revealed that the dimension main effect was highly significant ($\Lambda=.145$, $F [2, 37] = 108.67$, $p = .000$, $\eta^2_p = .86$); the main effect of Professional Development was non-significant ($F [1, 38] = .064$, $p = .801$, $\eta^2_p = .002$); and the Dimension by Professional Development interaction, the effect of interest, was marginally significant, $\Lambda=.860$, $F (2, 37) = 3.01$, $p = .061$, $\eta^2_p = .14$.

Figure 5. Professional Development means and Dimension weights.

CHAPTER V: DISCUSSION

Historically, educational policies and language policies have played a major role in who obtains an education as well as who can access instruction (Koyama, 2004). Language policies have been influenced by the rise of immigrants in the United States, with school populations having an increase of English Learners (ELs) or English Language Learners (Mantero & McVicker, 2006). The rise of ELs in schools led to various federal and civil rights cases, such as the Chicano civil rights movements or East L.A. “walkouts” in 1968, *Lau v. Nichols* (1974), *Serna v. Portales Municipal Schools* (1974), *Rios v. Read* (1978), and *U.S. v. Texas* (1981), *Plyver v. Doe* (1982), *Castaneda v. Pickard* (1981), that produced policies to assure ELs had access to instruction, equal educational opportunities, and supports through language programs.

Despite federal policies that influenced the development of bilingual and language programs in schools, there are also sentiments of “English-only” from state policies in California, Arizona, and Colorado (Mantero & McVicker, 2006; Shin et al., 2015). These contradicting policies have been influenced by the socio-political attitudes specifically towards Latinx immigrants or Spanish-speaking immigrants threatening “American” patriotism values (Shin et al., 2015). These larger macrosystem attitudes impact smaller microsystems, such as schools and teachers’ beliefs, perceptions and practices (Bandura, 1986; Bronfenbrenner, 1979; Fang, 1996; Mantero & McVicker, 2006).

The U.S. Department of Education reported in *The Condition of Education* (2019) an estimate of more than four million English Learners in public schools, with 76% of them being Spanish-speaking students (NCELA, 2017; NEA, 2017). Student demographics have become more culturally and linguistically diverse while the teaching staff has remained homogenously White and female, leading to a cultural mismatch between students and teachers (Moreno &

Gaytan, 2013). Consequently, these mismatches lead to teacher-based prejudices, biases, microaggressions, discrimination, stereotypes, misconceptions, and deficit-oriented perceptions (Benner & Graham, 2011; Ford et al., 2013; Gonzalez & Ayala-Alcantar, 2008; Moreno & Gaytan, 2013; Staats, 2016). These deficit misconceptions of English Learners have been found to impact teachers' practices where ELs are vulnerable to an instruction from a pedagogy of poverty (Diaz et al., 2013). Research studies have supported that teacher's perceptions impact student's achievement and academic performance (Diaz et al., 2013; Ferguson, 1998, as cited in Callahan; Ghaouar, 2015; Glock & Karbach, 2015; Glock & Kovacs, 2013; Lumdsen, 1997; Mantero & McVicker, 2006; Richardson, 1996; Sas, 2009; van der Bergh et al., 2010, as cited Glock & Kovacs, 2013; Youngs & Youngs, 2001). However, these perceptions have been impacted by various factors such as demographic characteristics, contact with ELs, teaching experience, undergraduate courses about ELs, and professional development (Marx, 2002/2009; Matero & McVicker, 2006; Pettit, 2011; Sas, 2009; Youngs & Youngs, 2001).

These misperceptions, myths, and deficit perceptions of students have been found to be challenged or deconstructed by exposing teachers to counter-narratives, training, cultural immersion, guided reflections, and courses rooted in a critical race theory (Fránquiz et al., 2011; Gonzalez & Ayala-Alcantar, 2008; Kolano & King, 2015; Markos, 2012; Ortiz, 2011). These perceptions are usually changed through developing a critical pedagogy or critical caring praxis. Therefore, another factor that was taken into consideration as a potential influence were teachers' level of critical consciousness.

Considering the strong implications that teachers' perceptions have upon students' academic performance, the current study considered it critical to continue examining teachers' perceptions of English Learners. A literature review was completed to obtain a comprehensive

understanding of teachers' perceptions toward English Learners, which helped with development of the stimuli. The literature review also reflected that the current studies have used qualitative or quantitative methodological approaches that posed limitations towards examining implicit perceptions. The purposes of the current study were to 1) discover pre-service and in-service teachers underlying perceptual dimensions of English Learners, 2) identify the factors that influence these perceptual dimensions, and 3) assess the influence that a Critical Consciousness has on perceptions of English Learners.

To address these purposes, the current study had pre-service and in-service teachers complete a card-sorting task of statements of English Learners. These statements were derived from the existing literature that was initially comprised of approximately 400 individual statements. These statements were then categorized into 28 categories, resulting in 92 statements for the card-sorting task. Participants also completed a 7-point Likert scale to indicate the level of truthfulness for each statement. Data from the card-sorting task was analyzed using Non-metric Multidimensional Scaling (NMDS) techniques, to discover cognitive maps or configurations of a visual representation of the dimensions or perceptions held by teachers toward English Learners. Individual differences by participants and subgroup differences were analyzed by using the questionnaire data (e.g., demographics, truthfulness ratings, and critical consciousness). Results of the current study expand our understanding of teachers' perceptions toward English Learners through the use of Multidimensional Scaling (MDS) as well as identify factors that influence teacher's perceptions.

Summary of Findings

The current study was the first one known to use MDS to generate cognitive maps of teachers' perceptions toward English Learners. It was also the first study to complete a

comprehensive literature analysis of teachers' perceptions to develop stimuli for a card-sorting task. A critical component of this study required the research to examine and interpret the dimensions generated from using Multidimensional Scaling (MDS) and Individual Differences Scaling (INDSCAL) analyses.

MDSCAL Results

Results from MDSCAL solution generated three dimensional configurations, which suggested that all participants attended primarily to a statement being Positive vs. Negative during the card-sorting task. Their perceptions were secondarily influenced by whether a statement was about English Learners or about Teachers, thus comprising the Dimension 2: Student Statements vs. Teacher Statements. Finally, perceptions were also influenced by the systemic barriers or resources teachers' encounter when teaching English Learners; thus Dimension 3 represents Systemic Barriers vs. Resources.

INDSCAL Results

As discussed, INDSCAL was used to examine individual differences across participant-by-participant and subgroup (pre-service vs. in-service teachers) differences. These individual differences were examined by analyzing subject weights. Results from INDSCAL participant-by-participant did not generate an optimal solution, mirroring similar conclusions made by Pecho (2017) where the binary nature of the sorting data at an individual level resulted in similar findings.

INDSCAL analysis by teaching status (Pre-service vs. In-service teachers) subgroups generated a solution with 3 dimensions. Examination of these dimensions, as well as correlations with MDSCAL dimensions, indicated that both MDSCAL and INDSCAL generated highly similar perceptual dimensions.

Subject weights of participants teaching status (Pre-service vs. In-service) were compared to measure the importance of each dimension to each subgroup. Subject weights indicated that both Pre-service and In-service attended roughly the same amount and primarily to Dimension 1 (whether statements were Positive or Negative). The second-most important dimension for both Pre-service and In-service teachers was Dimension 2: Student Statements vs. Teacher Statements. Dimension 2 has similar subject weights across both subgroups suggesting that both Pre-service and In-service teachers attend about the same to whether statements are about students (English Learners) or about teachers. Finally, a differentiation between subgroups weights occurred in Dimension 3, which indicated that In-service teachers attend about two times more to this dimension in comparison to Pre-service teachers. I concluded that teaching status, which includes the amount of teaching experience, appears to impact the ability of participants to attend to these systematic barriers and resources encountered when teaching English Learners. Based on this finding, I concluded that teaching experience matters, which is a factor that has been found to influence teachers' perceptions of English Learners (Mantero & McVicker, 2006). This factor of teaching experience was also further analyzed and findings are discussed below.

Correlations with Other Factors

Participants completed two rating scales: (1) Truthfulness Likert scale and (2) Critical Consciousness Scale. Correlations were conducted to examine the relations between the average Truthfulness rating from Pre-service teachers, In-service teachers, and all participants with each dimension identified in MDSCAL and INDSCAL analyses. Findings suggested that Dimension 1 had the same interpretation across individual differences analysis by subgroups (INDSCAL) and MDSCAL, which led to similar patterns of correlation results (see Table 8) for Dimension 1

from INDSCAL by subgroup. The average Truthfulness ratings for pre-service, in-service, and all teachers were positively correlated with this Dimension 1.

Correlations were conducted between participants' Critical Consciousness and their perceptions of English Learners as indicated by results from Dimensions 1, 2, and 3. Results indicated no significant correlations between the three different Critical Consciousness subscales and Dimensions 1, 2, or 3. Therefore, teachers' critical consciousness does not relate to their perceptions of English Learners.

Repeated Measures MANOVAS

Analysis were conducted to examine the impact various demographic factors as indicated by previous research studies had upon teachers' perceptions toward English Learners (Mantero & McVicker, 2006; Marx, 2002/2009; Sas, 2009; Youngs & Youngs, 2001). Statistical analysis included conducting Repeated Measure MANOVAS to examine the influence these factors had upon Dimension 1, 2, and 3. Results indicated significant interaction findings for the following factors: Teaching Status (Pre-service vs. In-service), Frequency of Contact with ELs, and Professional Development. Therefore results suggest that the frequency of contact is a factor that strongly influences teachers' perceptions of English Learners. Professional Development also had a subtle influence on Dimension weights, such that the less Professional Development the more teachers attended to Dimension 1 and less to Dimension 2 and 3 (see Figure 5). Also, the more Professional Development, the less teachers attended to Dimension 1; and there was more variability to attending Dimension 2 and 3. Results indicated non-significant interaction findings for the following factors: Gender, Race/Ethnicity, Language Fluency (i.e., being monolingual or bilingual), Education level (i.e., participants level of education), Education Training (e.g.,

Bilingual, Early, Secondary, etc.), Undergraduate courses focused on ELs. Therefore, these factors did not have any influence on the dimension weights.

Summary and Implications

In summary, the results of the current study expand on the current understanding of teachers' perceptions toward English Learners. Similar to Pecho (2017), which used a similar methodological approach, the current study indicated that MDS was an appropriate methodological approach to examine teachers' perceptions toward English Learners. Results generated a visual representation through a cognitive map of teachers' perceptions toward English Learners. This cognitive map encompassed a three dimensional solution. Dimension 1 was interpreted to represent the valence (Positive vs. Negative) of each stimuli item; Dimension 2 was interpreted to represent statements about English Learners or Teachers in the stimuli; and Dimension 3 was interpreted to represent the Systemic Barriers and Resources encounter when teaching ELs. Findings per subject weights comparisons also indicated that both Pre-service and In-service teachers' perceptions were primarily influenced by Dimension 1, then Dimension 2, and lastly Dimension 3. Within Dimension 3, In-service teachers' perceptions were two times as important to their classification in comparison to Pre-service teachers, suggesting teaching experience matters when attending to Systemic Barriers or Resources. Additionally, teachers' perceptions were found to be influenced by their Teaching Status (Pre-service vs. In-service), Frequency of Contact with ELs, and Professional Development. Other demographic factors, such as gender, race/ethnicity, and language fluency did not have any influence on dimension weights. This finding suggests that teachers' demographics or background might not have a big of an impact upon their perceptions toward English Learners.

