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Elaine Williams

University of Nebraska-Lincoln, ewilliams25@huskers.unl.edu

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UNDERSTANDING THE NEEDS AND KNOWLEDGE BASE OF DEVELOPING
SPEECH-LANGUAGE PATHOLOGY PROGRAMS: A PRELIMINARY MIXED
METHODS SURVEY IN THE UNITED STATES

by

Elaine M. Williams

A THESIS

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Under the Supervision of Professor Kristy Weissling

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Elaine M. Williams, M.S.

University of Nebraska, 2021

Advisor: Kristy Weissling

The field of speech-language pathology provides important rehabilitation services for communication and swallowing disorders. Unfortunately, these services are lacking around the world, specifically in Majority countries, formally known as third world countries. This is significant given the high proportion of people with disabilities in Majority countries. While speech-language pathology services are actively being introduced to these areas, it is often with the inappropriate transfer of Minority world values. In an effort to provide a less biased and more formal approach to collaborating with countries requesting help to establish speech-language pathology services, the author of this thesis is proposing a process to comprehensively assess self-perceived areas of needs which includes: 1) develop a framework, 2) create a tool, 3) identify future directions.

The process described above was modeled with SLPs in the United States as a preliminary measure of validity to assess if Minority countries, formally known as first world countries, are adhering to the same global standards they place on Majority countries. As an initial step in the process, global assessment standards were gathered from 39 international Minority world speech-language pathology organizations and

coupled with the Communication Disability Model (CDM) to create a survey tool (Hartley & Wirtz, 2002). The results indicated that the SLPs sampled from the United States are not equally addressing each branch of the CDM (i.e., impairment, range of function, social factors, environmental factors). Different demographic groups (e.g., years of experience, work setting) also identified varying needs which could be used to direct specific support in the future, potentially increasing CDM alignment. These results suggest that, although having global standards may seem ideal for consistency of care around the world, those standards may not even be realized in Minority countries where there are already well-established speech-language pathology services. For this reason, Minority world countries should not have the expectation that each CDM area will or should be addressed 100% of the time when collaborating with Majority world countries. In the future, the survey tool may be used to drive individualized support for countries seeking to provide quality communication services within their distinct cultural values.

Dedication

This thesis is dedicated to the author's friends, family, and fellow colleagues who share a passion for global speech-language pathology issues.

Acknowledgements

The author would like to thank the committee chair, Dr. Kristy Weissling, for her time and dedication to this project during unprecedented times. Thank you to the thesis committee members, Dr. Sue Kemp and Dr. Matthew Lambert, who kindly provided valuable input from their areas of expertise. Special gratitude toward the global speech-language pathology organizations who readily provided documentation on their assessment practices. The author greatly appreciates the SLPs in the United States who participated in the online survey. Finally, thank you to Peninah and Precious, our friends from the Uganda Speech and Language Therapist Association (USLTA), for graciously collaborating on portions of this project.

Table of Contents

List of Figures.....	vii
List of Tables.....	viii
CHAPTER ONE: LITERATURE REVIEW.....	1
Terminology.....	1
Background.....	1
Target Population.....	6
Theoretical Model.....	7
Statement of the Problem.....	10
Research Questions & Aims	11
CHAPTER TWO: METHODS.....	12
Develop a Framework.....	12
Tool Creation.....	18
Analysis.....	22
Research Question 1.....	23
Research Question 2.....	24
CHAPTER THREE: RESULTS.....	27
CHAPTER FOUR: DISCUSSION.....	36
Current Practices.....	36
Perceived Areas of Need.....	38
Limitations.....	39
Future Directions.....	40
Conclusion.....	40
References.....	42

APPENDIX A.....50

List of Figures

Figure 1.1 - CDM vs. WHO ICF.....	9
Figure 2.1 - Proposed process principles.....	12
Figure 2.2 - Map of assessment standard email responses.....	15
Figure 2.3 - Data filtering process.....	23

List of Tables

Table 2.1 – International speech-language pathology correspondence and documents...	14
Table 2.2 - Global assessment standards.....	16
Table 2.3 - Survey question construction for Part 1.....	21
Table 2.4 - Survey question construction for Part 2.....	22
Table 3.1 - Percentage of SLPs in the USA who performed assessment tasks 100% of the time.....	29
Table 3.2 - Friedman test statistics.....	29
Table 3.3 - Wilcoxon signed ranks test statistics.....	30
Table 3.4 - Experience: Percentages of perceived areas of need by SLPs in the United States.....	31
Table 3.5 - Experience: Chi-square and relative risk ratio test statistics.....	32
Table 3.6 - Setting: Percentages of perceived areas of need by SLPs in the United States.....	34
Table 3.7 - Setting: Chi-square and Cramer’s V test statistics.....	35

CHAPTER ONE: LITERATURE REVIEW

Terminology

Countries around the world can be grouped in numerous ways, such as geographically, culturally, or socially. This project will use specific terminology to classify countries based on aspects of human development. Terms will describe broad country groupings based on the United Nation's Human Development Index (HDI) (UNDP, 2020). HDI tracks the overall development of countries in comparison to one another using health, education, and economic measurements to compute a score between zero and one. The term "Minority world" refers to countries with an HDI of 0.8 or higher. Previous terms used to describe these countries were more developed countries, first world countries, and the Global North. However, these countries actually represent a smaller percentage of the world's population and, therefore, are in fact Minority countries. Examples of countries that fall into this category are the United States, Australia, and Switzerland (Hartley & Wirtz, 2002; Wiley et al., 2013; United Nations, 2019). Countries with an HDI level below 0.8 are termed "Majority world" because they represent the majority of the world's population (Hartley & Wirtz, 2002; Wiley et al., 2013; United Nations, 2019). Previous terms to describe these countries were less developed countries, third world countries, or the Global South. The majority of the world's population resides in these countries. Examples include Haiti, Uganda, and India.

Background

The World Health Organization (WHO) reported a significant deficit in worldwide rehabilitation services, specifically in Majority countries (WHO, 2018). In the

most recent report on rehabilitation services, WHO (2018) reported that many Majority countries have ratios with as few as 10 qualified rehabilitation providers per one million people. In contrast, many Minority countries have over 30 times that amount. This disparity is especially prevalent in the speech-language pathology field. Although there is not comprehensive data on the amount of rehabilitation workers worldwide, preliminary data shows wide gaps between the number of SLPs in Minority and Majority countries (WHO, 2018). For example, one study found that four countries in sub-Saharan Africa had ratios of one speech-language pathologist (SLP) per two–four million people, whereas the United States, United Kingdom, Australia, and Canada reported having one SLP per 2,500–4,700 people (Wylie et al., 2013).

The rehabilitation services gap is significant given the high proportion of people with disabilities in Majority countries. Roughly 15% of the world’s population presents with a disability, and 80% of that group lives in Majority countries (World Health Organization and the World Bank, 2011). The World Bank (2021) suggests several reasons for this discrepancy:

Poverty may increase the risk of disability through malnutrition, inadequate access to education and health care, unsafe working conditions, a polluted environment, and lack of access to safe water and sanitation. Disability may also increase the risk of poverty, through lack of employment and education opportunities, lower wages, and increased cost of living with a disability (para. 8).

