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SELF-ASSESSMENT OF CULTURAL RESPONSIVENESS IN SPEECH-LANGUAGE PATHOLOGY

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ABSTRACT

All practicing speech-language pathologists (SLPs) are required to demonstrate cultural competence when engaged in ethical clinical practice as a board certified practitioner. While graduate training programs are required to provide a curriculum that addresses Multicultural/Multilingual Issues (MMI; e.g. academic and clinical experiences), SLPs have expressed a lack of confidence in their delivery of culturally competent services to diverse populations. The purpose of this study is to examine the self-reported frequency with which SLPs use culturally responsive strategies as a result of their graduate training experience. A 45-item electronic survey was disseminated to SLPs holding a Certificate of Clinical Competence who indicated whether they had completed an MMI-dedicated course during their graduate studies. While results indicated that both the Infused Only (IO) model and the Dedicated and Infused (DI) model have a statistically significant effect on the service delivery of SLPs to culturally and linguistically diverse populations, those who took an MMI-dedicated course utilize culturally responsive strategies more consistently than those who did not. The implications of these findings suggest that CSD curriculum must be reformed in response to current research across disciplines, which supports general infusion with dedicated coursework for producing culturally and linguistically responsive clinicians.

KEY WORDS: cultural competence, graduate programs, curriculum, ASHA standards, culturally responsive service delivery, cultural humility

The exponential growth in the cultural and linguistic diversity in the U.S. has a significant impact on the delivery of services to the general population across disciplines including education, healthcare, and public policy (DHHS, 2013; IDEA, 2004; Tervalon & Murray-Garcia, 1998). That impact is reflected in legal policies that address necessary modifications to service delivery methods that meet the needs of all individuals as to not be "racially or culturally discriminatory" (IDEA, 2004). The Individuals with Disabilities Education Improvement Act of 2004 (IDEA) regulates service delivery to students from diverse backgrounds by requiring all assessments to be "administered in the child's native language or mode of communication" in order for the scores to be valid for the purposes of placing the child in special education (IDEA, 2004, p. 18). Moreover, school educators and administrators have the responsibility of assisting the students' families in overcoming cultural and linguistic barriers (IDEA, 2004). The U.S. Department of Health and Human Services Office of Minority Health (DHHS/OMH) provides the National Standards on Culturally and Linguistically Appropriate Services (CLAS), which enumerate principles of operation that should be upheld in all healthcare institutions for the diminishing of health disparities between racial and ethnic groups related to healthcare access (DHHS, 2013). These guiding principles intend to ensure that all individuals - regardless of their cultural and/or linguistic background - receive the highest quality of care possible. Therefore, healthcare institutions are charged with the responsibility of developing goals and policies that facilitate a culturally/linguistically safe, responsive, and respectful environment (DHHS, 2013).

In recognition of CLAS, the American Speech-Language-Hearing Association (ASHA), summarizes specific knowledge and skills that are necessary for speech-language pathologists and audiologists to render culturally sensitive and appropriate services to their clients (ASHA 2004). ASHA's Practice Portal - a website with information and resources on various professional issues in speech-language pathology and audiology - lists CLAS as a resource on its "Cultural Competence" page. Both ASHA and DHHS reiterate that while gaining knowledge and being aware of issues related to culturally/linguistically diverse (CLD) populations is the foundation for cultural competence, it is only the starting point. In order to effectively serve CLD clients, clinicians must apply their cultural knowledge in strategic and practical ways (DHHS, 2013).

The inclusion of Multicultural/Multilingual Issues (MMI) into the curriculum of communication sciences and disorders (CSD) programs is repeatedly mentioned throughout the requirements for accreditation put forth by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) and the Council for Clinical Certification in Audiology and Speech-Language Pathology for the past three years (CFCC; CAA, 2014). Students who graduate from accredited programs are expected to demonstrate clinical competence as evidenced by both knowledge and skills within all areas in the scope of practice for speech-language pathologists (CAA, 2014). ASHA specifies that CSD programs that meet the standards for accreditation are those which "provide opportunities for students to acquire and demonstrate skills in... delivery of services to culturally and linguistically diverse populations" (ASHA 2014, para. 3.1B). Moreover, Standard IV-C of the *2014 Standards and Implementation Procedures for the Certificate of Clinical Competence in Speech-Language Pathology* requires that clinicians take a cultural and linguistic approach to understanding communication and swallowing disorders. Standard IV-D continues by stating that this approach is to be utilized on all levels of clinical practice, including prevention, assessment, and intervention. Additionally, clinicians must engage in effective communication with their clients by both acknowledging and respecting cultural and linguistic differences and demonstrate these skills in their practicum experience during their graduate training (ASHA, 2012).

The Professional Practice Competencies in the new CAA standards - effective August 1, 2017 - now includes a section on cultural competence, which requires that students comprehend their own cultural background and the impact of the client's cultural background on service delivery (CAA, 2016). Cultural competence is also included as an integral part of effective communication skills (CAA, 2016). The gravity of cultural competence in speech-language pathology is reflected in ASHA's statement that "discrimination in any professional arena and against any individual for any reason, whether subtle or overt, ultimately dishonors the professions and harms

all those within the practice" (ASHA, 2017, para. 8). The force of this statement obligates graduate training programs to develop and maintain a quality multicultural training experience for its students in the classroom and in the clinic so that they produce clinicians who consistently view their practice from a culturally informed perspective.

The methods by which MMI content is delivered vary. There are two general methods of inclusion currently in use by CSD programs for incorporating MMI into the curriculum: Infused Only (IO) and Dedicated and Infused (DI), which indicates a course that is specifically dedicated to MMI. The outcomes resulting from each method have not been investigated. Data of this nature will contribute to determining the most effective means of producing culturally competent clinicians. The purpose of this study is to examine the self-reported frequency with which SLPs use culturally responsive practices as a result of their graduate training experience. To this end, this study addresses the following questions:

- Does the graduate training model (e.g. Infused Only (IO) and Dedicated and Infused (DI)) have a significant impact on SLPs' service delivery to CLD populations?
- How effective are pre-professional training models, (IO) and (DI) in producing culturally responsive SLPs?
    - What culturally responsive practices do SLPs report as a result of their graduate training experience?
    - Which instructional model (e.g. IO or DI) is most effective in preparing SLPs in the delivery of culturally responsive services to CLD families?