The current study has several educational and clinical implications. Based on the MDS findings from this current study, teachers (Pre-service and In-service) were able to identify and differentiate statements from positive vs. negative statements about English Learners. This finding can be related to being able to differentiate between deficit-based and asset-based statements of English Learners. Previous studies have emphasized the importance of deconstructing deficit-based perceptions by being exposed to counter-narratives, which are essentially asset-based narratives of English Learners (Fránquiz et al., 2011; Gonzalez & Ayala-Alcantar, 2008; Kolano & King, 2015; Markos, 2012; Ortiz, 2011). Another critical factor that helps with deconstructing deficit-based perceptions involves cultural immersions experiences. These immersion experiences are often encountered when educators begin to teach, which is when they experience direct contact with EL students as well as professional development about working with ELs. Therefore, it can be concluded that teaching experience matters and it may be a critical time period for teachers to be able to deconstruct their deficit-based perceptions of English Learners.

Another educational implication based on the Dimensions that were identified is that teachers' thinking is generally on a continuous distribution that ranges between two opposing ends. For example, teachers were able to sort out stimuli from positive vs. negative, about ELs vs. about teachers, or Systemic Barriers vs. Resources, as seen across all dimensions. Their thinking did not reflect the ability to identify various content areas (e.g., 28 categories as identified by researcher) in the card-sorting piles data. The majority of participants sorted the cards into two to three piles, reflecting a categorical thinking.

Clinical implications, specifically for school psychologists, involve being familiar with the factors that impact and can influence teachers' perceptions. As school psychologist we are

often consulting with teachers and working in collaboration when evaluating student's academic and social/emotional performance. With our student population becoming more culturally and linguistically diverse, it is critical to also have an understanding of how teachers' perceptions can impact English Learners' performance. School psychologists can also influence systems and advocate for teacher's to obtain professional development about working with ELs.

Limitations and Future Directions

Although, the current study contributed important findings that have expanded the understanding of teachers' perceptions toward English Learners, there were various limitations. Current findings should not be over-generalized considering the limitations encounter with the obtained sample. The study consisted of majority white-female participants ($n = 30$), possibly impacting findings when examining gender and race/ethnicity and their influences on dimension weights. Participants' lack of diverse backgrounds may also have contributed to the lack of significant findings between participants' critical consciousness, as measured with the CCS, and dimension weights. The obtained sample, however, can be considered representative of the current teaching population. Another limitation is that participants were drawn from a convenience sample of an undergraduate institution and school district in Illinois. Teachers' perceptions toward English Learners may differ from our current findings among a sample of participants in other regions of the country, which may be more racially/ethnically and linguistically diverse. Therefore, future studies should replicate the current study with a sample of participants that is more diverse in gender, race/ethnicity and linguistically.

Another limitation was found when analyzing individual differences by participants due to the card-sorting data being binary in nature. This limitation was also observed in Pecho (2017), where it was suggested for future studies to consider different data collection methods to

prevent binary data. This may involve exploring different methodology besides card-sorting tasks. However, this methodology may be considered for future studies when examining subgroup differences, such Pre-service vs. In-service teachers. Further, the Pre-service and In-service teachers' differences in subject weights may also reflect differences due to age. Thus, future research should consider controlling for age.

Although, MDS has a lot of methodological strengths, such as discovering underlying dimensions. Similar to Pecho (2017) the current researcher also noted that these dimensions were influenced by the researcher's subjective interpretation when analyzing the ends of each dimension. For example, Dimension 3 was less straightforward when interpreting and could potentially be interpreted as something else depending on the researchers' perspective. Future studies could follow up with participants after running MDS analyses to help with interpreting the dimensions.

Although, the current study examined teachers' perceptions by using teachers as participants, future studies may also consider examining teachers' perceptions of English Learners by having students complete the card-sorting task to examine differences. This was noted in a study by Garcia and Chun (2016), where the sample was comprised of Latino students to investigate the effects of culturally responsive teaching and teacher expectations. Another population that future studies may also consider is school psychologist perceptions towards English Learners, especially due to the critical role they play in completing evaluations, consultation, and system-changes in schools.

In summary, teachers' perceptions toward English Learners are of similar constructs across Pre-service and In-service teachers. While a teachers' critical consciousness does not appear to influence their perceptions, factors such as Teaching Status, Frequency of Contact with

ELs, and Professional Development do indicate to influence these perceptual dimensions. Based on these data, it can be concluded that teaching experience matters. In particular the more years in teaching experience, training and interaction with ELs was seen to influence perceptions to be more complex. In-service teachers demonstrate more nuance and more complex perceptions of English Learners than the Pre-service counterparts, a difference that would be important to follow up in future research.

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APPENDIX A: DEMOGRAPHICS QUESTIONNAIRE

Demographics and Background

ID #: _____

Age: _____ Race: _____

Gender: _____ Ethnicity: _____

What is the highest grade of school you have completed, or the highest degree you have received?

- ☐ Elementary and Junior high school (grades 1-8)
- ☐ High school (grades 9-12, no degree)
- ☐ High school graduate (or equivalent)
- ☐ Some college (1-4 years, no degree)
- ☐ Associate's degree (including occupational or academic degrees)
- ☐ Bachelor's degree (BA, BS, AB, etc)
- ☐ Master's degree (MA, MS, MENG, MSW, etc)
- ☐ Professional school degree (MD, DDC, JD, etc)
- ☐ Doctorate degree (PhD, EdD, etc)

What education program are you currently enrolled in or received your educational training from?

- ☐ Early Education
- ☐ Secondary Education
- ☐ Bilingual Education

How many years do you have in teaching experience?

- ☐ <1 year
- ☐ 2 years
- ☐ 3 years
- ☐ 4 years
- ☐ 5 years
- ☐ 6 years
- ☐ more than 7 years

How many languages are you fluent in?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ more than 3

Do you have experience learning a foreign language?

- ☐ Yes
- ☐ No

If you answered yes, how would you describe your experience?

- ☐ Extremely good
- ☐ Good
- ☐ Neutral
- ☐ Bad
- ☐ Extremely bad

How many undergraduate level courses have you taken focused on English Learners?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ more than 4

How many graduate level courses have you taken focused on English Learners?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ more than 4

Have you had professional development about English Learners?

- ☐ Yes
- ☐ No

If you answered yes, when was the last time you had this training?

- ☐ _____ years
- ☐ _____ months

Do you have experience working with English Learners?

- ☐ Yes
- ☐ No

If you answered yes, how would you describe your contact with English Learners?

- ☐ Extremely good
- ☐ Good
- ☐ Neutral
- ☐ Bad
- ☐ Extremely bad

Did you have exposure to English Learners while you were in K-12?

- ☐ Yes
- ☐ No

How often do you have contact (verbal or non-verbal) with students that are English Learners?

- ☐ Never
- ☐ Less than once a month
- ☐ Once a month
- ☐ Several times a month
- ☐ Once a week
- ☐ Several times a week
- ☐ Every day

Approximately, how many English Learner students have you taught over the course of your career?

- ☐ _____

APPENDIX B: PRACTICE CARDS

CARDS FOR PRACTICE CARD-SORTING TASK- to be cut out and laminated into 3x5

index cards

Adapted from Pecho (2017).

APPENDIX C: CARD-SORTING TASK INSTRUCTIONS

Instructions

(Adapted from Pecho, 2017)

“You are participating in a study that is investigating the characteristics among English Learners or students that you may potentially have in your classroom. The following component of the study is a card-sorting task. To make sure you have understood the task, you will first complete a practice trial. I will also use a timer to collect data on duration of the task, however this task is not a timed task and you have as long as you need to complete the task.”

“There are nine practice cards in front of you. When I say ‘begin’, please sort the cards into piles, placing similar cards in the same pile and dissimilar cards in a different pile(s). At least two piles must be created, and there is no right or wrong way of sorting the cards. When you are done please let me know by saying, ‘Done’”

“Begin.” (*Start timer*)

(After sorting)

“Thank you. Tell me about how did you decide to sort the cards?”(*Response should indicate, by color/size/shape*)

“Good. You indicated to understand that cards are to be sorted on similarities and created at least two piles. It was possible to sort them in a different way, such as (*name a different way from the indicated above*). Both ways of sorting cards are acceptable, there is not a right or wrong way of sorting the cards into piles. Cards are to be sorted based on however *you* perceive them to similar.”

“Now, that you seem to understand how to do the card-sorting task. I am going to ask you to sort more cards. Here is a stack of index-cards that have statements about English Learners. These statements were gathered from the extant literature about English Learners. The statements are not organized in any particular order. Your task is to sort the cards/statements into piles based on similarity. Therefore, statements that you perceive to be similar should be placed into the same pile. Statements that you perceive to not be similar should not be placed in the same pile. You may place as little as one card per pile, but you must create more than two piles. Also, there is not a right or wrong way to sort the cards.”

“Remember: It is important to focus on the degree of similarity of each statement, not your level of agreement or disagreement with each statement.”

“When I say Begin, you may start sorting the cards into piles, and please indicate when you're done...Begin” (*Start Timer*).

(*Stop timer when participant indicates being Done sorting*)

(After sorting)

“Please bind the cards in each pile with a rubber band to make sure they remain sorted. Now, take a post-it-note and pen and assign a label to each pile. There are not right or wrong labels.”

(After labeling)

“Remember, there are not right or wrong way of sorting or group the cards, and many people do not change their piles. However, after labeling each pile, now you have the opportunity to determine if you are satisfied with your sorting of each statement. If there is a statement(s) that you are not satisfied, this is the time to move it to a different pile.”

“Thank you for your participation.”

APPENDIX D: TRUTHFULNESS LIKERT RATING SCALE

Instructions: Please read the following statements about English Learners that were obtained from the extant literature. On a scale from 1 (completely false) to 7 (completely true), please rate the extent to which *each* of the following statements is true.

	Consensus Stimuli	Completely False		Neither true or false			Completely True	
1	English Learners are lazy and don't care about their education	1	2	3	4	5	6	7
2	English Learners are members of a gang	1	2	3	4	5	6	7
3	English Learners care about their education, thus they are well-behaved	1	2	3	4	5	6	7
4	If English Learners would be more intelligent they would learn English more quickly	1	2	3	4	5	6	7
5	English Learners have difficulties because they are not very intelligent	1	2	3	4	5	6	7
6	English Learners have little knowledge to build upon the classroom	1	2	3	4	5	6	7
7	English Learners have street smarts but not school smarts	1	2	3	4	5	6	7
8	English Learners with an accent are less intelligent	1	2	3	4	5	6	7
9	English Learners language skills are not indicative of their intelligence	1	2	3	4	5	6	7
10	English Learners have the capacity to learn despite their language skills	1	2	3	4	5	6	7
11	I feel more comfortable working with English Learners than other minority students	1	2	3	4	5	6	7
12	I can relate to the struggles English Learners encounter and understand their needs	1	2	3	4	5	6	7
13	English Learners are typically illegal immigrants and drain tax payer resources	1	2	3	4	5	6	7
14	English Learners' families do not want to learn English	1	2	3	4	5	6	7
15	English Learners often do not receive support in schools	1	2	3	4	5	6	7
16	English Learners often do not receive the support they need from home	1	2	3	4	5	6	7

	Consensus Stimuli	Completely False		Neither true or false			Completely True	
17	English Learners tend to go to the worst schools, and the worst schools have the most English Learners	1	2	3	4	5	6	7
18	English Learners are poor	1	2	3	4	5	6	7
19	English Learners come from low income families	1	2	3	4	5	6	7
20	The faster English Learners students assimilate the better of they will be	1	2	3	4	5	6	7
21	The more English Learners insist in maintaining their culture and language the slower they will be to assimilate and learn English and/or the worst off they will be	1	2	3	4	5	6	7
22	English Learners are at a higher risk for behavioral and/or learning difficulties	1	2	3	4	5	6	7
23	English Learners' teachers should not be held accountable for their achievement	1	2	3	4	5	6	7
24	English Learners are so far behind they will never catch up	1	2	3	4	5	6	7
25	Teachers have low expectations from English Learners	1	2	3	4	5	6	7
26	English Learner students are more motivated to succeed than many of their native English-speaking peers	1	2	3	4	5	6	7
27	English Learners will be academically successful, and are just as capable of going to college as native English speakers	1	2	3	4	5	6	7
28	Mainstream teachers are responsible for English Learners' achievement	1	2	3	4	5	6	7
29	Teachers should not see color/race in the classroom	1	2	3	4	5	6	7
30	I desire to teach English Learner students	1	2	3	4	5	6	7
31	English Learner students' families expose them to a wide range of cultural experiences	1	2	3	4	5	6	7
32	English Learner students are not exposed to cultural enriching experiences by their families	1	2	3	4	5	6	7
33	English Learners knowledge is due to their enriching cultural experiences	1	2	3	4	5	6	7