With limited access to SLPs, too many individuals lack speech, language, and swallowing services that could positively change their daily functioning and quality of life. As previously stated, disability and poverty are strongly linked (The World Bank, 2011). By addressing rehabilitation needs for those with disabilities, there is a greater chance these individuals will be able to receive a quality education and find meaningful work. Some literature even suggested that these changes may extend beyond the individual to positively impact the social-economic disparity seen between Majority and Minority countries (Parnes et al., 2009; Banks et al., 2017).

The need to increase the presence of global rehabilitation services has been recognized, and speech-language pathology services are being developed in Majority countries. However, there are no formal tools to assist with the process. Several case studies of nations such as Sri Lanka, Hong Kong, Malaysia, Ghana, and South Africa, have been documented in the literature (Bortz et al., 1996; Wickenden et al., 2001; Crowley & Baigorri, 2012). These case studies revealed weaknesses in the way Minority world SLPs assist developing speech-language pathology programs. For example, in 2001 two UK-based organizations partnered with colleagues in Sri Lanka to develop a new speech-language pathology university program. In their article, Wickenden et al. (2001) discussed general cultural considerations and documented efforts to transition Sri Lanka toward self-sufficiency. On the surface this appeared to be a culturally sensitive approach. However, this project did not state how they gathered relevant cultural information and admitted to ultimately applying a modified UK-based approach to the program (Wickenden et al., 2001). Since no formal tools were used, there could be deficiencies in the comprehensiveness of the cultural information gathered. Additionally,

this approach assumed that the UK model for speech-language pathology services was the best foundational fit for Sri Lanka to adapt. This example highlighted how Minority countries may be unknowingly biased in the way they help develop speech-language pathology services in Majority world countries. In this example, the UK aid assumed that their speech-language pathology practices should be universally accepted, when they might not have been appropriate for Sri Lanka's context.

Furthermore, the literature indicated that services offered to Majority world countries are offered exclusively through universities or health-related volunteer programs. None of them reported consultations with outside organizations (i.e., inquired about standards of practice from other speech-language pathology associations) prior to assisting Majority countries (Bortz et al., 1996; Wickenden et al., 2001; Crowley & Baigorri, 2012). This implied that the services offered to Majority world countries are likely to be culturally biased to Minority world speech-language pathology professional ideals and standards. More specifically, Minority world countries may have a higher chance of suggesting their own ideas regarding educational standards, service delivery, and scope of practice instead of first seeking to understand the Majority world's context. Wiley et al. (2013) summarized the problem well in their paper:

In the Majority World, the lack of locally educated SLPs means that many services available may be delivered by expatriates or volunteers with a Minority World view of what constitutes an acceptable service...It is important for the speech-language pathology profession to critically reflect on appropriate service delivery approaches to best serve the needs of all [people with communication

disabilities] and to assess each new context individually, rather than replicating previous models (pp. 6, 8).

A common limitation cited in the literature was the need to increase cultural considerations of the country being assisted (Bortz et al., 1996; Wickenden et al., 2001; Hartley et al., 2002; Crowley & Baigorri, 2012). These considerations include topics like multilingual service delivery, culturally-relevant curriculum, and collaboration with local stakeholders. This recurring limitation likely impacts the development of sustainable speech-language pathology programs. It is important to identify and address cultural considerations to support self-sufficient speech-language pathology programs. This project will specifically address cultural relevance and stakeholder collaboration.

The literature did not reveal models for how to practically implement a speech-language pathology program in a Majority country. Guidelines and considerations exist (e.g., identify major cultural issues, review existing services, consider local education system), but they were drawn from single case (country) studies and each appeared to use a trial and error approach when implementing the recommendations (IALP, 2009; WHO, 2018). This creates a habit of slow and labor-intensive program development every time speech-language pathology services are introduced to a country. While there certainly will be differences in the way every country seeks to develop rehabilitation services, a common process to approaching that development may be possible. To achieve this, there is a clear need for formal, unbiased tools to facilitate discussions related to new speech-language pathology services. The aim of this project is to provide a process for Minority world universities and health-related volunteer programs to guide Majority world

countries in the development of speech-language pathology related services. The primary approach will be to develop a survey tool based on speech-language pathology standards compiled from those found around the world.

Target Population

The original goal for this thesis was to conduct a trial of the proposed process with a Majority country that had an early developing speech-language pathology field (i.e., those who are still establishing the guidelines, curriculum, and scope of practice for their SLP services). The author had a working relationship with the Uganda Speech and Language Therapist Association (USLTA) and initially the plan was to implement the project with SLPs in Uganda. However, due to complications related to COVID-19, the USLTA was unable to participate. Instead, the process and tool was piloted on SLPs in the United States. In retrospect, this change resulted in a vital preliminary step. The assessment of global standards in a Minority country provided insight into what practices are in fact common in a Minority world country, like the United States. It also provided necessary self-reflection. After the development of a comprehensive tool to assess competency and needs with the speech-language pathology profession, how will a Minority country fair on those standards?

The United States was chosen as the target population, as it is an example of a Minority world country that has a sustainable speech-language pathology field. The first school-based “speech correctionists” began in Chicago in 1910 (Battaglia, 2010). In 1925, the American Academy of Speech Correction was developed and later became known as the American Speech Language Hearing Association (ASHA) (Duchan, 2002).

ASHA currently has over 200,000 members and acts as the national credentialing organization for SLPs and audiologists in the United States (American Speech-Language-Hearing Association [ASHA], 2021b).

ASHA's membership numbers are high compared to Majority world professional numbers; however, there is still a shortage of SLPs in the United States. The National Institute on Deafness and Other Communication Disorders (NIDCD) reported large numbers of people requiring SLP services. The most recent statistics from 2016 state that there are currently 7.5 million people with voice difficulties, eight to nine percent of young children with a speech sound disorder, more than three million people who stutter, six to eight million people with a language impairment, and one million people with aphasia (National Institute on Deafness and Other Communication Disorders [NIDCD], 2016). Additionally, ASHA reported that there are approximately 55 certified SLPs for every 100,000 residents and that a third of healthcare settings have more job openings than applicants (ASHA, 2020). This data indicates that the need for SLPs exceeds the resources in the United States.

Theoretical Model

The development of a formal tool should be based in a solid theoretical model. The first model considered was WHO's Community-based Rehabilitation (CBR) model (WHO, 2015). The CBR model is a tool created to "increase access to rehabilitation services in resource-constrained settings" (WHO, 2015, p. 1). It systematically addresses the following areas: health, education, livelihood, social, and empowerment. Speech-language pathology services fall under the "health" element of the CBR framework. It

effectively identifies needs; however, it is not specific. The CBR does not focus on needs for individual rehabilitation fields, but rather looks at general access to services and assistive technology (WHO, 2015). For this reason, it would not provide guidance for developing something as individualized as a speech-language pathology program.