History

ASHA's Black Caucus published a call to action in a 1969 position statement that urged ASHA to require all CSD programs to include courses in sociolinguistics, Black history and Black dialect, and to teach Standard English as a second dialect in their curriculum (Taylor, Troud, Hurst, Moore, & Williams, 1969). Fifteen years later, ASHA conducted a Self Study Survey that examined self-reported knowledge regarding service to CLD populations (ASHA, 1985). Seventy-seven percent of the certified SLPs who participated in the study reported that they lacked the knowledge and skills necessary for delivering culturally responsive services (ASHA, 1985). As a result, ASHA published the paper, *Clinical Management of Communicatively Handicapped Minority Language Populations*, the Association's first position statement on non-standard dialect speakers (ASHA, 1985). Its purpose was to describe the competencies and strategies involved in addressing the needs of CLD clients within the construct of a positive clinician-client relationship that is founded on interpersonal skills sufficient to supersede communication barriers. This type of interaction requires specialized training (ASHA, 1985), a component that was not mandated by ASHA until 1994 (Stockman, Boult, & Robinson, 2004). ASHA revitalized its mission to increase cultural competence across the Association in a 2004 paper issued by its Multicultural Issues Board entitled *Knowledge and Skills Needed by Speech-Language Pathologists and Audiologists to Provide Culturally and Linguistically Appropriate Services* (2004). In this document, ASHA reiterates its expectation of its clinicians to consider cultural-linguistic differences in identifying, assessing, treating, and managing disorders in the areas of language, articulation and phonology, resonance/voice/fluency, swallowing, and hearing/balance. Cultural competence is equally relevant in all areas of clinical practice for the purposes of establishing rapport, achieving accurate differential diagnoses, and selecting functional materials and treatment strategies. ASHA (2004) emphasized that when a clinician acknowledges that his/her knowledge and/or skills do not satisfy the needs of the client, the clinician must refer or consult accordingly in addition to seeking further training in areas in which his/her clinical performance is inadequate.

In 2010, ASHA published a series of checklists designed to guide clinicians' self-reflection in regards to MMI. The checklists cover three domains - Personal Reflection, Policies and Procedures, and Service Delivery - as each of these areas must be addressed through a culturally sensitive lens in order to produce maximally effective results (ASHA, 2010). In addition to the three checklists, ASHA published an interactive quiz that allows clinicians to evaluate their knowledge concerning laws, demographics, and CLD communication and service delivery in the form of multiple choice questions and open responses to case studies (ASHA, 2010). ASHA's Practice Portal includes a "Cultural Competence" page in which the association acknowledges the gap in multicultural research in the field of speech-language

pathology. Thus, the document defines culture within the context of communication. The document explains that communication is shaped by culture to the degree that the two are inextricably connected. One cannot address communication without addressing culture. This discussion reiterates the need for clinicians to engage in ongoing self-assessment in order to move beyond awareness to application, and from application to advocacy (ASHA, n.d., "Cultural Competence"). Thus, it is the ethical duty of speech-language pathologists and audiologists to ensure that their services are culturally responsive. For this reason, ASHA adopted the term "cultural humility" (ASHA, n.d., "Cultural Competence"). This term was coined by medical doctors Tervalon and Murray-Garcia (1998) and is cited in the speech, language, and hearing literature by Kohnert (2008). Unlike cultural competence, cultural humility extends beyond the acquisition of discrete pieces of information and encompasses attitude and disposition. It involves critical thinking, problem-solving, and decision making skills that make use of cultural knowledge. The culturally humble clinician challenges the status quo and advocates for every client, particularly those who are challenged by cultural and linguistic barriers (Tervalon & Murray-Garcia, 1998). The lack of MMI proficiency undermines even the most rigorous evidence-based practice. In fact, disregarding cultural variables in clinical practice leads to delayed identification and intervention, which in turn leads to miscommunication and mistrust (ASHA, n.d., "Cultural Competence").

Cultural and Linguistic Competence [Issues in Ethics] (ASHA, 2004) was established by ASHA's Board of Ethics to address the following: (1) clarify the terminology surrounding MMI research and practice and (2) discuss cultural and linguistic competence in terms of the Code of Ethics (ASHA, 2017). Acquiring the knowledge and skills associated with culturally responsive service makes visible improvements to quality of service (Ortiz et.al., 2011; Paradis, Schneider, & Duncan, 2013; Sullivan & Bal, 2013; Tervalon & Murray-Garcia, 1998). However, to achieve true cultural competence, clinicians must consistently partake in reflective exercises that foster the attitude and disposition conducive to forging productive relationships with their clients (Tervalon & Murray-Garcia, 1998). In this manner, the professional-client dyad is built upon mutual respect and genuine concern for the client's well-being. The following definitions are the cornerstone of cultural responsiveness in service delivery.

- *Cultural and linguistic competence is a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals that enables effective work in cross-cultural situations.* (ASHA, 2017, para. 5)
- *Competent care is providing service that is respectful of, and responsive to, an individual's values, preferences, and language. Care should not vary in quality based on ethnicity, age, socioeconomic status, or other factors.* (ASHA, 2017, para. 6)

Each of these definitions speaks to having both the skills and the disposition for culturally competent practice. In other words, the skill set must be met with an attitude or philosophy that is congruent with an appreciation for diversity. The new CAA Standards refers to this competency as "Concern for Individuals Served," which involves "care, compassion, and… empathy" (CAA, 2016). In addition to treating non-standard dialects and other languages as equals, clinicians must not only acknowledge, but respect and respond appropriately to differences between themselves and their clients in regards to race, ethnicity, religion, age, national origin, gender, gender identity/expression, sexual orientation, and socioeconomic status (ASHA, 2017). All of these factors constitute an individual's cultures. The Board of Ethics concludes that the multiplicity of cultural and linguistic diversity merits specialized training for students, clinicians, and researchers in order to nurture the level of education and sensitivity necessary to uphold ASHA's professional and ethical standards for providing "appropriate services to all populations" (ASHA, 2017). This should compel clinicians and researchers to pursue continuing education in MMI. Supplementary studies in cultural and linguistic diversity are a necessity for all professionals, regardless of their personal cultural identity and experience.