	Consensus Stimuli	Completely False		Neither true or false			Completely True	
34	English Learner students are not exposed to cultural enriching experiences by their families	1	2	3	4	5	6	7
35	It is important for mainstream teacher to understand and know how English Learner parents' view schools and learning	1	2	3	4	5	6	7
36	English Learner students have many strengths that they bring with them into the classroom	1	2	3	4	5	6	7
37	English Learner students will succeed in school when mainstream teachers affirm their cultural identities	1	2	3	4	5	6	7
38	English Learners parents do not care about education and don't want their children learning English	1	2	3	4	5	6	7
39	English Learner's parents want their children to learn English and/or be bilingual	1	2	3	4	5	6	7
40	English Learners struggle because their parents do not care about their education	1	2	3	4	5	6	7
41	English Learners have unhappy home lives	1	2	3	4	5	6	7
42	English Learners can't speak their native language correctly	1	2	3	4	5	6	7
43	English Learners can't speak standard English	1	2	3	4	5	6	7
44	English Learners have weaker language skills	1	2	3	4	5	6	7
45	English Learners need to be immersed in English-only	1	2	3	4	5	6	7
46	Keeping and strengthening native language skills (L1) of English Learners helps their ability to learn English	1	2	3	4	5	6	7
47	All students in the United States should learn to speak more than one language	1	2	3	4	5	6	7
48	Bilingualism benefits English Learners	1	2	3	4	5	6	7
49	Bilingual students have stronger higher-level thinking skills than students who only speak English	1	2	3	4	5	6	7
50	English Learners should not be placed in a regular classroom until they are fluent in English	1	2	3	4	5	6	7

	Consensus Stimuli	Completely False		Neither true or false			Completely True	
51	Having English Learner students in our classrooms is a gift	1	2	3	4	5	6	7
52	English Learners' inclusion in general education/mainstream classroom can be beneficial for themselves and others	1	2	3	4	5	6	7
53	It is important for English Learner students to feel comfortable and receive teacher assistance when transitioning into a general education classroom	1	2	3	4	5	6	7
54	Relying on their native language is a barrier to learning English	1	2	3	4	5	6	7
55	English Learners second language acquisition process involves accessing their native language	1	2	3	4	5	6	7
56	Spanish language skills are helpful in learning English language as a second language	1	2	3	4	5	6	7
57	English Learners social language skills occur before academic language skills	1	2	3	4	5	6	7
58	English Learners who learn to read and write in their native language first acquire stronger English language and literacy skills later.	1	2	3	4	5	6	7
59	Bilingual or language programs are not necessary and divert resources that would be better spent elsewhere, such as gifted programs	1	2	3	4	5	6	7
60	English Learners will not succeed without a native English-speaking role model	1	2	3	4	5	6	7
61	English Learners need to be helped become Americanized	1	2	3	4	5	6	7
62	English Learner students need support from teachers beyond academics	1	2	3	4	5	6	7
63	English Learners need teachers that provide a support system and guides them in schools	1	2	3	4	5	6	7
64	English Learners are aggressive; I would worry for my safety in teaching in a school with a lot of English Learners	1	2	3	4	5	6	7
65	I fear teaching English Learners, I would be uncomfortable	1	2	3	4	5	6	7

	Consensus Stimuli	Completely False			Neither true or false		Completely True	
66	I feel prepared in teaching English Learners	1	2	3	4	5	6	7
67	Teachers' racism impacts English Learners achievement	1	2	3	4	5	6	7
68	Only teachers of color can be effective teaching English Learners or relate to English Learner students	1	2	3	4	5	6	7
69	I prefer to teach students from similar backgrounds as me.	1	2	3	4	5	6	7
70	Cultural and linguistic differences between students and teachers inhibits effective education of English Learners	1	2	3	4	5	6	7
71	Most teachers are not prepared in working with English Learners	1	2	3	4	5	6	7
72	Teachers need special training in working with English Learners	1	2	3	4	5	6	7
73	Most teachers don't want to work with English Learners	1	2	3	4	5	6	7
74	Training all teachers to work with English Learners is a waste of resources	1	2	3	4	5	6	7
75	English Learners need teachers that can create culturally inclusive learning materials	1	2	3	4	5	6	7
76	I know specific strategies for designing instruction that is responsive to students' language needs	1	2	3	4	5	6	7
77	I know specific strategies for designing instruction that is responsive to students' cultural differences	1	2	3	4	5	6	7
78	Teachers lack awareness about English Learners	1	2	3	4	5	6	7
79	Majority of English Learners speak Spanish and come from Mexico	1	2	3	4	5	6	7
80	English Learners from Spanish-speaking countries tend to be more difficult to work with than students from European countries	1	2	3	4	5	6	7
81	All English Learners are students of color	1	2	3	4	5	6	7
82	Teaching English Learners is a difficult and scary experience	1	2	3	4	5	6	7
83	Teaching English Learners is a challenging and rewarding experience	1	2	3	4	5	6	7

	Consensus Stimuli	Completely False		Neither true or false			Completely True	
84	Teaching English Learners has made me a better teacher	1	2	3	4	5	6	7
85	Teaching English Learners is an empathy building experience	1	2	3	4	5	6	7
86	I look forward to having English Learner students in my classroom	1	2	3	4	5	6	7
87	I have worked with a lot of English Learner students	1	2	3	4	5	6	7
88	I have had the opportunity to develop close relationships with English Learner students and/or their families	1	2	3	4	5	6	7
89	Teaching language minority students successfully means above all challenging one's attitudes toward the students, their languages and cultures, and their communities	1	2	3	4	5	6	7
90	The low achievement of English Learner students often is the result of negative teacher attitudes towards them	1	2	3	4	5	6	7
91	Teachers should differentiate instruction and assessment for English Learners	1	2	3	4	5	6	7
92	It is the responsibility of teachers to be aware of the language diversity of learners in their classrooms and to structure their lessons, as well as adjust their teaching styles, to meet these students' needs	1	2	3	4	5	6	7
93	English Learner students deserve more support and caring teachers in schools	1	2	3	4	5	6	7

APPENDIX E: CRITICAL CONSCIOUSNESS SCALE

Diemer, Rapa, Park, & Perry (2017)

Instructions: Please respond to the following statements by circling how much you agree or disagree with each statement. For each statement, choose “Strongly Disagree,” “Mostly Disagree,” “Slightly Disagree,” “Slightly Agree,” “Mostly Agree,” or “Strongly Agree.”

Strongly Disagree	Mostly Disagree	Slightly Disagree	Slightly Agree	Mostly Agree	Strongly Agree
----------------------	--------------------	----------------------	-------------------	-----------------	-------------------

1	2	3	4	5	6
---	---	---	---	---	---

1. Certain racial or ethnic groups have fewer chances to get a good high school education

1	2	3	4	5	6
---	---	---	---	---	---

2. Poor children have fewer chances to get a good high school education

1	2	3	4	5	6
---	---	---	---	---	---

3. Certain racial or ethnic groups have fewer chances to get good jobs

1	2	3	4	5	6
---	---	---	---	---	---

4. Women have fewer chances to get good jobs

1	2	3	4	5	6
---	---	---	---	---	---

5. Poor people have fewer chances to get good jobs

1	2	3	4	5	6
---	---	---	---	---	---

6. Certain racial or ethnic groups have fewer chances to get ahead

1	2	3	4	5	6
---	---	---	---	---	---

7. Women have fewer chances to get ahead

1	2	3	4	5	6
---	---	---	---	---	---

8. Poor people have fewer chances to get ahead

1 2 3 4 5 6

9. It is a good thing that certain groups are at the top and other groups are at the bottom

1 2 3 4 5 6

10. It would be good if groups could be equal

1 2 3 4 5 6

11. Group equality should be our ideal

1 2 3 4 5 6

12. All groups should be given an equal chance in life

1 2 3 4 5 6

13. We would have fewer problems if we treated people more equally

1 2 3 4 5 6

Instructions: Please respond to the following statements by circling how often you were involved in each activity in the last year. For each statement, choose “Never did this,” “Once or twice last year,” “Once every few months,” “At least once a month,” or “At least once a week.”

Never did this	Once or twice last year	Once every few months	At least once a month	At least once a week
1	2	3	4	5

14. Participated in a civil rights group or organization

1 2 3 4 5

15. Participated in a political party, club, or organization

1 2 3 4 5

16. Wrote a letter to a school or community newspaper or publication about a social or political issue

1 2 3 4 5

17. Contacted a public official by phone, mail, or email to tell him/her how you felt about a particular social or political issue

1 2 3 4 5

18. Joined in a protest march, political demonstration, or political meeting

1 2 3 4 5

19. Worked on a political campaign

1 2 3 4 5

20. Participated in a discussion about a social or political issue

1 2 3 4 5

21. Signed an email or written petition about a social or political issue

1 2 3 4 5

22. Participated in a human rights, gay rights, or women's rights organization or group

1 2 3 4 5

APPENDIX F: CARD-SORTING TASK PILE NAMES

Participant	Duration (minutes)	Pile #	Pile Name
001	12	1	my specific roll in interacting with English Learners
		2	family attributes to English Learners
		3	cultural assets that identify (loosley) students who are English learners
		4	What English Learners "need"
		5	impact of the school, teacher, programs offered by educators to English Learners
		6	Linguistic factors that impact English Learners
		7	"results" of high frequency of English Learners
002	14	1	Things I believe to be true statements
		2	Things I believe are true, but I need/want to incorporate into my teaching
		3	Things I believe to be wrong or ignorant statements
003	14	1	Positive
		2	Negative
		3	Neutral or Needed More Info
004	8	1	More positive suggestion
		2	Negative saying
		3	Stereotypes
005	9	1	Empathy approach
		2	"Americanization" method -waste of time
		3	learning about the student as a whole
		4	EL's are stereotyped and disregarded
006	8	1	Strategies
		2	Teachers jobs/views
		3	instruction
		4	negative statements about EL's
		5	assimilation, skills EL's bring to the classroom
		6	all students
		7	motivation
		8	Spanish
		9	positive statements about EL's
		10	language acquisition
		11	relatability
007	12	1	Teacher statements
		2	False statements
		3	True statements
008	31	1	Assumptions/Misconceptions Regarding Specifically ELL
		2	Misconceptions Regarding Race/Ethnicity

		3	Positive Instructional Strategies
		4	Assimilationist Views of ELL Students
		5	Lack of important care of ELL Students/Negative teacher attitude
		6	Straight Up deficit view of ELL students
		7	Struggles/Challenges ELL Students face
		8	Positive Classroom Benefits in Classes with ELL Students
		9	Positive Educator Behaviors towards ELL Students
		10	deficit view regarding language only of ELL Students
009	11	1	Affirming/Positive Thinking & Strategies to help English Learners
		2	Deficit Thinking/Negative Thinking & Strategies that hold back English Learners
		3	Facts about English Learners that may be true or false
		4	Personal Statements I relate/agree with
		5	Personal Statements I don't relate/agree with
010	14	1	Deficit Thinking
		2	"I" statements
		3	Opinions
		4	Facts
		5	What teachers can do
		6	Positive comments
011	10	1	Yes/agree
		2	maybe/sometimes/I don't know
		3	no/disagree
012	9	1	What I believe are true statements
		2	Deficit beliefs and stereotypes
		3	What I believe are false statements
013	11	1	"I" Negative Statements
		2	"I" Positive Statements
		3	Negative Connotation on teaching ELs
		4	Negative about EL parents
		5	Positive about EL parents
		6	Idea that being bilingual is beneficial
		7	Positive thoughts on teaching Bilingual students
		8	Negative connotations about ELs
014	10	1	What teachers should do
		2	General statements *not positive or negative
		3	Positive thoughts about ELL
		4	Negative thoughts about ELL
015	16	1	Culture assimilation
		2	Teacher/student responsibility
		3	Teacher confidence on teaching