The second model considered was the Communication Disability Model (CDM). The CDM strongly correlates with the widely accepted biopsychosocial WHO International Classification of Functioning, Disability, and Health (ICF) model (WHO, 2001), the only difference being that the CDM specifically addresses speech and language disabilities. The CDM is a well-recognized model in the literature that has driven international speech-language pathology program development with its holistic considerations (Robinson et al., 2003; Wylie et al., 2013). Hartley and Wirtz (2002) developed the CDM from five studies completed in Uganda and Nigeria. They interviewed a variety of stakeholders (e.g., parents, caregivers, community members) regarding the various needs of children with communication disabilities. The qualitative data was analyzed to form the CDM. Its main purpose is “to provide a framework for service strategy development for a single disability group” (Hartley & Wirtz, 2002, p. 1552).

The CDM was used as the basis for the tool that was developed in this project. The CDM consists of four components: impairment, range of function, social factors, and environmental factors. The first component, impairment level, addresses the diagnosis of an individual, that is the body structures that are not working, and/or what basic functions the person cannot do (WHO, 2001; Hartley & Wirtz, 2002). The second component, range of function, describes how the individual’s communication disorder affects the

specific activities they can perform (e.g., reading books, swallowing a regular diet, speaking in class) (WHO, 2001; Hartley & Wirtz, 2002). The third component, social factors, describes how an individual's communication disorder affects interactions with peers, family, and society (WHO, 2001; Hartley & Wirtz, 2002). Finally, environmental factors address limitations outside of an individual's control, such as how policies, cultural norms, settings, and resources negatively impact the person (WHO, 2001; Hartley & Wirtz, 2002). The use of this model was a foundation for the development of an assessment tool created in this project. The tool may help guide organizations working to develop speech-language pathology services in Majority countries and may help decrease cultural bias by providing holistic considerations specific to speech-language pathology communication concerns (Hartley & Wirtz, 2002).

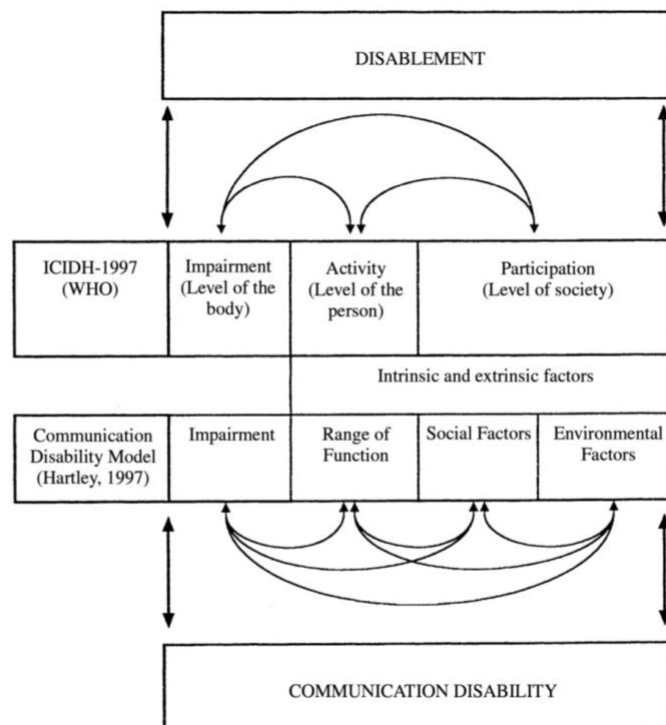


Figure 1.1. Comparison of the Communication Disability Model and the World Health Organization's International Classification of Functioning, Disability, and Health model (Hartley & Wirtz, 2002).

Statement of the Problem

To better support countries with developing speech-language pathology service delivery, it is important to first understand the country's values, knowledge-base, skills, and self-perceived areas of need. The author of this thesis aimed to create a process that may provide a construct to formally guide culturally appropriate assistance given by outside organizations to those 1) initiating the creation of speech-language pathology services or 2) aiming to build self-sufficiency of pre-existing speech-language pathology services in Majority world countries. To ensure the validity of the process, preliminary data was taken with Minority world SLPs. A pilot survey was given to SLPs in the United States to probe the following:

- Current practices and their importance
- Differences in practice
- Areas of need
- Culturally-relevant topics for future assistance

Research Questions & Aims

This project aimed to accomplish the following:

1. Develop a framework
2. Create a survey tool
3. Identify future directions

This project aimed to answer the following questions:

1. Are the global assessment standards representative of Minority world practices?
 - a. RQ1: What percentage of SLPs in the United States are following global assessment practices across the four levels of functioning 100% of the time?
2. What are the current speech-language pathology assessment needs in the United States?
 - a. RQ2: Are there differences in the way demographic groups feel the profession should grow in terms of assessment practices and the Communication Disability Model branches?

CHAPTER TWO: METHODS

A mixed methods design was used for this exploratory project. The vastness of the field required that the initial investigation sample a sub-section of the speech-language pathology field. The process addressed in this project was general speech-language pathology clinical assessment practices. However, it should be noted that the process described below could be replicated with a wide variety of topics (e.g., treatment of autism spectrum disorder, evaluation of dysphagia). The main principles included 1) acquiring global standards, 2) using those standards to create a needs-based assessment tool, and 3) analyzing the tool results to drive future support.

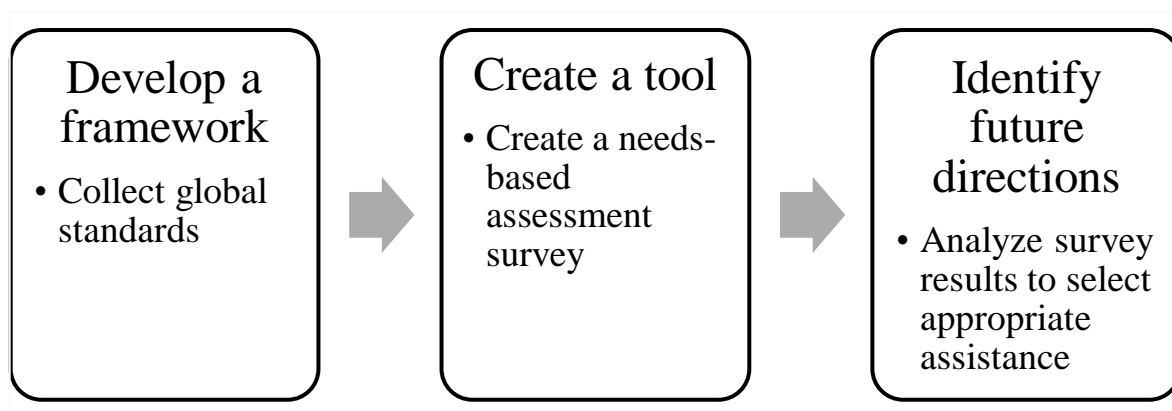


Figure 2.1. Visual representation of the proposed process principles.