Attitude/Disposition

Traditionally, MMI instruction has consisted of summarizing facts about a specific culture, and students are encouraged to consider the acquired information when working with clients from that culture. However, such an approach has the potential to inadvertently encourage students to form stereotypes about ethnic groups, giving

the student what Tervalon and Murray Garcia (1998) referred to as a "false sense of security" (p. 119). The authors note that measuring cultural competence in simple, quantitative terms (such as performance on assessments like the MCATs) is potentially dangerous. Despite having had cultural competence training, physicians have been found to project stereotypes onto clients that differ from them culturally, resulting in suboptimal care. For example, African American patients are half as likely to undergo surgery for ophthalmologic diseases (e.g. glaucoma) and twice as likely to become blind as a result (Javitt et al., 1991). Similarly, Latino patients are half as likely to receive pain medication for bone fractures regardless of their English language abilities or insurance status despite having reported the same level of pain as their white counterparts with the same type of fracture (Todd, Lee, & Hoffman, 1994; Todd, Samaroo, & Hoffman, 1993). Minority patients and patients living in poverty receive less information regarding their condition and less interaction overall from their doctors (Hall, Roter, & Katz, 1988). The key to preventing disparities such as these are self-awareness and self-evaluation, especially for healthcare professionals, who exercise a form of power over their clients - marginalized groups in particular (Tervalon & Murray-Garcia, 1998). Tervalon and Murray-Garcia (1998) logically suggested that recognizing one's own power and biases coupled with culturally responsive strategies, such as patient-focused interviewing and community-based care, diminishes the need to remember details about specific cultures.

The same need for self-reflective practices to deal with personal biases is also clearly demonstrated in the school setting. There is evidence that CLD students are often overrepresented in special education based on gender, race, socioeconomic status, and number of suspensions (Sullivan & Bal, 2013). General education teachers have been found to refer English Language Learners for special education when their difficulties are due to other sociocultural factors (Ortiz, et al., 2011). Within the discipline of speech-language pathology, bilingual children are overdiagnosed when clinicians evaluate them without proper training and assessment tools; and they are underdiagnosed when clinicians refrain from administering a comprehensive evaluation due to lack of knowledge and fail to consult the appropriate professional(s) such as bilingual SLPs or interpreters (Bedore & Peña, 2010; Langdon, 2016). CSD programs must incorporate effective training to combat the negative consequences that cultural blindness and cultural insensitivity precipitate. Some suggested measures that develop and assess the cultural competence of healthcare professionals are observation, informant interviews, journals, and community feedback (Tervalon & Murray-Garcia, 1998). Other methods of instruction that incorporate some of these measures have been implemented and documented in CSD courses. They are outlined in the next section.

Methods of Instruction

The methods by which MMI is incorporated into CSD curricula are varied. However, there are two general methods that are very distinct: *infused* and *dedicated*. ASHA cites Stockman (2003) in defining an infused course, emphasizing the contrast between infusion and inclusion. The latter denotes an addendum model in which MMI content stands alone as its own unit on the syllabus, secondary to the core content of the course - a model that is not appropriate for MMI instruction. True infusion, however, entails that MMI penetrates all topics covered in the course so that the manner in which the topics are taught is fundamentally different from a discussion of the topic alone, without reference to MMI (Stockman, 2003). A dedicated course, on the other hand, has cultural and linguistic diversity as its core content. Addressing MMI is the primary - if not sole - purpose of the course.

Despite the lack of empirical research regarding the efficacy of MMI instruction, a number of educators and researchers support and have documented positive outcomes resulting from curriculum designs based on self-reflection. Tervalon and Murray-Garcia (1998) discussed the necessity of "self-critique and self-awareness" in order to be able to engage other cultures in a way that does not marginalize them as "the other." One must handle one's own biases and prejudices that manifest in thought and action to truly respect and honor the values, beliefs, and traditions of those who have a different cultural background than oneself. The authors offer several activities that aid in this process, including but not limited to small-group discussions, journals, role models, and videotaping with feedback. These approaches should not only aid students and individuals, but should be implemented at the institutional level (e.g. graduate training programs) in order to ensure that the

institution is operating on goals and policies that create a culturally sensitive environment for students, faculty, and the community.

The principles described by Tervalon and Murray-Garcia (1998) have been successfully applied in CSD courses. For example, Mahendra, Bayles, Tomoeda, and Kim (2005) published a comprehensive summary of the use of Weimer's model of learner-centered education (LCE) for MMI instruction (Weimer, 2002). Unlike traditional teacher- and content-centered models, LCE gives the student and the instructor equal power in creating the learning environment and developing course content. In the course guided by Mahendra et al. (2005), course content focused on major cultures of the world - both their general characteristics and their variability. Equally as important to the course content was the learner's experience. Because the authors recognize that "beliefs influence behavior," the students were encouraged to examine their own upbringing, traditions, and worldview as a prerequisite for developing cultural competence in the clinical environment. In order for this process to be successful, the classroom must be established as a safe and respectful environment in which all views are received without penalty. Students are evaluated at each of the five stages of the course - learning about world cultures, defining one's own culture, recognizing stereotypes and biases in behavior, understanding cultural conflict, and strategies to reduce and resolve cultural conflict. Evaluations are such that they monitor acquisition of skills rather than information, ensuring that both content and process are preparing students to engage in continuous education.