		4	ELL success is due to teacher
		5	Negative socioeconomic views
		6	ELL class is a waste
		7	Society's negative views on ELL at risk etc
		8	ELL motivation & success - positive
		9	Positive academic views on ELL student
		10	Negative society views about ELL students
		11	Negative home and family values about ELL students
		12	Negative teacher views on ELL students
		13	Negative opinion on an ELL teacher
		14	Skills used to improve English
		15	ELL values
		16	What teachers should do for ELL students
		17	U.S. ideas
		18	Negative attitudes about teaching
016	8	1	Personal experiences
		2	Do not Agree with
		3	Agree with
017	11	1	Statements that are neutral/indifferent about
		2	Statements I agree with
		3	Statements that I disagree with/are opinions
018	19	1	Positive classroom environment for ELs
		2	Personal teaching statements
		3	The strength that culture has one ELs
		4	Deficit thinking of ELs
019	23	1	Inconclusive
		2	Positive & Truthful
		3	False & Harsh
020	32	1	Achievement of ELLs
		2	ELLs & Race
		3	Language skills of ELLs
		4	Bad things about ELLs/Stereotypes
		5	Positive things about ELLs & the possible teaching experiences you can have
		6	Things I haven't done
		7	Positive things about Bilinguals & how they can still succeed (benefits)
		8	Instruction I do know for ELLs
		9	ELLs behavior in the classroom
		10	Lack of teacher knowledge for ELLs
		11	Support of ELLs in school
		12	Teachers who are ignorant and uninformed about ELLs
		13	Culture
021	10	1	Neutral/not sure

		2	TRUE
		3	FALSE
022	16	1	School/Building as a Whole
		2	Student
		3	Teacher POV
		4	Family
		5	Negative
023	14	1	Facts: Could be written in a study or article
		2	Opinion- Negative
		3	Opinion- More Positive
		4	Professional Preferences (Opinions)
024	14	1	Teacher Responsibilities
		2	Teacher challenges teaching ELLs
		3	Classroom/Academic Concerns teaching ELL learners
		4	Personal Perceptions of Working with ELLs
		5	ELL Strengths
		6	Cultural/Language Concerns teaching ELLs
		7	Negative Stereotypes
025	18	1	"I" Statements
		2	Positive
		3	Family/Culture
		4	Teachers
		5	Neutral
		6	Negative
026	20	1	Things we've been taught
		2	Positive
		3	Absolutes
		4	Bossy- Opinionated People
		5	Whatever Pile
		6	Things that would help ELs be successful
		7	Opinions Negative
027	19	1	Skills/tools gained
		2	Undecided pile because of specific cases
		3	Policies
		4	My experiences with ELLs
		5	Teaching improvement to make ELLs learning experience better
		6	Negative perspective/views/attitudes about ELL
028	24	1	Positive assumptions
		2	Negative assumptions
		3	Supports
		4	Strongly ignorant teacher attitudes
		5	Aware yet ignorant teacher attitude
		6	Realistic aware positive teacher attitude

		7	Very aware but extreme teacher attitude past realistic/aware/positive
029	22	1	If this happened, it would be lovely
		2	Negative perceptions of ELL
		3	Ability to learn & receive education
		4	Support
		5	Thoughts on ELL families
		6	Thoughts on how ELL learn
		7	Perceptions of how teachers connect/relate to ELL
		8	Cultural identities
		9	Professional learning strategies
		10	Statements a teacher may make
030	29	1	Other languages are important
		2	Accusation that teacher lack awareness about ELs
		3	Americanized
		4	Fear
		5	"I know"
		6	Skills are important
		7	Hope/All students in the U.S. should learn to speak more than one language
		8	Looking forward to having ELs in my classroom
		9	ELs are culturally enriched
		10	Pressure of teachers
		11	Judgment Day (in negative way)
031	8	1	Agree
		2	Disagree
		3	Debatable depends on other factors
032	17	1	Teacher
		2	English Learner
033	33	1	Negative thoughts about ELs in school
		2	Things teachers need to do for ELs
		3	Thoughts teachers want to have
		4	Things that shouldn't happen
		5	Negative thoughts about teachers teaching ELs
		6	Things said about ELs family
		7	Dumb
		8	Common initial/negative thoughts people generally have about ELs
		9	Thoughts all teachers need about ELs
034	66	1	Negative aspects of teachers towards students that are not ELs- drawbacks
		2	Optimistic outlook on teaching EL students
		3	What teachers should do & should not do & their responsibilities

		4	Teaching immersion classroom- Pros
		5	Pros (opinions on) of being bilingual
		6	Personal aspirations of ELL teacher who has already worked with students
		7	Against bilingualism
		8	Comfort zones of teacher that has worked as an EL teacher
		9	Opinions based on Personal ELL teacher experiences
		10	Subjective negative views
		11	Racial slurs- Racial discrimination
		12	Teachers and how they view students from a racial point
		13	More positive outlook on ELLs parents' views on education
		14	Cultural immersion
		15	Pros & Cons from the home acquiring English language fluency
		16	Language
		17	Intelligence- Speaking a 2nd language (non English) viewed as a demoted person
		18	Relationship between dominant language & acquisition of English as a 2nd language
		19	ELs are intelligent
		20	Prejudice Racist
		21	Behavioral issues
035	25	1	Unsure
		2	All students deserve this
		3	About me as a teacher and I don't agree
		4	About me as a teacher & I agree
		5	About teaching ELLs and I agree
		6	Personal belief & I agree
		7	About ELLs & I agree
		8	About teachers & I agree
		9	Kind of
		10	About ELLs & I don't agree- It's Racist & not CLR & makes me sick
036	18	1	Negative teaching myths
		2	Instructional/teaching ELLs for positive outcomes
		3	Research based facts about ELLs
		4	My experiences
		5	Opinions
		6	Myths about ELLs
037	36	1	Stereotypes about EL behavior & identity
		2	Stereotypes about where EL students come from
		3	Misconceptions of intelligence of EL students
		4	Stereotypes on negative outlook of teaching EL

		5	Empowering EL experience
		6	Assimilation
		7	Teacher responsibilities
		8	EL parent misconceptions
		9	Positive outlooks on a diverse classroom
		10	Bilingualism language skills
		11	Support from teachers
		12	Benefits of diverse multi-lingual classroom
		13	What often happens with EL students...
		14	About EL student/parent motivation to succeed
		15	Teacher experiences
		16	Cultural experiences
038	23	1	Depende- on the situation
		2	Systemic Problems
		3	English Learner descriptors
		4	Positive teacher traits
		5	Negative teacher traits
		6	Teaching strategies/methods
		7	Benefits of bilingualism
		8	Negative perceptions/Falsehoods
039	21	1	Personal goals as a teacher
		2	Teacher's self-imposed barriers
		3	Negative ideas of cultural assimilation
		4	Bilingualism leads to success
		5	Unfair to teaching professionalism
		6	Wrong career
		7	Family goals
		8	Untrue statements
040	17	1	Personal opinions/statements
		2	Opinions related to socioeconomic status
		3	Negative opinions based on stereotypes
		4	Statements based on teacher experiences and administrators
		5	Attitudes: positive or negative when working with ELs

Note: Participants 001-020 are Pre-service teachers, Participants 021-040 are In-service teachers

APPENDIX G: MDSCAL CONFIGURATION - DIMENSION 1 RANKINGS

Card #	Category	Statement Text	Dim. 1
C35	Culture Influence	It is important for mainstream teacher to understand and know how English Learner parents' view schools and learning	-1.898
C92	Differentiated Instruction	It is the responsibility of teachers to be aware of the language diversity of learners in their classrooms and to structure their lessons, as well as adjust their teaching styles, to meet these students' needs	-1.893
C83	Experience teaching ELs	Teaching English Learners is a challenging and rewarding experience	-1.892
C53	Inclusion	It is important for English Learner students to feel comfortable and receive teacher assistance when transitioning into a general education classroom	-1.833
C72	Culturally Responsive	Teachers need special training in working with English Learners	-1.819
C52	Inclusion	English Learners' inclusion in general education/mainstream classroom can be beneficial for themselves and others	-1.819
C36	Cultural Capital/Deprived	English Learner students have many strengths that they bring with them into the classroom	-1.819
C75	Training & Culturally Responsive	English Learners need teachers that can create culturally inclusive learning materials	-1.814
C27	Achievement & Expectations	English Learners will be academically successful, and are just as capable of going to college as native English speakers	-1.801
C10	Intelligence	English Learners have the capacity to learn despite their language skills	-1.795
C48	Language Skills	Bilingualism benefits English Learners	-1.752
C37	Cultural Capital/Deprived	English Learner students will succeed in school when mainstream teachers affirm their cultural identities	-1.738
C86	Experience teaching ELs	I look forward to having English Learner students in my classroom	-1.734
C30	Color-Blind	I desire to teach English Learner student	-1.708
C63	White-Savior	English Learners need teachers that provide a support system and guides them in schools	-1.702
C56	Language Learning Process	Spanish language skills are helpful in learning English language as a second language	-1.665
C84	Experience teaching ELs	Teaching English Learners has made me a better teacher	-1.644
C28	Achievement & Expectations	Mainstream teachers are responsible for English Learners' achievement	-1.625

C89	Educational Challenges	Teaching language minority students successfully means above all challenging one's attitudes toward the students, their languages and cultures, and their communities	-1.619
C51	Inclusion	Having English Learner students in our classrooms is a gift	-1.619
C91	Differentiated Instruction	Teachers should differentiate instruction and assessment for English Learners	-1.564
C58	Language Learning Process	English Learners who learn to read and write in their native language first acquire stronger English language and literacy skills later.	-1.396
C46	Language skills	Keeping and strengthening native language skills (L1) of English Learners helps their ability to learn English	-1.370
C47	Language Skills	All students in the United States should learn to speak more than one language	-1.359
C77	Training & Culturally Responsive	I know specific strategies for designing instruction that is responsive to students' cultural differences	-1.355
C76	Training & Culturally Responsive	I know specific strategies for designing instruction that is responsive to students' language needs	-1.336
C93	Equitable Education	English Learner students deserve more support and caring teachers in schools	-1.290
C62	White-Savior	English Learner students need support from teachers beyond academics	-1.275
C85	Experience teaching ELs	Teaching English Learners is an empathy building experience	-1.253
C31	Culture Influence	English Learner students' families expose them to a wide range of cultural experiences	-1.156
C88	Experience teaching ELs	I have had the opportunity to develop close relationships with English Learner students and/or their families	-1.142
C87	Experience teaching ELs	I have worked with a lot of English Learner students	-1.087
C39	Parents Influence	English Learner's parents want their children to learn English and/or be bilingual	-1.071
C09	Intelligence	English Learners language skills are not indicative of their intelligence	-1.069
C55	Language Learning Process	English Learners second language acquisition process involves accessing their native language	-1.035
C57	Language Learning Process	English Learners social language skills occur before academic language skills	-1.001
C03	Personality & Behavior	English Learners care about their education, thus they are well-behaved	-0.945