Develop a Framework

The framework for this project was established using a modified grounded theory approach. This method was chosen to account for the limited knowledge surrounding global issues in speech-language pathology. The primary goal was to create a process that is grounded in the exploratory data and to pilot that process. To accomplish this, the author maintained a diary documenting the development of the framework process to formulate appropriate conclusions. The first step, probing for global standards, was

completed to assure that the results were not U.S.-centric. This was accomplished by contacting international speech-language pathology organizations found through public listings via ASHA and the International Association of Communication Sciences and Disorders (IALP) (ASHA, 2021a; International Association of Communication Sciences and Disorders [IALP], 2021). Listed organization websites were examined for formal documents pertaining to assessment practices. Organizations that did not have formal documents published online were contacted through email directly. In total, 27 emails were sent to speech-language pathology organizations around the world requesting information on their country's standards in the area of assessment. 13 countries responded (response rate of 48.1%).

Many email responses stated that they do not have country-specific guidelines (e.g., Venezuela, Sweden, Finland, Denmark), but rather align with guidelines published by larger speech-language pathology organizations. For example, both Norway and New Zealand reported that they look to ASHA for official documentation. Other European organizations stated that they follow guidelines published by the European Speech and Language Therapy Association (ESLA), formally known as the Comité Permanent de Liaison des Orthophonistes-Logopèdes de l'Union Européenne (CPLOL). The author used information from ESLA's website to identify countries that associate with ESLA but did not directly respond to the author's emails. This allowed for greater country representation in the creation of the global assessment standards, as the ESLA documentation could be generalized to all countries who follow ESLA guidelines. In total, nine documents representing 39 national speech-language pathology organizations

were used to create the global standards for speech-language pathology assessment. Table 2.1 and Figure 2.2 provide more detail.

Table 2.1

International speech-language pathology correspondence and documents

Country	Organization
Australia	Speech Pathology Australia (Speech Pathology Australia, 2011)
Canada	Speech-Language and Audiology Canada (Canadian Alliance of Audiology and Speech-Language Pathology Regulators [CAASPR], 2018; College of Audiologists and Speech-Language Pathologists of Ontario [CASLPO], 2018)
Denmark	Audiologopædisk Forenings (S. Mengal, personal communication, February 9, 2020)
Europe	European Speech and Language Therapy Association (ESLA) (Comité Permanent de Liaison des Orthophonistes-Logopèdes de l'Union Européenne [CPLOL], 1997; CPLOL, 2007; CPLOL, 2009)
Finland	Puheen ja kielen tutkimuksen yhdistys ry (S. Tarvainen, personal communication, February 2, 2020)
Japan	Japanese Association of Speech-Language-Hearing Therapists (Kariyasu, M., 2020)
New Zealand	New Zealand Speech-Language Therapists' Association (New Zealand Speech-Language Therapists' Association [NZSTA], 2021; A. Miles, personal communication, February 4, 2020)
Norway	Norsk Logopedlag (S. Skogdal, personal communication, January 27, 2020)
Singapore	Speech and Language Therapy Singapore (Government of Singapore, 2018)
South Africa	South African Speech-Language-Hearing Association (Green Gazette, 2017)
Sweden	Svensk Intresseförening för Tal & Språk (U. Guldstrand, personal communication, January 22, 2020)
United Kingdom	Royal College of Speech and Language Therapists (Health & Care Professions Council [HCPC], 2018)
United States	American Speech-Language Hearing Association (ASHA, 2016)
Venezuela	Federacion Latino-Americana de Sociedades de Foniatria Logopedia y Audiologia (R. Hernandez Villoria, personal communication, May 14, 2020)

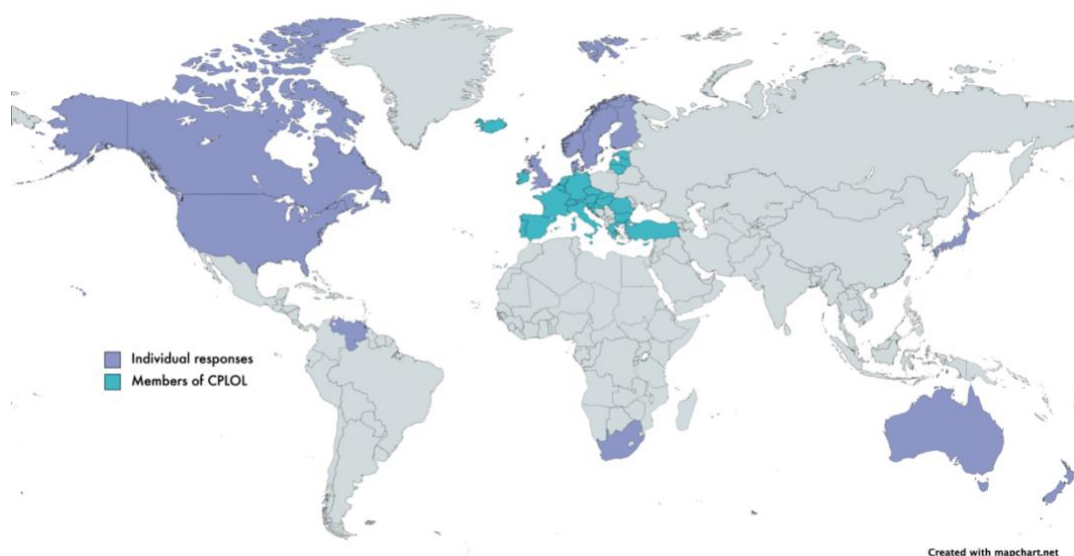


Figure 2.2. Map of the countries who contributed to the creation of the global standards for SLP assessment practices. It represents those who responded directly to the email request for documentation of SLP assessment practices, as well as those indirectly represented via organization membership.

The author initially read each country’s documentation (i.e., email correspondence or formal assessment documentation) and highlighted action words related to assessment (e.g., refer, administer, consider, provide). Highlighted action words were collected on a document, and broad themes emerged through side-by-side comparison. The author identified patterns from the action words to form the broad assessment task categories. The broad categories were: client background, tools and analysis, documentation, next steps, and overarching considerations. Next, subcategories were created to specify the particular assessment tasks. The author collected key words and tallied the total number of countries in agreement. The author collaborated with the thesis committee chair to verify the final themes. Final themes represented majority consensus between the countries. For example, eight of the nine organizations

specifically listed informal assessment as a key assessment component, so it was included. On the other hand, any assessment tasks that did not have a majority consensus were excluded. Only one assessment task, instrumentation, was excluded, as only four of the nine organizations listed it as a key assessment component in their documentation. The process revealed 12 assessment tasks that were generally accepted by the nine organizations. They are listed in Table 2.2.