Similarly, Durant-Jones (2009) implemented a transformational teaching and learning approach, described by McGonigal (2005), in a group case study involving a six-week MMI course that included lectures, small-group work, and cross-cultural learning experiences that took students outside of the classroom and into the community. Based on pre and post cultural awareness screenings, pre and post surveys, personal journals, a comparative analysis paper, a final project, course evaluations, and interviews, the students experienced a fundamental attitude shift regarding cultural diversity and clinical practice. They reported that because MMI was not addressed as an "afterthought," they gained a deeper understanding of "key issues" and recognized that cultural competence "requires on-going learning" (Durant-Jones, 2009).

Knowledge and Skills Outcomes

Literature and resources concerning MMI across disciplines have rapidly grown over the past decade. However, graduate training programs in CSD have been described as deficient in exuding the fervor and the level of commitment to cultural concerns needed to raise awareness and encourage students, faculty, and professionals to develop cultural competence. A survey by Stockman, Boult, and Robinson (2008) revealed that 56% of 731 ASHA-accredited CSD programs give minimal attention to MMI. The faculty of these programs judged that their students were only moderately prepared to serve CLD populations. While ASHA encourages CSD programs to integrate MMI into all courses in addition to including a course specifically dedicated to MMI, only 31% of the programs surveyed offered courses dedicated to MMI (ASHA, n.d.; Stockman, et.al., 2008). Tellis, Tomaselli, and Roseberry-McKibbin (2012) reported that despite agreement that providing an MMI dedicated course is important, few programs offer such a course. In 2015, ASHA reported statistics identifying only 62 of the 316 (20%) accredited CSD programs had a multicultural emphasis (ASHA, 2015).

Stewart and Gonzalez (2002) identified three major areas that determined a training program's capacity for developing culturally competent clinicians: expanding and sustaining diversity within the profession; increasing the quantity and quality of MMI research; and strengthening academic and clinical training. A survey of ninety-one programs across the country revealed that most had difficulty with minority recruitment and retention and that programs were not consistent in providing diverse practicum experiences (Stewart & Gonzalez, 2002). These results were confirmed by Horton-Ikard and Muñoz (2010) upon evaluating 133 CSD programs according to the Multicultural Competency Checklist (MCC; Ponterotto, Alexander & Grieger, 1995). Of the participating programs, 25% reported integrating MMI across the curriculum; less than 40% had conventional means for assessing the cultural competence of its faculty and students; and 48% had established a multicultural resource center.

A number of studies have characterized the perspectives of graduate students in CSD programs as well as those of practicing SLPs. Campbell and Taylor (1992) found that most of the 713 participating SLPs reported having deficits in the assessment and intervention of CLD populations. Wallace (1997) found that 43% of 37 SLPs had received no MMI training in their graduate program, while another 57% received minimal training. Sixty-two percent of the respondents felt incompetent in regards to serving adult CLD populations with neurogenic disorders. In 2001, only 24% of SLPs had completed MMI coursework (Roseberry-McKibbin, Brice, & O'Hanlon, 2005). One hundred sixty-seven undergraduate and graduate students in New York City CSD programs performed poorly on an evaluation that assessed knowledge of common features of nonstandard dialects (Levey, 2004). The current body of research on cultural competence in speech-language pathology illustrates that overall knowledge and skills pertaining to MMI are weak, thus necessitating a reformation of CSD curriculum and instruction.

Defining Culturally Responsive Behaviors

Evidenced-based practice (EBP) in speech-language pathology is defined as "the integration of research evidence with practitioner expertise and client preferences and values into the process of making clinical decisions" (ASHA, n.d.; "Evidence Based Practice"). This principle is symbolized by a triangle, for which each of the three points represents one of the components of EBP: current best evidence, clinical expertise, and client/patient values. The use of the triangle as a symbol should serve as a reminder that each of the three components is equal in importance (ASHA, n.d.; "Evidence Based Practice"). While current best evidence is provided in the literature regarding specific assessment and treatment practices, it is the clinical expertise that allows the clinician to consider the client's values when applying best practice. Thus, in order to integrate the three components of EBP, a clinician who operates according to EBP is one who practices cultural humility. A comprehensive paper on Cultural Competence in ASHA's Practice Portal provides practical ways to translate cultural humility into clinical practice. Culturally responsive practice promotes the use of dynamic assessment and culturally appropriate assessment and therapy materials. A family centered approach that involves family interviews, dissemination of information and consultation/referral to bilingual therapists, interpreter/translators and other professionals is recommended best practices when working with CLD families (ASHA, n.d.; "Cultural Competence"). Wyatt (2012) provides guidelines for assessing multicultural and international clients, noting the challenges of cross-cultural communication, the application of non-standardized and alternative assessments and engendering trust through the use of family interviews. Focusing on early intervention and service to school-age children, Davis and Banks (2012) promoted the use of ecologically-valid, family-centered services to the families of preschool and school age children.

The principles of cultural humility serve as the foundation of culturally responsive practices as these principles place the focus of every clinical encounter on the client and his/her family regardless of their specific culture or the dominant culture at large (Tervalon & Murray-Garcia, 1998). Culturally responsive practice also respects the dynamic nature of culture by making the client and the family the focal point rather than culture itself. In this manner, services are relevant to the client regardless of the degree to which a particular family identifies with the non-dominant and dominant cultures that influence them. The efficiency of culturally responsive strategies, then, makes the frequency of their use a major concern for the efficacy of the field of speech-language pathology.

Method

Participants

Forty (n=40) ASHA-certified SLPs between the ages of 25 and 75 years participated in the study. Fifty percent (50%) of the participants were between the ages of 36 and 55 years. The participants earned their Master's degree in Speech-Language Pathology between the years 1961 and 2014, with the most participants (15; 37.5%) having received their degree between 2001 and 2010. Nine participants (22.5%) earned their degree between 1981 and 1990. Thirty (75%) participants were Caucasian/White, four (10%) were African American/Black, one (2.5%) was American Indian or Alaskan Native, one (2.5%) was Asian or Pacific Islander, one (2.5%) was Hispanic/Latino, and three (7.5%) belonged to other racial/ethnic groups. Thirty-nine (97.5%) participants spoke English as a first language,

and eight (20%) spoke another language in addition to English. Thirty-eight (95%) were female.