C67	Racism	Teachers' racism impacts English Learners achievement	-0.900
C49	Language Skills	Bilingual students have stronger higher-level thinking skills than students who only speak English	-0.893
C33	Culture Influence	English Learners knowledge is due to their enriching cultural experiences	-0.884
C66	Fear of English Learners	I feel prepared in teaching English Learners	-0.851
C12	Relate to English Learners	I can relate to the struggles English Learners encounter and understand their needs	-0.724
C26	Achievement & Expectations	English Learner students are more motivated to succeed than many of their native English-speaking peers	-0.707
C78	Unawareness	Teachers lack awareness about English Learners	-0.512
C71	Training & Culturally Responsive	Most teachers are not prepared in working with English Learners	-0.364
C90	Educational Challenges	The low achievement of English Learner students often is the result of negative teacher attitudes towards them	-0.313
C11	Relate to English Learners	I feel more comfortable working with English Learners than other minority students	-0.221
C15	Segregation & Lack of Support	English Learners often do not receive support in schools	-0.129
C29	Achievement & Expectations	Mainstream teachers are responsible for English Learners' achievement	0.286
C25	Achievement & Expectations	Teachers have low expectations from English Learners	0.602
C70	Language & Cultural Collisions	Cultural and linguistic differences between students and teachers inhibits effective education of English Learners	0.772
C20	Assimilation	The faster English Learners students assimilate the better of they will be	0.847
C16	Segregation & Lack of Support	English Learners often do not receive the support they need from home	1.051
C79	Origin of English Learners	Majority of English Learners speak Spanish and come from Mexico	1.063
C73	Training & Culturally Responsive	Most teachers don't want to work with English Learners	1.140
C69	Language & Cultural Collisions	I prefer to teach students from similar backgrounds as me.	1.169
C23	Achievement & Expectations	English Learners' teachers should not be held accountable for their achievement	1.190

C82	Experience teaching ELs	Teaching English Learners is a difficult and scary experience	1.194
C65	Fear of English Learners	I fear teaching English Learners, I would be uncomfortable	1.304
C22	At-Risk	English Learners are at a higher risk for behavioral and/or learning difficulties	1.306
C74	Training & Culturally Responsive	Training all teachers to work with English Learners is a waste of resources	1.321
C60	White-Savior	English Learners will not succeed without a native English-speaking role model	1.391
C50	Inclusion	English Learners should not be placed in a regular classroom until they are fluent in English	1.409
C68	Language & Cultural Collisions	Only teachers of color can be effective teaching English Learners or relate to English Learner students	1.448
C38	Parents Influence	English Learners parents do not care about education and don't want their children learning English	1.520
C81	Origin of English Learners	All English Learners are students of color	1.526
C45	Language skills	English Learners need to be immersed in English-only	1.527
C14	Immigration	English Learners' families do not want to learn English	1.534
C59	Bilingual Programs	Bilingual or language programs are not necessary and divert resources that would be better spent elsewhere, such as gifted programs	1.547
C44	Language Skills	English Learners have weaker language skills	1.574
C54	Language Learning Process	Relying on their native language is a barrier to learning English	1.575
C43	Language Skills	English Learners can't speak standard English	1.582
C61	White-Savior	English Learners need to be helped become Americanized	1.584
C41	Home Life	English Learners have unhappy home lives	1.587
C80	Origin of English Learners	English Learners from Spanish-speaking countries tend to be more difficult to work with than students from European countries	1.593
C06	Intelligence	English Learners have little knowledge to build upon the classroom	1.597
C42	Language Skills	English Learners can't speak their native language correctly	1.609
C02	Personality & Behavior	English Learners are members of a gang	1.615
C32	Culture Influence	English Learner students are not exposed to cultural enriching experiences by their families	1.616

C01	Personality & Behavior	English Learners are lazy and don't care about their education	1.621
C40	Parents Influence	English Learners struggle because their parents do not care about their education	1.625
C05	Intelligence	English Learners have difficulties because they are not very intelligent	1.626
C19	Assimilation	English Learners come from low income families	1.628
C08	Intelligence	English Learners with an accent are less intelligent	1.629
C07	Intelligence	English Learners have street smarts but not school smarts	1.631
C04	Intelligence	If English Learners would be more intelligent they would learn English more quickly	1.635
C24	Achievement & Expectations	English Learners are so far behind they will never catch up	1.637
C21	Assimilation	The more English Learners insist in maintaining their culture and language the slower they will be to assimilate and learn English and/or the worst off they will be	1.643
C18	Assimilation	English Learners are poor	1.652
C13	Immigration	English Learners are typically illegal immigrants and drain tax payer resources	1.653
C17	Segregation & Lack of Support	English Learners tend to go to the worst schools, and the worst schools have the most English Learners	1.665
C64	Fear of English Learners	English Learners are aggressive; I would worry for my safety in teaching in a school with a lot of English Learners	1.666

APPENDIX H: MDSCAL CONFIGURATION - DIMENSION 2 RANKINGS

Card #	Category	Statement Text	Dim. 2
C26	Achievement & Expectations	English Learner students are more motivated to succeed than many of their native English-speaking peers	-1.521
C55	Language Learning Process	English Learners second language acquisition process involves accessing their native language	-1.480
C03	Personality & Behavior	English Learners care about their education, thus they are well-behaved	-1.396
C49	Language Skills	Bilingual students have stronger higher-level thinking skills than students who only speak English	-1.343
C57	Language Learning Process	English Learners social language skills occur before academic language skills	-1.312
C58	Language Learning Process	English Learners who learn to read and write in their native language first acquire stronger English language and literacy skills later.	-1.312
C33	Culture Influence	English Learners knowledge is due to their enriching cultural experiences	-1.082
C46	Language skills	Keeping and strengthening native language skills (L1) of English Learners helps their ability to learn English	-1.067
C31	Culture Influence	English Learner students' families expose them to a wide range of cultural experiences	-1.033
C62	White-Savior	English Learner students need support from teachers beyond academics	-0.950
C15	Segregation & Lack of Support	English Learners often do not receive support in schools	-0.882
C56	Language Learning Process	Spanish language skills are helpful in learning English language as a second language	-0.834
C39	Parents Influence	English Learner's parents want their children to learn English and/or be bilingual	-0.825
C16	Segregation & Lack of Support	English Learners often do not receive the support they need from home	-0.698
C09	Intelligence	English Learners language skills are not indicative of their intelligence	-0.689
C27	Achievement & Expectations	English Learners will be academically successful, and are just as capable of going to college as native English speakers	-0.642
C10	Intelligence	English Learners have the capacity to learn despite their language skills	-0.615
C47	Language Skills	All students in the United States should learn to speak more than one language	-0.608
C48	Language Skills	Bilingualism benefits English Learners	-0.594

C63	White-Savior	English Learners need teachers that provide a support system and guides them in schools	-0.587
C22	At-Risk	English Learners are at a higher risk for behavioral and/or learning difficulties	-0.544
C79	Origin of English Learners	Majority of English Learners speak Spanish and come from Mexico	-0.512
C90	Educational Challenges	The low achievement of English Learner students often is the result of negative teacher attitudes towards them	-0.502
C70	Language & Cultural Collisions	Cultural and linguistic differences between students and teachers inhibits effective education of English Learners	-0.486
C36	Cultural Capital/Deprived	English Learner students have many strengths that they bring with them into the classroom	-0.472
C37	Cultural Capital/Deprived	English Learner students will succeed in school when mainstream teachers affirm their cultural identities	-0.466
C52	Inclusion	English Learners' inclusion in general education/mainstream classroom can be beneficial for themselves and others	-0.462
C32	Culture Influence	English Learner students are not exposed to cultural enriching experiences by their families	-0.405
C93	Equitable Education	English Learner students deserve more support and caring teachers in schools	-0.384
C53	Inclusion	It is important for English Learner students to feel comfortable and receive teacher assistance when transitioning into a general education classroom	-0.346
C44	Language Skills	English Learners have weaker language skills	-0.320
C14	Immigration	English Learners' families do not want to learn English	-0.309
C41	Home Life	English Learners have unhappy home lives	-0.308
C43	Language Skills	English Learners can't speak standard English	-0.304
C75	Training & Culturally Responsive	English Learners need teachers that can create culturally inclusive learning materials	-0.273
C20	Assimilation	The faster English Learners students assimilate the better of they will be	-0.258
C45	Language skills	English Learners need to be immersed in English-only	-0.229
C54	Language Learning Process	Relying on their native language is a barrier to learning English	-0.221
C18	Assimilation	English Learners are poor	-0.160
C19	Assimilation	English Learners come from low income families	-0.152
C42	Language Skills	English Learners can't speak their native language correctly	-0.140

C38	Parents Influence	English Learners parents do not care about education and don't want their children learning English	-0.065
C71	Training & Culturally Responsive	Most teachers are not prepared in working with English Learners	-0.062
C61	White-Savior	English Learners need to be helped become Americanized	-0.050
C06	Intelligence	English Learners have little knowledge to build upon the classroom	-0.015
C07	Intelligence	English Learners have street smarts but not school smarts	-0.002
C60	White-Savior	English Learners will not succeed without a native English-speaking role model	0.001
C81	Origin of English Learners	All English Learners are students of color	0.007
C80	Origin of English Learners	English Learners from Spanish-speaking countries tend to be more difficult to work with than students from European countries	0.016
C08	Intelligence	English Learners with an accent are less intelligent	0.018
C05	Intelligence	English Learners have difficulties because they are not very intelligent	0.020
C40	Parents Influence	English Learners struggle because their parents do not care about their education	0.047
C04	Intelligence	If English Learners would be more intelligent they would learn English more quickly	0.050
C64	Fear of English Learners	English Learners are aggressive; I would worry for my safety in teaching in a school with a lot of English Learners	0.052
C50	Inclusion	English Learners should not be placed in a regular classroom until they are fluent in English	0.056
C78	Unawareness	Teachers lack awareness about English Learners	0.062
C24	Achievement & Expectations	English Learners are so far behind they will never catch up	0.064
C21	Assimilation	The more English Learners insist in maintaining their culture and language the slower they will be to assimilate and learn English and/or the worst off they will be	0.074
C01	Personality & Behavior	English Learners are lazy and don't care about their education	0.074
C13	Immigration	English Learners are typically illegal immigrants and drain tax payer resources	0.084
C85	Experience teaching ELs	Teaching English Learners is an empathy building experience	0.114
C17	Segregation & Lack of Support	English Learners tend to go to the worst schools, and the worst schools have the most English Learners	0.122

C67	Racism	Teachers' racism impacts English Learners achievement	0.150
C02	Personality & Behavior	English Learners are members of a gang	0.180
C92	Differentiated Instruction	It is the responsibility of teachers to be aware of the language diversity of learners in their classrooms and to structure their lessons, as well as adjust their teaching styles, to meet these students' needs	0.246
C82	Experience teaching ELs	Teaching English Learners is a difficult and scary experience	0.258
C35	Culture Influence	It is important for mainstream teacher to understand and know how English Learner parents' view schools and learning	0.271
C23	Achievement & Expectations	English Learners' teachers should not be held accountable for their achievement	0.328
C72	Culturally Responsive	Teachers need special training in working with English Learners	0.336
C25	Achievement & Expectations	Teachers have low expectations from English Learners	0.346
C59	Bilingual Programs	Bilingual or language programs are not necessary and divert resources that would be better spent elsewhere, such as gifted programs	0.434
C28	Achievement & Expectations	Mainstream teachers are responsible for English Learners' achievement	0.472
C68	Language & Cultural Collisions	Only teachers of color can be effective teaching English Learners or relate to English Learner students	0.472
C89	Educational Challenges	Teaching language minority students successfully means above all challenging one's attitudes toward the students, their languages and cultures, and their communities	0.484
C73	Training & Culturally Responsive	Most teachers don't want to work with English Learners	0.531
C74	Training & Culturally Responsive	Training all teachers to work with English Learners is a waste of resources	0.542
C91	Differentiated Instruction	Teachers should differentiate instruction and assessment for English Learners	0.582
C83	Experience teaching ELs	Teaching English Learners is a challenging and rewarding experience	0.708
C51	Inclusion	Having English Learner students in our classrooms is a gift	0.899
C65	Fear of English Learners	I fear teaching English Learners, I would be uncomfortable	0.983
C29	Achievement & Expectations	Mainstream teachers are responsible for English Learners' achievement	1.069