Table 2.2
Global assessment standards

Theme	Key Words	Countries
Client Background		
Client background	Case Hx, Interview, Client perceptions, review relevant sources (referrals, charts, etc.)	Australia, Canada, ESLA, Japan, New Zealand, UK, USA
Tools & Analysis		
Informal assessment	Criterion-Referenced Assessments, Naturalistic Observation, Non-standardized, Informal observations, Clinical observations, Observe all components of communication/feeding disorders, Administer informal tests, Administer, record, score, and interpret self-generated tools	Australia, Canada, ESLA, Japan, New Zealand, Singapore, UK, USA
Formal assessment	Standardized Assessments, Formal observations, Objective testing, Administer standardized tests, Administer, record, score, and interpret published tools	Australia, Canada, ESLA, Japan, New Zealand, Singapore, UK, USA
Analyze and interpret data	Formulate impressions, Formulate recommendations, Establish impact of swallowing/communication condition, Analyze and interpret data, Analyze formal and informal assessments, Interpret and draw conclusions from data; Identify, describe, and evaluate the client's communication and communicative competence, Analyze and interpret data, Interpret tests, Analyze and critically evaluate info collected	Australia, Canada, ESLA, New Zealand, Singapore, UK, USA

Diagnose communication & swallowing disorders	Diagnose communication and swallowing disorders, Determine basis for diagnosis and possible outcomes for communication and swallowing disorders, Identify communication, feeding, and swallowing disorders, Formulate conclusions about diagnosis, abilities, resources, and needs; Draw appropriate conclusions and make a diagnosis	Australia, Canada, Japan, New Zealand, Singapore, South Africa, UK, USA
Create therapy plan from results	Develop treatment plan, Integrate results to form plan, Develop evidenced-informed, realistic, and measurable intervention plan, Develop therapeutic programmes and apply them	Australia, Canada, ESLA, Japan, New Zealand, Singapore, UK, USA
Documentation		
Documentation	Document assessment results, Document findings in written report, Maintain client documentation (reports, informed consent), Maintain good, accurate, objective, and comprehensive records, Write a detailed report, Document the provision of services	Australia, Canada, ESLA, Japan, New Zealand, South Africa, UK, USA
Next Steps		
Interprofessional collaboration	Collaboration w/ client, family, and other professionals; Discuss assessment results and recommendations w/ client; Collaborate with other disciplines and professionals; Case conference w/ physicians and medical staff; Collaborate w/ multi/inter/transdisciplinary team	Australia, Canada, ESLA, Japan, New Zealand, South Africa, UK, USA
Referrals	Referrals, Appropriate referrals as needed; Refer if necessary; Referral to relevant services	Australia, Canada, ESLA, New Zealand, South Africa, UK, USA
Discuss results w/ client	Provide feedback about findings to clients and discuss management; Discuss assessment results and recommendations w/ client; Inform clients of diagnosis and recommendations; Counsel patients, their families, etc.	Australia, Canada, ESLA, New Zealand, South Africa, UK, USA
Overarching Considerations		
Multicultural considerations	Multicultural Adaptations, Adjust as client needs, Cultural/linguistic considerations, Select and adapt client-specific tools, Use appropriate language (culture, age, modalities, education, cog), Respect social, cultural, and moral norms of local community, Dynamic assessments for	Australia, Canada, ESLA, New Zealand, UK, USA

	multilingual clients, Select appropriate assessment techniques	
Evidence based practice	Use best available evidence, Evidence-based decision making, Act on the basis of scientific evidence and professional consensus, Use research, reasoning, and problem solving to determine appropriate actions	Australia, Canada, ESLA, New Zealand, UK, USA

Tool Creation

The aim of the thesis was to create a needs-based assessment tool. To begin this process, a survey was created to gather information about current practices, cultural preferences, and areas of need in countries who are seeking assistance to develop speech-language pathology services. The guiding principle of this step is to formally utilize the framework to facilitate conversations and information gathering.

Prior to generating survey questions, the author collaborated with the committee chair to narrow down essential global standards to include in the survey. This dyad was used to mitigate a single decision maker's bias being infused into the process. The dyad came to an agreement that "Analyze and Interpret Data" would be combined with "Diagnose Communication and Swallowing Disorders" since it was assumed that one must analyze and interpret data to provide an appropriate diagnosis. The dyad also decided that the topics under "Next Steps" and "Overarching Considerations" were important but difficult to measure within the context of the CDM (Hartley & Wirtz, 2002). Additionally, the number of topics was reduced to assure survey content was an appropriate length. The final global assessment standards gathered from nine documents representing 39 national speech-language pathology organizations were: gather client background information, administer informal and formal assessments, document

findings, make a diagnosis, discuss results with the individual and/or their caregivers, and develop a treatment plan. These seven areas were used as the framework for the survey.

The survey tool was divided into two parts. The first addressed current assessment practices and the second addressed areas of need. To address part one, the global assessment standards developed and described above were combined with the CDM to generate survey questions, which included the key components of impairment, range of function, social factors, and environmental factors (e.g., “How often do you consider the impairment level when gathering information about an individual’s background? Never (0%), Rarely (Less than 50%), Often (Greater than 50%), Always (100%)”). This ensured a holistic and systematic approach to gathering information from SLPs across both assessment and the comprehensive biopsychosocial levels considered in the CDM. Table 2.3 further demonstrates how the theoretical models and global assessment standards were combined.

The second part of the survey reversed questions from part one to ask about perceived areas of need for each of the global assessment standards. It included nominal scale questions (e.g., “What areas would you like to see the speech therapy profession grow in the assessment task of gathering background information? Impairment, Range of Function, Social Factors, Environmental Factors, All of the Above, All are Currently Addressed”). This section not only highlighted a country’s needs but also their cultural preferences. Table 2.4 demonstrates the general construction of part two. Refer to Appendix A for the complete list of survey questions.

An anonymous demographic section was included for analytical purposes. Some questions were necessary to establish inclusion criteria for the project (i.e., Are you older

than 19? Have you maintained your SLP license in the United States? Are you currently employed as an SLP in the United States?). However, the majority of demographic information was included to determine if there were differences among different groups of SLPs (e.g., age, setting, location). For example, do SLPs working in rural locations need different supports than urban SLPs? Additionally, the tool included appropriate definitions and instructions. Specifically, the survey included an overview of the project, introduction, explanation of how the global assessment standards were formed, and brief descriptions of the CDM branches and assessment tasks. All written material was based on documents from WHO (2001) and Hartley and Wirtz (2002) and written in collaboration with the committee chair. Hover text was used for definitions to reduce the cognitive load and duration of the survey.

To assist in the content validity of the assessment tool, the survey draft was sent to three relevant stakeholders at the University of Nebraska-Lincoln (UNL): the UNL SLP clinical director and committee chair, a UNL clinical supervisor and instructor who has experience with global SLP issues, and a UNL special education faculty member with special knowledge related to cultural emersion. They were asked to provide feedback on the survey in regard to several factors. Special consideration was given to jargon, organization, and cultural sensitivity. Once the final survey tool was developed, IRB approval was sought and accepted. The final survey was entered into the web-based tool, Qualtrics©.

Since this preliminary study was focused on SLPs in the United States, the author decided to survey members of ASHA's Special Interest Groups (SIGs). SIGs are closed, content-specific communities for SLPs and audiologists. This platform made it was easier

to control the participant pool size, as the number of members are listed on each SIG page. SIGs that were not focused on clinical speech-language pathology work (e.g., audiology) were excluded. In total, the survey was potentially distributed to 27,877 ASHA members throughout 11 ASHA online communities. The author and committee chair decided to keep the survey active until at least 100 responses were collected. It was live for 35 days.

No identifiable data was collected for this project. Final data sets were filtered and downloaded from the Qualtrics© webpage and placed onto the Special Education and Communication Disorders (SECD) research-compliant server. Only personnel listed on the IRB had access to the data.