Instrument

An electronic survey was created using a web-based survey program, Empliant™ software (see Appendix A). The survey included an introductory paragraph outlining the purpose of the survey followed by 45 questions pertaining to the participant's coursework, clinical practicum experience, and current practices used when serving CLD populations. The specific practices included in the survey were: dynamic assessment, diverse materials (e.g. food, objects, books, and pictures), family interviews, dissemination of information to high risk populations, and consultation/referral to bilingual therapists, interpreters/translators, and other professionals (ASHA, 2017). Multiple choice questions, open-ended questions, and rating scales were used to elicit information regarding their education, past and present clinical experience and practice, caseload demographics, and disposition. Finally, participants shared their personal philosophy regarding culturally responsive services and rated their level of preparedness for working with CLD populations. The survey did not elicit any identifying information and was completed anonymously. All surveys were submitted electronically.

Procedure

Fliers, email lists, and online communities (e.g. the LinkedIn group, "Speech Language Pathology Resources," ASHA Facebook page, etc.) were used to recruit ASHA Certified speech-language pathologists working at state and national associations, private practices, and public schools. Recruitment materials briefly described the study in the following terms: *The goal of the survey is to summarize the strategies implemented by practicing Speech-Language Pathologists (SLPs) as they relate to culturally and linguistically diverse (CLD) populations in order to evaluate the impact of different curriculum designs.* Prospective participants were also made aware that their participation was voluntary and that the results would be anonymous. The survey was accessed via an anonymous weblink, through which all responses were aggregated using Empliant™ software.

Data Analysis

To examine the impact that graduate training had on the clinical practice of the respondents, the data were analyzed using the Tri-Squared Test, a four-step process that converts qualitative data into quantitative data with high precision (Osler & Mutisya, 2013). First, trichotomous categorical variables and trichotomous outcome variables were identified. Second, effect size and sample size were established with the corresponding alpha level. Third, mathematical hypotheses about the relationship between categorical variables were formulated. Finally, the Tri-Squared test was used to determine which relationships were significant (Mutisya, Osler, Bitting, & Rotich, 2014). The Trichotomous T–Square Three by Three Table was designed to analyze the research questions from an Inventive Investigative Instrument with the following Trichotomous Categorical Variables: a_1 = Dedicated and Infused; a_2 = Infused Only; and a_3 = Dedicated Only. The 3 × 3 Table has the following Trichotomous Outcome Variables: b_1 = Consistently (Often to Regularly); b_2 = Intermittently (Infrequently to Rarely); and b_3 = Occasionally (Sometimes). The Tri-Squared Test 3x3 Matrix was organized according to the research questions and analyzed to test the significance of the research findings related to the Mathematical Research Hypotheses, H_0: $Tri^2 = 0$ and H_1: $Tri^2 \neq 0$, respectively. The effectiveness of each model was then determined.

Results

This study examined the impact that graduate training models - Dedicated and Infused, Infused Only, and Dedicated Only - have on certified SLPs' current practices patterns with respect to culturally and linguistically diverse populations. Although service to bilingual populations was addressed in the survey, service to this population involved a unique set of circumstances that merits a separate discussion. The present article focused on survey results pertaining to service to monolingual CLD populations.

In regards to graduate training experience, 32.5% (13) of respondents reported that their graduate program offered an MMI-dedicated course that was required for all students in addition to MMI content that was infused in other courses; 67.5% (27) did not take an MMI-dedicated course, but reported that MMI content was infused into at

least one other course. The courses that were most likely to include MMI content were Diagnostic Methods (25.5%), Language/Literacy (26.5%), and Articulation & Phonology (26.5%). Less than 10% of respondents indicated that MMI content was infused into AAC (7.8%), Swallowing/Fluency/Voice (4.9%), Hearing/Balance (2.9%), or Research Design (2%). Four respondents (3.9%) indicated that they did not receive or recall receiving MMI content in any of their coursework. There were no respondents (0%) that reported that their graduate program only offered MMI-dedicated courses without infused courses. Every program that offered an MMI-dedicated course also infused MMI content throughout the curriculum. The effectiveness of each of the models reported - Dedicated and Infused (DI) and Infused Only (IO) - is evaluated.

Does the graduate training model have a significant impact on SLPs' service delivery to CLD populations?

The data were analyzed using the Trichotomous–Squared ("Trichotomy–Squared", "Tri–Squared" or "Tri–Square") statistical analysis procedure (Osler, 2012). The Trichotomous–Squared Three by Three Table was designed to analyze the research questions from an Inventive Investigative Instrument with the following Trichotomous Categorical Variables: $\boldsymbol{a_1}$ = Dedicated and Infused; $\boldsymbol{a_2}$ = Infused Only; and $\boldsymbol{a_3}$ = Dedicated Only. The 3 × 3 Table has the following Trichotomous Outcome Variables: $\boldsymbol{b_1}$ = Consistently (Often to Regularly); $\boldsymbol{b_2}$ = Intermittently (Infrequently to Rarely); and $\boldsymbol{b_3}$ = Occasionally (Sometimes). The Inputted Qualitative Outcomes representing the impact of graduate training models on SLP service delivery to CLD populations are reported in tabular format, shown in Figure 1.