C69	Language & Cultural Collisions	I prefer to teach students from similar backgrounds as me.	1.201
C86	Experience teaching ELs	I look forward to having English Learner students in my classroom	1.220
C84	Experience teaching ELs	Teaching English Learners has made me a better teacher	1.245
C30	Color-Blind	I desire to teach English Learner student	1.323
C76	Training & Culturally Responsive	I know specific strategies for designing instruction that is responsive to students' language needs	1.582
C12	Relate to English Learners	I can relate to the struggles English Learners encounter and understand their needs	1.619
C66	Fear of English Learners	I feel prepared in teaching English Learners	1.645
C88	Experience teaching ELs	I have had the opportunity to develop close relationships with English Learner students and/or their families	1.691
C77	Training & Culturally Responsive	I know specific strategies for designing instruction that is responsive to students' cultural differences	1.702
C87	Experience teaching ELs	I have worked with a lot of English Learner students	1.728
C11	Relate to English Learners	I feel more comfortable working with English Learners than other minority students	1.807

APPENDIX I: MDSCAL CONFIGURATION - DIMENSION 3 RANKINGS

Card #	Category	Statement Text	Dim. 3
C78	Unawareness	Teachers lack awareness about English Learners	-1.706
C71	Training & Culturally Responsive	Most teachers are not prepared in working with English Learners	-1.547
C90	Educational Challenges	The low achievement of English Learner students often is the result of negative teacher attitudes towards them	-1.296
C15	Segregation & Lack of Support	English Learners often do not receive support in schools	-1.252
C67	Racism	Teachers' racism impacts English Learners achievement	-1.219
C29	Achievement & Expectations	Mainstream teachers are responsible for English Learners' achievement	-1.019
C28	Achievement & Expectations	Mainstream teachers are responsible for English Learners' achievement	-0.995
C25	Achievement & Expectations	Teachers have low expectations from English Learners	-0.981
C70	Language & Cultural Collisions	Cultural and linguistic differences between students and teachers inhibits effective education of English Learners	-0.970
C73	Training & Culturally Responsive	Most teachers don't want to work with English Learners	-0.905
C62	White-Savior	English Learner students need support from teachers beyond academics	-0.818
C72	Culturally Responsive	Teachers need special training in working with English Learners	-0.814
C91	Differentiated Instruction	Teachers should differentiate instruction and assessment for English Learners	-0.804
C82	Experience teaching ELs	Teaching English Learners is a difficult and scary experience	-0.738
C23	Achievement & Expectations	English Learners' teachers should not be held accountable for their achievement	-0.718
C93	Equitable Education	English Learner students deserve more support and caring teachers in schools	-0.717
C92	Differentiated Instruction	It is the responsibility of teachers to be aware of the language diversity of learners in their classrooms and to structure their lessons, as well as adjust their teaching styles, to meet these students' needs	-0.645
C74	Training & Culturally Responsive	Training all teachers to work with English Learners is a waste of resources	-0.641

C89	Educational Challenges	Teaching language minority students successfully means above all challenging one's attitudes toward the students, their languages and cultures, and their communities	-0.610
C35	Culture Influence	It is important for mainstream teacher to understand and know how English Learner parents' view schools and learning	-0.610
C37	Cultural Capital/Deprived	English Learner students will succeed in school when mainstream teachers affirm their cultural identities	-0.589
C63	White-Savior	English Learners need teachers that provide a support system and guides them in schools	-0.510
C75	Training & Culturally Responsive	English Learners need teachers that can create culturally inclusive learning materials	-0.496
C68	Language & Cultural Collisions	Only teachers of color can be effective teaching English Learners or relate to English Learner students	-0.487
C53	Inclusion	It is important for English Learner students to feel comfortable and receive teacher assistance when transitioning into a general education classroom	-0.393
C65	Fear of English Learners	I fear teaching English Learners, I would be uncomfortable	-0.282
C59	Bilingual Programs	Bilingual or language programs are not necessary and divert resources that would be better spent elsewhere, such as gifted programs	-0.204
C01	Personality & Behavior	English Learners are lazy and don't care about their education	-0.123
C64	Fear of English Learners	English Learners are aggressive; I would worry for my safety in teaching in a school with a lot of English Learners	-0.104
C57	Language Learning Process	English Learners social language skills occur before academic language skills	-0.092
C06	Intelligence	English Learners have little knowledge to build upon the classroom	-0.032
C17	Segregation & Lack of Support	English Learners tend to go to the worst schools, and the worst schools have the most English Learners	0.004
C54	Language Learning Process	Relying on their native language is a barrier to learning English	0.005
C24	Achievement & Expectations	English Learners are so far behind they will never catch up	0.016
C04	Intelligence	If English Learners would be more intelligent they would learn English more quickly	0.018
C05	Intelligence	English Learners have difficulties because they are not very intelligent	0.040

C79	Origin of English Learners	Majority of English Learners speak Spanish and come from Mexico	0.049
C80	Origin of English Learners	English Learners from Spanish-speaking countries tend to be more difficult to work with than students from European countries	0.085
C69	Language & Cultural Collisions	I prefer to teach students from similar backgrounds as me.	0.098
C18	Assimilation	English Learners are poor	0.100
C44	Language Skills	English Learners have weaker language skills	0.101
C22	At-Risk	English Learners are at a higher risk for behavioral and/or learning difficulties	0.109
C60	White-Savior	English Learners will not succeed without a native English-speaking role model	0.118
C08	Intelligence	English Learners with an accent are less intelligent	0.125
C19	Assimilation	English Learners come from low income families	0.129
C02	Personality & Behavior	English Learners are members of a gang	0.130
C43	Language Skills	English Learners can't speak standard English	0.130
C55	Language Learning Process	English Learners second language acquisition process involves accessing their native language	0.134
C52	Inclusion	English Learners' inclusion in general education/mainstream classroom can be beneficial for themselves and others	0.135
C81	Origin of English Learners	All English Learners are students of color	0.142
C83	Experience teaching ELs	Teaching English Learners is a challenging and rewarding experience	0.152
C50	Inclusion	English Learners should not be placed in a regular classroom until they are fluent in English	0.154
C21	Assimilation	The more English Learners insist in maintaining their culture and language the slower they will be to assimilate and learn English and/or the worst off they will be	0.159
C13	Immigration	English Learners are typically illegal immigrants and drain tax payer resources	0.166
C07	Intelligence	English Learners have street smarts but not school smarts	0.173
C77	Training & Culturally Responsive	I know specific strategies for designing instruction that is responsive to students' cultural differences	0.177
C84	Experience teaching ELs	Teaching English Learners has made me a better teacher	0.184

C32	Culture Influence	English Learner students are not exposed to cultural enriching experiences by their families	0.190
C85	Experience teaching ELs	Teaching English Learners is an empathy building experience	0.190
C51	Inclusion	Having English Learner students in our classrooms is a gift	0.232
C45	Language skills	English Learners need to be immersed in English-only	0.235
C40	Parents Influence	English Learners struggle because their parents do not care about their education	0.251
C38	Parents Influence	English Learners parents do not care about education and don't want their children learning English	0.251
C16	Segregation & Lack of Support	English Learners often do not receive the support they need from home	0.252
C58	Language Learning Process	English Learners who learn to read and write in their native language first acquire stronger English language and literacy skills later.	0.253
C14	Immigration	English Learners' families do not want to learn English	0.282
C42	Language Skills	English Learners can't speak their native language correctly	0.282
C41	Home Life	English Learners have unhappy home lives	0.301
C27	Achievement & Expectations	English Learners will be academically successful, and are just as capable of going to college as native English speakers	0.361
C61	White-Savior	English Learners need to be helped become Americanized	0.415
C10	Intelligence	English Learners have the capacity to learn despite their language skills	0.423
C36	Cultural Capital/Deprived	English Learner students have many strengths that they bring with them into the classroom	0.466
C30	Color-Blind	I desire to teach English Learner student	0.525
C46	Language skills	Keeping and strengthening native language skills (L1) of English Learners helps their ability to learn English	0.577
C49	Language Skills	Bilingual students have stronger higher-level thinking skills than students who only speak English	0.598
C09	Intelligence	English Learners language skills are not indicative of their intelligence	0.601
C86	Experience teaching ELs	I look forward to having English Learner students in my classroom	0.604

C56	Language Learning Process	Spanish language skills are helpful in learning English language as a second language	0.615
C48	Language Skills	Bilingualism benefits English Learners	0.627
C03	Personality & Behavior	English Learners care about their education, thus they are well-behaved	0.644
C88	Experience teaching English Learners	I have had the opportunity to develop close relationships with English Learner students and/or their families	0.698
C76	Training & Culturally Responsive	I know specific strategies for designing instruction that is responsive to students' language needs	0.704
C87	Experience teaching ELs	I have worked with a lot of English Learner students	0.706
C20	Assimilation	The faster English Learners students assimilate the better of they will be	0.750
C66	Fear of English Learners	I feel prepared in teaching English Learners	0.753
C11	Relate to English Learners	I feel more comfortable working with English Learners than other minority students	0.767
C33	Culture Influence	English Learners knowledge is due to their enriching cultural experiences	0.862
C26	Achievement & Expectations	English Learner students are more motivated to succeed than many of their native English-speaking peers	0.887
C31	Culture Influence	English Learner students' families expose them to a wide range of cultural experiences	0.935
C47	Language Skills	All students in the United States should learn to speak more than one language	0.950
C12	Relate to English Learners	I can relate to the struggles English Learners encounter and understand their needs	1.031
C39	Parents Influence	English Learner's parents want their children to learn English and/or be bilingual	1.267

APPENDIX J: INDSICAL SUBGROUP CONFIGURATION - DIMENSION 1 RANKINGS

Card #	Category	Statement Text	Dim 1
C92	Differentiated Instruction	It is the responsibility of teachers to be aware of the language diversity of learners in their classrooms and to structure their lessons, as well as adjust their teaching styles, to meet these students' needs	-1.454
C35	Culture Influence	It is important for mainstream teacher to understand and know how English Learner parents' view schools and learning	-1.446
C83	Experience teaching ELs	Teaching English Learners is a challenging and rewarding experience	-1.439
C72	Culturally Responsive	Teachers need special training in working with English Learners	-1.381
C89	Educational Challenges	Teaching language minority students successfully means above all challenging one's attitudes toward the students, their languages and cultures, and their communities	-1.346
C91	Differentiated Instruction	Teachers should differentiate instruction and assessment for English Learners	-1.334
C84	Experience teaching ELs	Teaching English Learners has made me a better teacher	-1.324
C86	Experience teaching ELs	I look forward to having English Learner students in my classroom	-1.317
C30	Color-Blind	I desire to teach English Learner student	-1.307
C28	Achievement & Expectations	Mainstream teachers are responsible for English Learners' achievement	-1.301
C75	Training & Culturally Responsive	English Learners need teachers that can create culturally inclusive learning materials	-1.291
C51	Inclusion	Having English Learner students in our classrooms is a gift	-1.277
C53	Inclusion	It is important for English Learner students to feel comfortable and receive teacher assistance when transitioning into a general education classroom	-1.234
C77	Training & Culturally Responsive	I know specific strategies for designing instruction that is responsive to students' cultural differences	-1.216
C37	Cultural Capital/Deprived	English Learner students will succeed in school when mainstream teachers affirm their cultural identities	-1.213
C76	Training & Culturally Responsive	I know specific strategies for designing instruction that is responsive to students' language needs	-1.162
C63	White-Savior	English Learners need teachers that provide a support system and guides them in schools	-1.149