Table 2.3

Survey question construction for Part 1

	Impairment	Range of function	Social factors	Environmental factors
Client background	Q1	Q8	Q15	Q22
Informal assessment	Q2	Q9	Q16	Q23
Formal assessment	Q3	Q10	Q17	Q24
Documentation	Q4	Q11	Q18	Q25
Diagnosis	Q5	Q12	Q19	Q26
Discussing results	Q6	Q13	Q20	Q27
Treatment plan	Q7	Q14	Q21	Q28

Table 2.4*Survey question construction for Part 2*

	Impairment	Range of function	Social factors	Environmental factors
Client background	Q1	Q1	Q1	Q1
Informal assessment	Q2	Q2	Q2	Q2
Formal assessment	Q3	Q3	Q3	Q3
Documentation	Q4	Q4	Q4	Q4
Diagnosis	Q5	Q5	Q5	Q5
Discussing results	Q6	Q6	Q6	Q6
Treatment plan	Q7	Q7	Q7	Q7

Analysis

The third aim of the thesis was to identify future directions. This step was accomplished by analyzing the results from the survey. To draw conclusions from the datasets, different analyses were needed for each research question. Nonparametric measures were the most appropriate statistical approach for both research questions because the data was not normally distributed and consisted of ordinal and nominal datasets. The survey received 135 total responses. They were filtered to include complete responses that met the inclusion criteria. That is, those who were at least 19 years of age, a licensed SLP, and currently working in the United States. Figure 2.3 explains the filtering process in more detail. Eighty-five responses were analyzed to answer both exploratory research questions. All analyses were run using Statistical Package for the Social Sciences (SPSS®) statistics software.

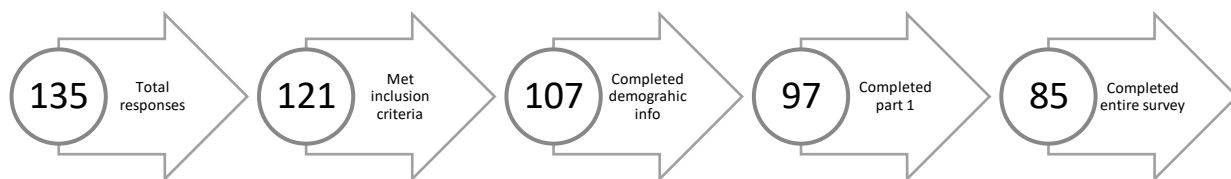


Figure 2.3. Diagram depicting the data filtering process.

Research Question 1

What percentage of SLPs in the United States are following global assessment practices across the four levels of functioning 100% of the time?

To address the first research question, frequency counts for the 85 responses were converted and reported as percentages. A Friedman test was conducted for a deeper analysis. The Friedman test is the nonparametric version of a one-way repeated measures ANOVA. It analyzes the difference between groups who have the same ordinal dependent variable (Lund Research Ltd, 2018a). This test was done first to identify potentially significant areas of assessment. All assessment tasks were significant, so a second analysis, the Wilcoxon signed ranks test, was used to identify which variables were responsible for the significant differences (Lund Research Ltd, 2018b). The Wilcoxon signed ranks test is the nonparametric version of the paired samples t-test. The alpha level was set at 0.05. P-values less than 0.05 were interpreted as significant.

Research Question 2

Are there differences in the way demographic groups feel the profession should grow in terms of assessment practices and the Communication Disability Model branches?

The author and committee chair collaborated to collapse demographic groups into broader categories to aid with the analysis process (e.g., the four subgroups for years of experience were collapsed into less than and greater than 10 years). In an effort to focus the scope of the project, the author and committee chair also identified key demographic groups to analyze. They chose experience and setting based on visual inspection of the raw data. Additionally, any differences seen in responses from these two groups may be explained by various aspects of the speech-language pathology field in the United States.

Currently, best practice for SLPs in the United States is to provide well-rounded services that address all aspects of a person's life (i.e., impairment, range of function, social factors, environmental factors) (ASHA, 2016). Familiarity with the principles of holistic care promoted by the WHO ICF model and the CDM may explain any differences between survey responses from the experience demographic group (i.e., those with greater than 10 years of experience vs. those with less than 10 years of experience). The WHO ICF model was introduced in 2001 and became a regular part of the speech-language pathology graduate curriculum in the following years (WHO, 2001). SLPs with less than 10 years of experience may implement components of these holistic models more readily than those with greater than 10 years of experience since it was an established part of their graduate training.

Workplace policies may also explain differences seen in survey responses from those in the setting demographic groups (i.e., those with only medical experience, those

with only school experience, and those with a mixture of setting experiences). SLPs with only medical experience may emphasize the impairment level, as the Affordable Care Act (ACA) requires healthcare workers to justify medical necessity before providing rehabilitation services in the United States (U.S. Centers for Medicare and Medicaid Services, n.d.). Schools, on the other hand, may emphasize other CDM branches, such as range of function (e.g., reading books, writing essays), since the Individuals with Disabilities Education Act (IDEA) mandates that special education services in the United States justify educational impact (U.S. Department of Education, 2019).

To address the second research question, the author and committee chair identified 19 variables to analyze based on surface differences between group responses (i.e., seven from the experience demographic and 12 from the setting demographic). The author ran Pearson's chi-square tests to identify relationships between the demographic categories and perceived areas of need. Similar to the first research question, p-values less than 0.05 were interpreted as significant. The next step was to determine the degree of significance. To accomplish this, a relative risk ratio was calculated to measure the effect size (i.e., relationship strength) for the experience demographic group and a Cramer's V was calculated to identify the association between the setting demographic variables.

Relative risk ratios revealed the relationship strength between the experience demographic groups by calculating the ratio of two probabilities. It provided a comparison between the probabilities of those with more than 10 years of experience and those with less than 10 years of experience, and the likelihood that they would indicate a need for clinical growth with a specific assessment task (e.g., formal assessments) and

CDM branch (i.e., impairment, range of function, social, environmental). For example, the relative risk ratio of 1.439 indicated that those with less than 10 years of experience are 43.9% more likely than those with more than 10 years of experience to indicate a need for assistance when administering formal, range of function assessments.

In contrast, Cramer's V was used to identify the association between the setting demographic variables. Cramer's V was chosen because it can be used to compare more than two variables (i.e., 2x2 table (experience) vs. 3x2 table (setting)). It provided an overall comparison of the chi-square tests. Once calculated, Cramer's V produced a coefficient between zero and one. Closer to one indicated a stronger association, with V > 0.10 being a minimum threshold for significance. The following scale was used to interpret Cramer's V: 0 = no relationship, <0.2 = weak relationship, 0.2-0.3 = moderate relationship, >0.3 = strong relationship (AcaStat Software, 2015).

CHAPTER THREE: RESULTS

The numerical results for Research Question 1 can be found in Tables 3.1-3.3.