Figure 1. Outcomes of the Tri–Squared Test for Cultural Responsiveness by Graduate Training Model

$n_{Tri} = 40$ $\alpha = 0.20$		TRICHOTOMOUS CATEGORICAL VARIABLES		
		$\boldsymbol{a_1}$	$\boldsymbol{a_2}$	$\boldsymbol{a_3}$
TRICHOTOMOUS OUTCOME VARIABLES	$\boldsymbol{b_1}$	99	107	0
	$\boldsymbol{b_2}$	9	17	0
	$\boldsymbol{b_3}$	11	50	0

The Tri–Square Test Formula for the Transformation of Trichotomous Qualitative Outcomes into Trichotomous Quantitative Outcomes to Determine the Validity of the Research Hypothesis is as follows:

$\boldsymbol{Tri^2}\ d.f. = [C - 1][R - 1] = [3 - 1][3 - 1] = 4 = \boldsymbol{Tri^2_{[mean]}}$

The Tri–Square Test Formula for the transformation of trichotomous qualitative outcomes into trichotomous quantitative outcomes to determine the validity of the research hypothesis is as follows:

$$\boldsymbol{Tri^2 = T_{Sum}\ [(Tri_x - Tri_y)^2 : Tri_y]}$$

The $\boldsymbol{Tri^2}$ Critical Value Table = 5.989 (with $d.f.$ = 4 at α = 0.20). For $d.f.$ = 4, the Critical Value for $p > 0.20$ is 5.989. The Calculated Tri–Square Value is 18.12, thus, the null hypothesis ($\mathbf{H_0}$: None of the instructional models have a significant effect/impact on the culturally responsive practices of SLPs) is rejected by virtue of the hypothesis test which yields the following: Tri–Squared Critical Value of 5.989 < 18.12, the Calculated Tri–Squared Value (Osler, 2012).

Figure 1 shows that the respondents primarily selected the "Infused Only" Categorical Variable at "Consistently" ($\boldsymbol{a_2b_1}$ = 107) in terms of their diverse experiences in their

respective graduate program and subsequent practice. All Trichotomous Categorical Variables are reported respectively as follows: "Dedicated and Infused" (DI) as "Consistently" (a_1b_1 = 99), "Intermittently" (a_1b_2 = 9), and "Occasionally" (a_1b_3 = 11); "Infused Only" (IO) as "Consistently" (a_2b_1 = 107), "Intermittently" (a_2b_2 = 17), and "Occasionally" (a_2b_3 = 50); and "Dedicated Only" (DO) as "Consistently" (a_3b_1 = 0), "Intermittently" (a_3b_2 = 0), and "Occasionally" (a_3b_3 = 0). As the data displays, there was no DO data in regards to MMI curriculum reported by any of the respondents. The null hypothesis (H_0) is rejected at p > 0.20 is 5.989. Thus, the qualitative standard Tri–Squared 3 by 3 data illustrate that both the DI model and the IO model have a significant impact on the use of CLD clinical practice strategies.

How effective are pre-professional training models in producing culturally responsive SLPs?

The second research question the current study addressed is the effectiveness of respondents' graduate training in producing culturally responsive SLPs. This question is examined in two parts:

a) *What culturally responsive practices do SLPs report as a result of their graduate training experience?* This question examines participants' responses to clinical practice items.

b) *Which instructional model is most effective in preparing SLPs in the delivery of culturally responsive services to CLD families?* This question examines four different measures of effectiveness: overall level of efficacy (average of responses to clinical items), feelings of preparedness, perceived contribution of graduate program to preparedness, and personal philosophy (i.e. attitudes and disposition).

What culturally responsive practices do SLPs report as a result of their graduate training experience?

Tables 1-4 display the percentage of respondents that reported using culturally responsive strategies consistently (regularly to very often) in the DI group and the IO group. Both the DI group and the IO group conduct dynamic assessments and use diverse materials more often than they conduct family interviews and disseminate information. This suggests that the respondents do not engage in frequent contact with the families of the clients receiving direct services. The IO group engages with families/caregivers about half of the time while the DI group interacts with families about 75% of the time. The data demonstrate that the DI group is more likely to report using culturally responsive strategies (e.g. dynamic assessment, diverse materials) consistently than the respondents in the IO group in their current practice.

Table 1. Descriptive Statistics for Clinical Practice Item No. 1 - Dynamic Assessment with CLD Clients

Cultural and Linguistic Level of Variation	**Overall Outcome As a Percentage**
1. Dedicated and Infused	0.92
2. Infused Only	0.72

Table 2. Descriptive Statistics for Clinical Practice Item No. 2 - Diverse Materials with CLD Clients

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.92
2. Infused Only	0.78

Table 3. Descriptive Statistics for Clinical Practice Item No. 3 - Family Interviews with CLD Families

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.77
2. Infused Only	0.56

Table 4. Descriptive Statistics for Clinical Practice Item No. 4 - Disseminating Information to CLD Families

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.77
2. Infused Only	0.56

Which instructional model is most effective in preparing SLPs in the delivery of culturally responsive services to CLD families?

Table 5 reflects the average percentage that each group engages in culturally responsive practices. The data show that the DI group, on average, utilizes culturally responsive strategies more often than the IO group (83% > 61%).

Table 5. Descriptive Statistics for average of Clinical Practice Items No. 1-11

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.83
2. Infused Only	0.61

Table 6 displays the percentage of respondents from each group who report feeling prepared for working with CLD populations. Seventy-seven percent of the DI group reports feeling "prepared" or "very prepared" to work with CLD populations while only 37% of the IO group feels "prepared" or "very prepared." While the majority of the DI group reported feeling prepared (69.2%), the majority of the IO group reported feeling somewhat prepared (40.7%). Table 7 displays the percentage of respondents from each group who agree that their graduate program contributed to their knowledge and skills related to serving CLD populations. Seventy-seventy percent of the DI group "agree" or "strongly agree" that their graduate program contributed to their knowledge and skills regarding CLD populations compared to 19% of the IO group. Likewise, 77% of the DI group report that their graduate training contributed to their disposition regarding service to CLD populations compared to 37% of the IO group (Table 8). For all items, respondents from the DI group gave overwhelmingly more positive responses. The DI group reported feeling significantly more prepared for working with CLD populations and attributed the associated knowledge, skills, and disposition to their graduate training experience.

Table 6. Descriptive Statistics for Non-Clinical Practice Item No. 1 - Feelings of Preparedness

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.77
2. Infused Only	0.37

Table 7. Descriptive Statistics for Non-Clinical Practice Item No. 2 - Contribution of Graduate Training on Knowledge and Skills

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.77
2. Infused Only	0.19

Table 8.