C52	Inclusion	English Learners' inclusion in general education/mainstream classroom can be beneficial for themselves and others	-1.106
C88	Experience teaching ELs	I have had the opportunity to develop close relationships with English Learner students and/or their families	-1.041
C36	Cultural Capital/Deprived	English Learner students have many strengths that they bring with them into the classroom	-1.038
C87	Experience teaching ELs	I have worked with a lot of English Learner students	-1.032
C27	Achievement & Expectations	English Learners will be academically successful, and are just as capable of going to college as native English speakers	-1.019
C10	Intelligence	English Learners have the capacity to learn despite their language skills	-0.995
C85	Experience teaching ELs	Teaching English Learners is an empathy building experience	-0.978
C48	Language Skills	Bilingualism benefits English Learners	-0.952
C93	Equitable Education	English Learner students deserve more support and caring teachers in schools	-0.906
C66	Fear of English Learners	I feel prepared in teaching English Learners	-0.899
C56	Language Learning Process	Spanish language skills are helpful in learning English language as a second language	-0.855
C62	White-Savior	English Learner students need support from teachers beyond academics	-0.851
C67	Racism	Teachers' racism impacts English Learners achievement	-0.838
C12	Relate to English Learners	I can relate to the struggles English Learners encounter and understand their needs	-0.792
C58	Language Learning Process	English Learners who learn to read and write in their native language first acquire stronger English language and literacy skills later.	-0.684
C46	Language skills	Keeping and strengthening native language skills (L1) of English Learners helps their ability to learn English	-0.672
C47	Language Skills	All students in the United States should learn to speak more than one language	-0.666
C78	Unawareness	Teachers lack awareness about English Learners	-0.601
C11	Relate to English Learners	I feel more comfortable working with English Learners than other minority students	-0.529
C57	Language Learning Process	English Learners social language skills occur before academic language skills	-0.489
C09	Intelligence	English Learners language skills are not indicative of their intelligence	-0.482
C71	Training & Culturally Responsive	Most teachers are not prepared in working with English Learners	-0.470

C39	Parents Influence	English Learner's parents want their children to learn English and/or be bilingual	-0.441
C55	Language Learning Process	English Learners second language acquisition process involves accessing their native language	-0.440
C31	Culture Influence	English Learner students' families expose them to a wide range of cultural experiences	-0.423
C29	Achievement & Expectations	Mainstream teachers are responsible for English Learners' achievement	-0.377
C90	Educational Challenges	The low achievement of English Learner students often is the result of negative teacher attitudes towards them	-0.350
C33	Culture Influence	English Learners knowledge is due to their enriching cultural experiences	-0.317
C49	Language Skills	Bilingual students have stronger higher-level thinking skills than students who only speak English	-0.305
C03	Personality & Behavior	English Learners care about their education, thus they are well-behaved	-0.231
C15	Segregation & Lack of Support	English Learners often do not receive support in schools	-0.136
C26	Achievement & Expectations	English Learner students are more motivated to succeed than many of their native English-speaking peers	-0.093
C25	Achievement & Expectations	Teachers have low expectations from English Learners	0.066
C70	Language & Cultural Collisions	Cultural and linguistic differences between students and teachers inhibits effective education of English Learners	0.375
C69	Language & Cultural Collisions	I prefer to teach students from similar backgrounds as me.	0.436
C73	Training & Culturally Responsive	Most teachers don't want to work with English Learners	0.533
C65	Fear of English Learners	I fear teaching English Learners, I would be uncomfortable	0.553
C82	Experience teaching ELs	Teaching English Learners is a difficult and scary experience	0.700
C23	Achievement & Expectations	English Learners' teachers should not be held accountable for their achievement	0.722
C74	Training & Culturally Responsive	Training all teachers to work with English Learners is a waste of resources	0.777
C20	Assimilation	The faster English Learners students assimilate the better of they will be	0.804
C68	Language & Cultural Collisions	Only teachers of color can be effective teaching English Learners or relate to English Learner students	0.896

C79	Origin of English Learners	Majority of English Learners speak Spanish and come from Mexico	0.970
C16	Segregation & Lack of Support	English Learners often do not receive the support they need from home	0.971
C60	White-Savior	English Learners will not succeed without a native English-speaking role model	1.023
C59	Bilingual Programs	Bilingual or language programs are not necessary and divert resources that would be better spent elsewhere, such as gifted programs	1.035
C50	Inclusion	English Learners should not be placed in a regular classroom until they are fluent in English	1.064
C22	At-Risk	English Learners are at a higher risk for behavioral and/or learning difficulties	1.073
C02	Personality & Behavior	English Learners are members of a gang	1.117
C81	Origin of English Learners	All English Learners are students of color	1.120
C06	Intelligence	English Learners have little knowledge to build upon the classroom	1.120
C04	Intelligence	If English Learners would be more intelligent they would learn English more quickly	1.128
C80	Origin of English Learners	English Learners from Spanish-speaking countries tend to be more difficult to work with than students from European countries	1.129
C38	Parents Influence	English Learners parents do not care about education and don't want their children learning English	1.130
C01	Personality & Behavior	English Learners are lazy and don't care about their education	1.130
C05	Intelligence	English Learners have difficulties because they are not very intelligent	1.131
C64	Fear of English Learners	English Learners are aggressive; I would worry for my safety in teaching in a school with a lot of English Learners	1.131
C54	Language Learning Process	Relying on their native language is a barrier to learning English	1.139
C24	Achievement & Expectations	English Learners are so far behind they will never catch up	1.145
C45	Language skills	English Learners need to be immersed in English-only	1.146
C21	Assimilation	The more English Learners insist in maintaining their culture and language the slower they will be to assimilate and learn English and/or the worst off they will be	1.152
C17	Segregation & Lack of Support	English Learners tend to go to the worst schools, and the worst schools have the most English Learners	1.153
C08	Intelligence	English Learners with an accent are less intelligent	1.154

C40	Parents Influence	English Learners struggle because their parents do not care about their education	1.162
C61	White-Savior	English Learners need to be helped become Americanized	1.167
C13	Immigration	English Learners are typically illegal immigrants and drain tax payer resources	1.168
C44	Language Skills	English Learners have weaker language skills	1.168
C07	Intelligence	English Learners have street smarts but not school smarts	1.171
C14	Immigration	English Learners' families do not want to learn English	1.171
C43	Language Skills	English Learners can't speak standard English	1.173
C18	Assimilation	English Learners are poor	1.189
C42	Language Skills	English Learners can't speak their native language correctly	1.191
C19	Assimilation	English Learners come from low income families	1.193
C41	Home Life	English Learners have unhappy home lives	1.199
C32	Culture Influence	English Learner students are not exposed to cultural enriching experiences by their families	1.223

APPENDIX K: INDSCAL SUBGROUP CONFIGURATION - DIMENSION 2 RANKINGS

Card #	Category	Statement Text	Dim. 2
C26	Achievement & Expectations	English Learner students are more motivated to succeed than many of their native English-speaking peers	-2.005
C55	Language Learning Process	English Learners second language acquisition process involves accessing their native language	-1.996
C03	Personality & Behavior	English Learners care about their education, thus they are well-behaved	-1.954
C58	Language Learning Process	English Learners who learn to read and write in their native language first acquire stronger English language and literacy skills later.	-1.938
C57	Language Learning Process	English Learners social language skills occur before academic language skills	-1.874
C49	Language Skills	Bilingual students have stronger higher-level thinking skills than students who only speak English	-1.840
C46	Language skills	Keeping and strengthening native language skills (L1) of English Learners helps their ability to learn English	-1.739
C33	Culture Influence	English Learners knowledge is due to their enriching cultural experiences	-1.722
C31	Culture Influence	English Learner students' families expose them to a wide range of cultural experiences	-1.716
C56	Language Learning Process	Spanish language skills are helpful in learning English language as a second language	-1.632
C39	Parents Influence	English Learner's parents want their children to learn English and/or be bilingual	-1.578
C48	Language Skills	Bilingualism benefits English Learners	-1.381
C09	Intelligence	English Learners language skills are not indicative of their intelligence	-1.368
C27	Achievement & Expectations	English Learners will be academically successful, and are just as capable of going to college as native English speakers	-1.359
C10	Intelligence	English Learners have the capacity to learn despite their language skills	-1.354
C62	White-Savior	English Learner students need support from teachers beyond academics	-1.255
C36	Cultural Capital/Deprived	English Learner students have many strengths that they bring with them into the classroom	-1.208
C52	Inclusion	English Learners' inclusion in general education/mainstream classroom can be beneficial for themselves and others	-1.146
C63	White-Savior	English Learners need teachers that provide a support system and guides them in schools	-1.137

C47	Language Skills	All students in the United States should learn to speak more than one language	-1.102
C53	Inclusion	It is important for English Learner students to feel comfortable and receive teacher assistance when transitioning into a general education classroom	-1.004
C93	Equitable Education	English Learner students deserve more support and caring teachers in schools	-0.935
C37	Cultural Capital/Deprived	English Learner students will succeed in school when mainstream teachers affirm their cultural identities	-0.903
C75	Training & Culturally Responsive	English Learners need teachers that can create culturally inclusive learning materials	-0.790
C15	Segregation & Lack of Support	English Learners often do not receive support in schools	-0.746
C16	Segregation & Lack of Support	English Learners often do not receive the support they need from home	-0.491
C90	Educational Challenges	The low achievement of English Learner students often is the result of negative teacher attitudes towards them	-0.430
C20	Assimilation	The faster English Learners students assimilate the better of they will be	-0.188
C79	Origin of English Learners	Majority of English Learners speak Spanish and come from Mexico	-0.187
C70	Language & Cultural Collisions	Cultural and linguistic differences between students and teachers inhibits effective education of English Learners	-0.153
C85	Experience teaching ELs	Teaching English Learners is an empathy building experience	-0.144
C22	At-Risk	English Learners are at a higher risk for behavioral and/or learning difficulties	-0.143
C92	Differentiated Instruction	It is the responsibility of teachers to be aware of the language diversity of learners in their classrooms and to structure their lessons, as well as adjust their teaching styles, to meet these students' needs	-0.096
C35	Culture Influence	It is important for mainstream teacher to understand and know how English Learner parents' view schools and learning	-0.026
C72	Culturally Responsive	Teachers need special training in working with English Learners	-0.010
C32	Culture Influence	English Learner students are not exposed to cultural enriching experiences by their families	0.096
C14	Immigration	English Learners' families do not want to learn English	0.156
C41	Home Life	English Learners have unhappy home lives	0.156
C67	Racism	Teachers' racism impacts English Learners achievement	0.163
C44	Language Skills	English Learners have weaker language skills	0.178

C43	Language Skills	English Learners can't speak standard English	0.197
C45	Language skills	English Learners need to be immersed in English-only	0.231
C71	Training & Culturally Responsive	Most teachers are not prepared in working with English Learners	0.232
C78	Unawareness	Teachers lack awareness about English Learners	0.250
C42	Language Skills	English Learners can't speak their native language correctly	0.263
C54	Language Learning Process	Relying on their native language is a barrier to learning English	0.273
C19	Assimilation	English Learners come from low income families	0.276
C28	Achievement & Expectations	Mainstream teachers are responsible for English Learners' achievement	0.311
C89	Educational Challenges	Teaching language minority students successfully means above all challenging one's attitudes toward the students, their languages and cultures, and their communities	0.322
C60	White-Savior	English Learners will not succeed without a native English-speaking role model	0.334
C38	Parents Influence	English Learners parents do not care about education and don't want their children learning English	0.334
C61	White-Savior	English Learners need to be helped become Americanized	0.335
C18	Assimilation	English Learners are poor	0.342
C91	Differentiated Instruction	Teachers should differentiate instruction and assessment for English Learners	0.346
C83	Experience teaching ELs	Teaching English Learners is a challenging and rewarding experience	0.351
C50	Inclusion	English Learners should not be placed in a regular classroom until they are fluent in English	0.376
C81	Origin of English Learners	All English Learners are students of color	0.394
C07	Intelligence	English Learners have street smarts but not school smarts	0.419
C06	Intelligence	English Learners have little knowledge to build upon the classroom	0.442
C40	Parents Influence	English Learners struggle because their parents do not care about their education	0.454
C08	Intelligence	English Learners with an accent are less intelligent	0.455
C05	Intelligence	English Learners have difficulties because they are not very intelligent	0.485
C80	Origin of English Learners	English Learners from Spanish-speaking countries tend to be more difficult to work with than students from European countries	0.491