Two areas emerged as tasks most often completed by SLPs in the United States 1) discussing results in the area of range of function (i.e., educating about specific tasks that are difficult, such as managing medications or writing essays) and 2) using results to create an impairment-level treatment plan (i.e., targeting body parts and functions, such as oral motor exercises or articulation drills). These were identified by 80% of the respondents as something they did 100% of the time. The results also indicated areas that SLPs in the United States perform least often on a regular basis. Those two areas were 1) conducting formal assessments in the area of environmental factors (i.e., limitations outside of an individual's control) and 2) conducting informal assessments in the area of environmental factors. Environmental factors appeared to be the least addressed CDM branch with only 40% of SLPs in the United States reporting they address this area 100% of the time with formal assessments and 38.82% with informal assessments. Overall, general patterns emerged in the way CDM branches are addressed during speech-language pathology assessments. Impairment factors were most consistently considered (avg. 74.45%), closely followed by range of function (avg. 73.95%), then social factors (avg. 55.13%), and finally environmental factors (avg. 47.39%). There were three exceptions where range of function was ranked higher than impairment by 1-3% (i.e., documentation, discussion, treatment).

The Friedman test was completed to determine if the CDM branches were addressed differently for each assessment task. For example, do SLPs in the United States emphasize the impairment, range of function, social, or environmental levels equally

when creating a treatment plan? Results indicated significant differences between the CDM branches (i.e., impairment, range of function, social, environmental) and each assessment task, as they were all less than the alpha level of $p < 0.05$. Meaning, there were noteworthy differences in the way SLPs in the United States approach all aspects of an evaluation. The Wilcoxon signed ranks test was completed to determine which variables, if any, were responsible for the significant differences found by the Friedman test. It compared each individual CDM branch to the others to identify which areas were responsible for meaningful differences within each assessment task. There were significant differences between all CDM branch pairs for each assessment task except when comparing impairment and range of function. This branch pairing was only found to be significant when administering formal assessments. These findings indicate that as a whole, all CDM branches, except the comparison of impairment and range of function, are being addressed differently across assessment tasks. For example, SLPs in this survey gather background information about the impairment level differently than environmental factors.

Table 3.1*Percentage of SLPs in the USA who performed assessment tasks 100% of the time*

	Impairment	Range of Function	Social Factors	Environmental Factors
Background info	68.24%	67.06%	54.12%	49.41%
Informal assessment	72.94%	71.76%	52.94%	38.82%
Formal assessment	72.94%	68.24%	45.88%	40.00%
Documentation	71.76%	72.94%	48.24%	42.35%
Diagnosing	77.65%	75.29%	55.29%	47.06%
Discussing results	77.65%	80.00%	64.71%	57.65%
Treatment plan	80.00%	82.35%	64.71%	56.47%
Average	74.45%	73.95%	55.13%	47.39%

Table 3.2*Friedman test statistics (Alpha level: $p < 0.05$)*

	N	Chi-Square	Degrees of Freedom	p-value
Background	85	38.797	3	<.001
Informal	85	67.427	3	<.001
Formal	85	66.728	3	<.001
Documentation	85	66.367	3	<.001
Diagnosis	85	61.737	3	<.001
Discussion	85	43.235	3	<.001
Treatment Plan	85	50.544	3	<.001

Table 3.3*Wilcoxon signed ranks test statistics (Alpha level: $p < 0.05$)*

	Asymp. Sig. (2-tail)						
	Background	Informal	Formal	Documentation	Diagnosis	Discussion	Treatment
Impairment X Range of Function	.317	.317	.046	.317	.157	.157	.157
Range of Function X Social	.001	<.001	<.001	<.001	<.001	<.001	<.001
Social X Environment	.046	.001	.025	.025	.008	.014	.008
Impairment X Environment	<.001	<.001	<.001	<.001	<.001	<.001	<.001
Impairment X Social	.001	<.001	<.001	<.001	<.001	.001	<.001
Environment X Range of Function	<.001	<.001	<.001	<.001	<.001	<.001	<.001

The numerical results for Research Question 2 can be found in Tables 3.4-3.7. For the demographic group representing experience (i.e., those with less than or greater than 10 years of experience), Table 3.4 shows differences in overall response rate for perceived areas of need. Those with greater than 10 years of experience reported more general needs compared to those with less than 10 years of experience. More specifically, the more experienced group selected a need for support in “all of the above” more often than specific areas (i.e., impairment, range of function, social factors, environmental factors). Table 3.5 identifies only one significant difference between the experience demographic responses. There was a significant difference between the way the groups reported a need for additional support when conducting formal assessments in the area of range of function ($p < .003$). The relative risk ratio (1.439) for this measure indicates that the strength of the association between years of experience and formal assessments in the area of range of function is relatively strong. This indicates that those with less than 10

years of experience are 43.9% more likely to report a need for support when addressing range of function tasks (e.g., reading books, medication management) through formal assessments. Additionally, two other tasks were close to reaching significance: informal assessments of environmental factors ($p < .099$) and documentation of environmental factors ($p < .067$). However, their relative risk ratios were lower than one, indicating that there is no probability between how many years an SLP works and if they recognize informal assessments for environmental factors and documentation of environmental factors as areas requiring additional support.

Table 3.4

Experience: Percentages of perceived areas of need by SLPs in the United States

Assessment task X CDM branches	<10 years (19)	>10 years (66)
Background info X All branches	16.13%	26.53%
Informal assessment X All branches	14.29%	25.23%
Documentation X All branches	11.76%	21.70%
Diagnosing X All branches	16.67%	27.78%
Formal assessment X Range of function	19.44%	6.25%
Informal assessment X Environmental factors	37.14%	28.97%
Documentation X Environmental factors	41.18%	31.13%

Table 3.5*Experience: Chi-square and relative risk ratio test statistics*

	Chi-square	Degrees of freedom	p-value	Relative risk ratio
Background X All branches	1.089	1	.297	1.497
Informal X All branches	1.338	1	.247	1.555
Documentation X All branches	1.295	1	.255	1.655
Diagnosing X All branches	1.163	1	.281	1.439
Formal X Range of function	8.770	1	.003	1.439
Informal X Environmental	2.719	1	.099	.686
Documentation X Environmental	3.348	1	.067	.679

For the groups based on setting demographics (i.e., medical, school, other), there were no significant differences found (see Table 3.7); however, four areas approached significance and may be notable. First, those working primarily in medical settings indicated a stronger need for developing therapy plans in all areas (i.e., impairment, range of function, social, environmental) ($p < .090$), while those working primarily in school settings reported a higher need for enhancing environmental factors of therapy plans ($p < .090$). Both of these tests had Cramer's V values between 0.2 and 0.3, indicating a moderate association between the setting demographics and areas of perceived need. More specifically, those working in medical settings are somewhat more likely to indicate a need for support when creating treatment plans that consider all CDM branches (i.e., impairment, range of function, social, environmental) than those working in a school or other settings. The same is true of those working in school settings. School-based SLPs are somewhat more likely to identify a need to enhance environmental considerations

when developing treatment plans (e.g., socioeconomic status, support at home, cultural celebrations) than those working in medical or other settings.