Descriptive Statistics for Non-Clinical Practice Item No. 3 - Contribution of Graduate Training on Disposition

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.77
2. Infused Only	0.26

On average, 77% of the DI group agree that their graduate program contributed to their knowledge, skills, and disposition regarding service delivery to CLD populations compared to 22.5% of the IO group. These data suggest that the DI model is more effective in preparing clinicians for serving CLD populations across clinical and non-clinical variables.

Qualitative Responses

In order to achieve true cultural competence, "Clinicians must consistently partake in reflective exercises that foster the attitude and disposition conducive to forging productive relationships with their clients" (Tervalon & Murray-Garcia, 1998). Attitude is a critical element that speaks to one's cultural competence as well as one's overall "professionalism". Consequently, this survey required participants to complete the statement, *"My philosophy on providing culturally/linguistically responsive service is…"*. Personal philosophy speaks to one's attitude and disposition and reveals respondents feelings of preparation. Personal philosophy is further translated to reveal professionalism, evidenced along a continuum of cross-cultural behaviors.

In comparing open-ended responses to perceived level of overall preparedness, three trends emerged. First, participants whose open-ended responses reflected cultural humility - open-minded, given to lifelong learning, consulting families and communities as experts - were most likely to rate themselves as "prepared" or "somewhat prepared." Only one of the respondents who verbalized cultural humility reported being "very prepared" (see Table 9).

Second, those whose philosophy was founded on one dimension of culture also rated themselves as "prepared" or "somewhat prepared" (see Table 10). Third, those who gave a response of "neutral" for level of overall preparedness demonstrated little to no understanding of culturally/linguistically responsive service (see Table 11). Each open-ended response is situated on the continuum of cultural competence proposed by Cross, et. al. (1989) and cited by ASHA (n.d., "Cultural Competence"). The continuum moves from cultural destructiveness, to cultural incapacity, to cultural blindness, to cultural pre-competence, to cultural competency, to cultural proficiency (Cross, et al., 1989; Kohnert, 2008). Keywords that illustrate the participant's stage on the continuum are emphasized in italics.

Table 9. Open-Ended Responses Reflecting Cultural Humility

Feeling of Preparedness	**My philosophy on providing culturally/linguistically responsive service is...**	**Stage on Continuum of Cultural Competence**
Somewhat prepared	*Constantly evolving* based on *experience* and *continuing education*. I want to be as *respectful and responsive* as possible, but I know I still have a lot to learn. I am always open to learning more. This is an *extremely important* area to me...I try to be very sensitive to the linguistic traditions of the children and families I serve.	Cultural Competency
	Even with courses and several years of experience, I feel like it is a *constant learning process* that *will continue* throughout my career.	Cultural competency
Prepared	To *understand the perspective of my client*'s belief system as it relates to assessment and intervention so that I can incorporate these perspectives into my clinical practice approach *without inadvertently imposing my beliefs* and view.	Cultural Competency
	To treat all of my clients with *respect and compassion* regardless of their background by being *sensitive to their experiences* and cultural expectations.	Cultural Competency
Very Prepared	The principles and activities of *culturally/linguistically responsive service* should be appropriate and *infused throughout the clinic* to include *partnerships with communities* served.	Cultural Proficiency

Table 10. Open-Ended Responses Reflecting One Dimension of Culture

Feeling of Preparedness	**My philosophy on providing culturally/linguistically responsive service is...**	**Stage on Continuum of Cultural Competence**
Somewhat prepared	It is important to preserve the *first language* of a child so that their *family dynamics* remain strong.	Cultural Pre-Competence
	I use a *native non English school aide* or assistant or bilingual or native Spanish speaking teacher when I test.	Cultural Pre-Competence
	Not sure what my philosophy is.	Cultural Incapacity
Prepared	Provide the information in the *language* that parents request it to be in.	Cultural Pre-Competence
	It is important to know and understand a *variety of cultures*.	Cultural Pre-Competence

Table 11. Open-Ended Responses of Participants Reporting Neutral Preparedness

Feeling of Preparedness	My philosophy on providing culturally/linguistically responsive service is...	Stage on Continuum of Cultural Competence
Neutral	Please note that I completed my training by 1968 at which time there was *no focus on CLD issues.* It was during the time that ASHA began requiring a Master's Degree for certification and practicums and courses were often part of the undergraduate program. ASHA was not the American Speech Language and Hearing Ass but Speech and Hearing. Issues at that time included obtaining the recognition that our profession dealt not just with speech but also language. Thus my training experiences were far different from those in the last couple of decades. Our mission was to *provide quality services to persons with communication disorders of all cultural and linguistic backgrounds.*	Cultural Incapacity
	Sometimes it is *very difficult* and you may *have to do research* to serve those clients.	Cultural Pre-Competence
	Equality.	Cultural Blindness
	My work is primarily with *non-verbal* students.	Cultural Incapacity

These trends speak to the nature of traditional perspectives on cultural competence, by which competence is measured by knowledge of "so called facts" or stereotypes about particular cultures. As a result of this approach, clinicians who practice with cultural humility view their perceived lack of knowledge regarding specific cultural characteristics as a deficit (Table 9). However, on the continuum of cultural competence, they are culturally competent or culturally proficient. This means that they accept and respect cultural differences, consistently engage in self-assessment and education, and use their knowledge of culture effectively throughout their clinical practice. Further, culturally proficient practice is applied on an institutional level pursuing ongoing improvement and advocacy through leadership (Cross et al., 1989; Kohnert, 2008).

On the other hand, those who have learned various facts about the culture(s) represented on their caseloads or who use interpreters or a second language during service delivery feel some level of preparedness despite their fragmented understanding of culture (Table 10). This pattern demonstrates the "false sense of security" described by Tervalon and Murray-Garcia (1998). Those whose responses were one-dimensional demonstrate cultural incapacity or cultural pre-competence (Table 10).