C13	Immigration	English Learners are typically illegal immigrants and drain tax payer resources	0.496
C24	Achievement & Expectations	English Learners are so far behind they will never catch up	0.503
C04	Intelligence	If English Learners would be more intelligent they would learn English more quickly	0.516
C21	Assimilation	The more English Learners insist in maintaining their culture and language the slower they will be to assimilate and learn English and/or the worst off they will be	0.522
C01	Personality & Behavior	English Learners are lazy and don't care about their education	0.528
C51	Inclusion	Having English Learner students in our classrooms is a gift	0.529
C17	Segregation & Lack of Support	English Learners tend to go to the worst schools, and the worst schools have the most English Learners	0.558
C64	Fear of English Learners	English Learners are aggressive; I would worry for my safety in teaching in a school with a lot of English Learners	0.565
C02	Personality & Behavior	English Learners are members of a gang	0.578
C25	Achievement & Expectations	Teachers have low expectations from English Learners	0.762
C23	Achievement & Expectations	English Learners' teachers should not be held accountable for their achievement	0.813
C82	Experience teaching ELs	Teaching English Learners is a difficult and scary experience	0.816
C59	Bilingual Programs	Bilingual or language programs are not necessary and divert resources that would be better spent elsewhere, such as gifted programs	0.860
C86	Experience teaching ELs	I look forward to having English Learner students in my classroom	0.902
C84	Experience teaching ELs	Teaching English Learners has made me a better teacher	0.911
C68	Language & Cultural Collisions	Only teachers of color can be effective teaching English Learners or relate to English Learner students	0.943
C30	Color-Blind	I desire to teach English Learner student	0.950
C74	Training & Culturally Responsive	Training all teachers to work with English Learners is a waste of resources	1.011
C73	Training & Culturally Responsive	Most teachers don't want to work with English Learners	1.082
C76	Training & Culturally Responsive	I know specific strategies for designing instruction that is responsive to students' language needs	1.266

C88	Experience teaching ELs	I have had the opportunity to develop close relationships with English Learner students and/or their families	1.368
C12	Relate to English Learners	I can relate to the struggles English Learners encounter and understand their needs	1.437
C87	Experience teaching ELs	I have worked with a lot of English Learner students	1.461
C77	Training & Culturally Responsive	I know specific strategies for designing instruction that is responsive to students' cultural differences	1.472
C66	Fear of English Learners	I feel prepared in teaching English Learners	1.494
C29	Achievement & Expectations	Mainstream teachers are responsible for English Learners' achievement	1.495
C65	Fear of English Learners	I fear teaching English Learners, I would be uncomfortable	1.597
C11	Relate to English Learners	I feel more comfortable working with English Learners than other minority students	1.647
C69	Language & Cultural Collisions	I prefer to teach students from similar backgrounds as me.	1.810

APPENDIX L: INDSICAL SUBGROUP CONFIGURATION - DIMENSION 3 RANKINGS

Card #	Category	Statement Text	Dim. 3
C78	Unawareness	Teachers lack awareness about English Learners	-2.429
C71	Training & Culturally Responsive	Most teachers are not prepared in working with English Learners	-2.312
C15	Segregation & Lack of Support	English Learners often do not receive support in schools	-2.195
C90	Educational Challenges	The low achievement of English Learner students often is the result of negative teacher attitudes towards them	-2.089
C70	Language & Cultural Collisions	Cultural and linguistic differences between students and teachers inhibits effective education of English Learners	-1.919
C25	Achievement & Expectations	Teachers have low expectations from English Learners	-1.814
C67	Racism	Teachers' racism impacts English Learners achievement	-1.812
C73	Training & Culturally Responsive	Most teachers don't want to work with English Learners	-1.438
C28	Achievement & Expectations	Mainstream teachers are responsible for English Learners' achievement	-1.332
C72	Culturally Responsive	Teachers need special training in working with English Learners	-1.249
C62	White-Savior	English Learner students need support from teachers beyond academics	-1.224
C29	Achievement & Expectations	Mainstream teachers are responsible for English Learners' achievement	-1.191
C82	Experience teaching ELs	Teaching English Learners is a difficult and scary experience	-1.155
C93	Equitable Education	English Learner students deserve more support and caring teachers in schools	-1.091
C23	Achievement & Expectations	English Learners' teachers should not be held accountable for their achievement	-1.053
C74	Training & Culturally Responsive	Training all teachers to work with English Learners is a waste of resources	-0.970
C91	Differentiated Instruction	Teachers should differentiate instruction and assessment for English Learners	-0.886
C37	Cultural Capital/Deprived	English Learner students will succeed in school when mainstream teachers affirm their cultural identities	-0.850

C35	Culture Influence	It is important for mainstream teacher to understand and know how English Learner parents' view schools and learning	-0.755
C68	Language & Cultural Collisions	Only teachers of color can be effective teaching English Learners or relate to English Learner students	-0.733
C89	Educational Challenges	Teaching language minority students successfully means above all challenging one's attitudes toward the students, their languages and cultures, and their communities	-0.724
C65	Fear of English Learners	I fear teaching English Learners, I would be uncomfortable	-0.647
C92	Differentiated Instruction	It is the responsibility of teachers to be aware of the language diversity of learners in their classrooms and to structure their lessons, as well as adjust their teaching styles, to meet these students' needs	-0.635
C63	White-Savior	English Learners need teachers that provide a support system and guides them in schools	-0.581
C75	Training & Culturally Responsive	English Learners need teachers that can create culturally inclusive learning materials	-0.444
C53	Inclusion	It is important for English Learner students to feel comfortable and receive teacher assistance when transitioning into a general education classroom	-0.409
C06	Intelligence	English Learners have little knowledge to build upon the classroom	-0.374
C64	Fear of English Learners	English Learners are aggressive; I would worry for my safety in teaching in a school with a lot of English Learners	-0.352
C04	Intelligence	If English Learners would be more intelligent they would learn English more quickly	-0.300
C05	Intelligence	English Learners have difficulties because they are not very intelligent	-0.271
C01	Personality & Behavior	English Learners are lazy and don't care about their education	-0.252
C59	Bilingual Programs	Bilingual or language programs are not necessary and divert resources that would be better spent elsewhere, such as gifted programs	-0.230
C54	Language Learning Process	Relying on their native language is a barrier to learning English	-0.227
C02	Personality & Behavior	English Learners are members of a gang	-0.210
C80	Origin of English Learners	English Learners from Spanish-speaking countries tend to be more difficult to work with than students from European countries	-0.198

C24	Achievement & Expectations	English Learners are so far behind they will never catch up	-0.186
C17	Segregation & Lack of Support	English Learners tend to go to the worst schools, and the worst schools have the most English Learners	-0.184
C22	At-Risk	English Learners are at a higher risk for behavioral and/or learning difficulties	-0.135
C18	Assimilation	English Learners are poor	-0.127
C16	Segregation & Lack of Support	English Learners often do not receive the support they need from home	-0.122
C08	Intelligence	English Learners with an accent are less intelligent	-0.113
C60	White-Savior	English Learners will not succeed without a native English-speaking role model	-0.091
C81	Origin of English Learners	All English Learners are students of color	-0.089
C44	Language Skills	English Learners have weaker language skills	-0.082
C21	Assimilation	The more English Learners insist in maintaining their culture and language the slower they will be to assimilate and learn English and/or the worst off they will be	-0.062
C43	Language Skills	English Learners can't speak standard English	-0.058
C13	Immigration	English Learners are typically illegal immigrants and drain tax payer resources	-0.048
C07	Intelligence	English Learners have street smarts but not school smarts	-0.027
C79	Origin of English Learners	Majority of English Learners speak Spanish and come from Mexico	-0.009
C19	Assimilation	English Learners come from low income families	0.001
C50	Inclusion	English Learners should not be placed in a regular classroom until they are fluent in English	0.002
C40	Parents Influence	English Learners struggle because their parents do not care about their education	0.007
C38	Parents Influence	English Learners parents do not care about education and don't want their children learning English	0.024
C14	Immigration	English Learners' families do not want to learn English	0.032
C32	Culture Influence	English Learner students are not exposed to cultural enriching experiences by their families	0.038
C42	Language Skills	English Learners can't speak their native language correctly	0.073
C41	Home Life	English Learners have unhappy home lives	0.078
C45	Language skills	English Learners need to be immersed in English-only	0.112

C55	Language Learning Process	English Learners second language acquisition process involves accessing their native language	0.232
C61	White-Savior	English Learners need to be helped become Americanized	0.296
C58	Language Learning Process	English Learners who learn to read and write in their native language first acquire stronger English language and literacy skills later.	0.320
C57	Language Learning Process	English Learners social language skills occur before academic language skills	0.326
C69	Language & Cultural Collisions	I prefer to teach students from similar backgrounds as me.	0.400
C83	Experience teaching ELs	Teaching English Learners is a challenging and rewarding experience	0.661
C46	Language skills	Keeping and strengthening native language skills (L1) of English Learners helps their ability to learn English	0.736
C52	Inclusion	English Learners' inclusion in general education/mainstream classroom can be beneficial for themselves and others	0.740
C77	Training & Culturally Responsive	I know specific strategies for designing instruction that is responsive to students' cultural differences	0.865
C03	Personality & Behavior	English Learners care about their education, thus they are well-behaved	0.872
C27	Achievement & Expectations	English Learners will be academically successful, and are just as capable of going to college as native English speakers	0.874
C09	Intelligence	English Learners language skills are not indicative of their intelligence	0.921
C56	Language Learning Process	Spanish language skills are helpful in learning English language as a second language	0.932
C49	Language Skills	Bilingual students have stronger higher-level thinking skills than students who only speak English	0.948
C20	Assimilation	The faster English Learners students assimilate the better of they will be	0.971
C84	Experience teaching ELs	Teaching English Learners has made me a better teacher	0.974
C51	Inclusion	Having English Learner students in our classrooms is a gift	0.981
C10	Intelligence	English Learners have the capacity to learn despite their language skills	1.006
C85	Experience teaching ELs	Teaching English Learners is an empathy building experience	1.014

C33	Culture Influence	English Learners knowledge is due to their enriching cultural experiences	1.055
C26	Achievement & Expectations	English Learner students are more motivated to succeed than many of their native English-speaking peers	1.074
C36	Cultural Capital/Deprived	English Learner students have many strengths that they bring with them into the classroom	1.097
C48	Language Skills	Bilingualism benefits English Learners	1.134
C31	Culture Influence	English Learner students' families expose them to a wide range of cultural experiences	1.282
C30	Color-Blind	I desire to teach English Learner student	1.368
C86	Experience teaching ELs	I look forward to having English Learner students in my classroom	1.370
C76	Training & Culturally Responsive	I know specific strategies for designing instruction that is responsive to students' language needs	1.372
C87	Experience teaching ELs	I have worked with a lot of English Learner students	1.469
C66	Fear of English Learners	I feel prepared in teaching English Learners	1.508
C39	Parents Influence	English Learner's parents want their children to learn English and/or be bilingual	1.524
C88	Experience teaching ELs	I have had the opportunity to develop close relationships with English Learner students and/or their families	1.586
C11	Relate to English Learners	I feel more comfortable working with English Learners than other minority students	1.732
C12	Relate to English Learners	I can relate to the struggles English Learners encounter and understand their needs	1.787
C47	Language Skills	All students in the United States should learn to speak more than one language	1.891