Cultural incapacity describes one who does not intend harm, but personal bias and an ethnocentric perspective make their practice discriminatory (Kohnert, 2008). Cultural pre-competence reflects a level of personal awareness of one's own values and behaviors while actively engaging in activities that promote a greater understanding of more "implicit aspects of culture" (Kohnert, 2008). While this stage may seem positive, clinicians who are culturally pre-competent are at risk for perpetuating stereotypes and inadvertently causing harm to those they serve. Thus, the open-ended responses show that while culturally humble clinicians and those who have yet to reach cultural competence rate themselves as having the same level of preparedness, the continuum of

cultural competence illustrates that the two groups are, in fact, quite different. Additionally, those who were neutral about their level of preparedness gave open-ended responses that communicate the notion that culturally and linguistically responsive services are reserved for specific populations so that cultural competence is not required for those who do not serve CLD populations (clients and families whose culture differs from that of the clinician) on a regular basis (Table 11). These participants' responses range from cultural pre-competence to cultural incapacity. The responses of each of these subgroups of clinicians suggest a deficiency in the current methods by which MMI content is addressed in CSD curricula.

Discussion

The survey data in this study are consistent with previous literature demonstrating that, overall, the knowledge, skills, and disposition of SLPs do not adhere to ASHA ethics and standards regarding culturally responsive services for CLD populations. For over 30 years, ASHA has been developing recommendations and guidelines related to MMI. Still, ASHA-certified speech-language pathologists overall feel unprepared to work with CLD populations. Moreover, they do not credit their graduate programs for contributing to the knowledge and skills they do have in regards to MMI. The constructive information that these data provide is that including a course that is dedicated to MMI in CSD programs in addition to infusing MMI content across the curriculum, improves outcomes in clinical practice post-graduation.

In addition to indicating a need for MMI-dedicated coursework in CSD programs, the present data reveal which culturally responsive strategies are more likely to be practiced and which strategies are avoided. Regardless of their graduate training, SLPs are consistent in performing dynamic assessments and using diverse materials; however, they are less likely to conduct family interviews and disseminate information to high-risk populations. This trend suggests that SLPs are not consistently engaging in family-centered care. Contributing factors may be the absence of family-centered training outside of early intervention settings and barriers in the clinical context or community that makes getting in contact with families difficult. In their open-ended responses, two participants identified the availability of resources and the "realities" in which they work as obstacles to providing the highest quality services possible.

In regard to factors contributing to knowledge, skills, and disposition, some participants cite personal experience and contact with CLD populations as the source of their learning rather than their graduate training program. The insight that participants gained from experience supports the value of the transformational teaching and learning approach, which includes cross-cultural interactions outside of the classroom as a cornerstone of the curriculum (Durant-Jones, 2009). It is important to note, however, that some participants who took an MMI-dedicated course as a part of their CSD graduate curriculum reported that their graduate program did not significantly contribute to their knowledge, skills, and disposition regarding MMI. Moreover, offering an MMI-dedicated course did not necessarily indicate that a CSD graduate program was perceived as being committed to cultural and linguistic diversity. This pattern reiterates the importance of institution-wide policies and goals that hold both faculty and students to a high standard of clinical excellence for all people. Cultural humility must begin at the level of the institution in order to produce culturally humble clinicians that consistently follow evidence-based practice and uphold the ASHA Code of Ethics.

Limitations

While this study shows trends in culturally responsive practice as a function of graduate training experience that are supported in previous literature, the sample size is small. In addition, the geographic distribution of participants is unknown. Therefore, the diversity of graduate programs represented in the sample is unknown.

Future Directions

In order to gain a more detailed understanding of the impact that graduate training has on the development of students' cultural proficiency, future studies should evaluate graduate programs regarding MMI infusion in the curriculum and in the framework of the institution. Factors to be included in such an evaluation that have already been shown in the literature to have an effect on MMI instruction include the recruitment and retention of minority faculty and students (Horton-Ikard & Muñoz, 2010; Stewart & Gonzalez, 2002) as well as syllabus

review and faculty perspectives (Halvorson-Bourgeois, Zipse, & Haynes, 2013). Faculty and student perspectives should be combined to gain a comprehensive view of which program characteristics are important to faculty and students as well as which characteristics have the most influence on clinical outcomes. In this manner, the field can develop guidelines and resources that support graduate programs that are moving towards creating a more culturally responsive environment.

Conclusions

Culture is coded into language to the extent that cultural norms, customs, and values must be integrated into every aspect of speech and language services. Failing to do so negatively impacts the validity and reliability of assessment and the efficacy of intervention. Further, cross-cultural conflict may surface as the results of poor client-clinician relations. ASHA standards specify that cultural competence is an essential aspect of graduate training and clinical practice, and the association cites cultural humility and cultural proficiency as the gold standard. Therefore, SLPs must not only be aware of possible cultural differences, but also understand how to navigate cross-cultural interactions regardless of what the specific cultural differences are. Further, SLPs must value the culture of each client and family such that engaging in culturally responsive service delivery is standard practice rather than a cumbersome add-on to be used with specific populations. In order to achieve this level of cultural humility, ASHA encourages graduate programs in CSD to offer courses dedicated to MMI in addition to infusing MMI across the curriculum. Thus, cultural humility is the result of institutions that commit to excellence in MMI instruction by infusing MMI throughout the curriculum, including an MMI-dedicated course as a part of the core curriculum, and exposing students to cultural and linguistic diversity in their practicum experiences.

Regardless of geographic location or demographic characteristics, cultural humility is a philosophy that will improve the clinical practice of all clinicians. Cultural humility is the foundation of cultural proficiency. While cultural proficiency is a constantly evolving set of principles and practices, graduate programs must create an environment where culturally responsive practices are a part of the institutions culture and is evident throughout the program. Graduate training programs must demonstrate a vested interest in culturally responsive practices as a part of their infrastructure as well as throughout their curriculum and practice, consequently improving service delivery to CLD populations.

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