Another notable finding was the relationship between medical SLPs and their perceived need to enhance discussions with patients regarding all CDM branches. Although the p-value for this relationship is not significant ($p < .094$), the Cramer's V value (.236) signifies a moderate association between the two variables. This indicates that SLPs working in medical settings may be somewhat more likely to report that they need more training or support to share test results and education that covers the impairment, range of function, social, and environmental levels than those working in school or other settings. Finally, the closest p-value to the alpha level in this group was .054 for the assessment task of gathering background information. More SLPs in school settings than medical settings indicated that all CDM branches are currently being addressed when conducting a case history. The Cramer's V value (.262) for this test indicates a moderate association between the two variables. Meaning, those working in school settings are somewhat more likely to report that they are currently addressing all CDM branches when gathering background information about their students compared to those working in medical or other settings. They do not perceive a need for support at this time.

Table 3.6*Setting: Percentages of perceived areas of need by SLPs in the United States*

Need more assistance in...	Medical (21)	School (18)	Other (46)
Background X All branches	21.88%	16.00%	27.78%
Informal X All branches	18.92%	13.79%	27.63%
Formal X All branches	34.48%	12.90%	18.06%
Diagnosing X All branches	27.03%	17.24%	26.92%
Discussion X All branches	51.72%	25.93%	31.88%
Therapy plan X All branches	40.63%	16.13%	34.29%
Formal X Range of function	6.90%	12.90%	9.72%
Discussion X Range of function	10.34%	3.70%	8.70%
Informal X Environmental	32.43%	41.38%	26.32%
Discussion X Environmental	17.24%	33.33%	26.09%
Therapy plan X Environmental	25.00%	35.48%	24.29%
Background X All currently addressed	3.13%	20.00%	5.56%

Table 3.7*Setting: Chi-square and Cramer's V test statistics*

	Chi-Square	Degrees of Freedom	p-value	Cramer's V
Background X All branches	2.641	2	.267	.176
Informal X All branches	3.247	2	.197	.195
Formal X All branches	3.452	2	.178	.202
Diagnosing X All branches	2.010	2	.366	.154
Discussion X All branches	4.733	2	.094	.236
Therapy plan X All branches	4.822	2	.090	.238
Formal X Range of function	1.207	2	.547	.119
Discussion X Range of function	.870	2	.647	.101
Informal X Environmental factors	3.109	2	.211	.191
Discussion X Environmental factors	2.926	2	.232	.186
Therapy plan X Environmental factors	4.822	2	.090	.238
Background X All currently addressed	5.856	2	.054	.262

CHAPTER FOUR: DISCUSSION

The literature review revealed that there is a need for a structured, non-biased process Minority world SLPs can use when assisting with the creation of speech-language pathology services in the Majority world. It needs to be flexible, comprehensive, and rooted in a theoretical model. For those reasons, the proposed process was to 1) develop a framework based on global standards of practice, 2) create a tool to gather culturally relevant information about current practices and needs, and 3) identify future avenues for providing collaborative assistance to those requesting help developing speech-language pathology services. These three phases were trialed with SLPs in the United States as a preliminary validation step. The results from this study had several implications regarding the proposed process. This discussion will review how the research questions were developed, which areas SLPs in the United States currently prioritize when conducting assessments, and the self-perceived areas of need identified by the participants.

Current Practices

The two research questions were structured to explore the effectiveness of the proposed process by assessing the results gathered from a sample of SLPs in the United States. The purpose of the first research question was to determine if the global assessment standards were representative of Minority world practices. This was an important procedure, as the Minority world, those with an HDI rating of 0.8 or higher, have often attempted to set standards in Majority world countries, those with an HDI rating of less than 0.8. Determining how those standards are identified and how they are

applied within Minority countries is a first step in assisting Majority countries in the development of healthcare standards, specifically SLP standards.

The results for the first question indicate the surveyed sample of SLPs in the United States is not equally addressing the recommended CDM branches across the global standards of assessment identified in this project. There appears to be a preference for assessing at the impairment and range of function levels. The statistical analyses support the differences seen between the average frequency counts for assessment tasks conducted 100% of the time. The results indicated that SLPs address impairment (74.45%) and range of function (73.95%) significantly more often than social (55.13%) and environmental (47.39%) factors.

There may be a variety of reasons that the CDM branches are not being equally addressed by SLPs in the United States. These reasons may include factors, such as time constraints, available resources, and work setting policies. As previously mentioned, there is a shortage of SLPs in the United States, potentially placing unrealistic expectations on workers. SLPs in the United States may also have to prioritize areas of need with high caseloads. Additionally, the United States tends to follow a medical model approach to healthcare, possibly explaining the emphasis on impairment-based assessment (Goering, 2015).

The results provide interesting preliminary considerations regarding the creation of global SLP programs in Majority world countries. It suggests that although having global standards is ideal for consistency of care, those standards may not even be realized in Minority countries where there are well-established speech-language pathology services. This emphasizes the need to individualize program development in Majority

world countries. Minority world countries should approach international aid with humility and expectations to help establish speech-language pathology services that fit a culture's standards (Wiley et al., 2013). Those providing assistance should avoid setting expectations that each area will or should be addressed 100% of the time. Rather, use the process to drive individualized support for Majority countries. The idea is not to criticize current practices but reveal culture-specific priorities that can be used as a baseline for collaboration and growth.

Perceived Areas of Need

The results from the second research question imply several areas of need. This question addresses the final step of the proposed process. Its purpose is to recognize self-perceived areas of need and guide future support. In the United States, there appears to be a need for those with less than 10 years of experience to gain more support with completing formal assessments in the area of range of function, informal assessments for environmental factors, and documentation of environmental considerations. SLPs who identified as practicing primarily in medical settings reported a need for support with leading discussions and developing therapy plans that address all CDM areas. Finally, school-based SLPs identified a need for support in considering environmental factors when creating therapy plans.

The identified needs could be addressed in a variety of ways. For example, those with less than 10 years of experience may benefit from a resource list of formal assessments that target range of function activities (see Larkins, 2007; Westby & Washington, 2016; Cronin, McLeod, & Verdon, 2019) or medically-based SLPs may

benefit from an in-service that reviews the WHO-ICF model of holistic care. It should also be noted that there are limited standardized assessments that address social and environmental factors, possibly explaining the differences in the frequency of use and perceived areas of need for the CDM branches. This may indicate a need for researchers in the United States to develop more formalized assessments to address social and environmental factors. Finally, the specific identified needs from this study have limited generalization, and only apply to SLPs in the United States who are active ASHA SIG members and chose to participate in the research survey. However, the proposed process itself can be more broadly generalized to anyone seeking to identify less biased goals for speech-language pathology service development in Majority countries. The main goal being to increase collaboration efficiency through self-identified areas of need.

Limitations

Results from this study had interesting implications that should be carefully interpreted, as there were many limitations to this thesis. First, the development of the global assessment standards was limited due to the reliance on email responses and available English resources online. These standards were also created with documents primarily from the Minority world, limiting global representation. Next, the survey itself had limitations. It lacked comprehensive validation, as a small team of three stakeholders evaluated its content. Additionally, the surveyed population was a small convenience sample that is not representative of the current SLP population in the United States. For this reason, the results cannot be generalized to all SLPs in the United States. The results can only be generalized to a similar sample population, which included those who were

primarily over the age of 55, female, had over 10 years of SLP experience, located in urban settings, and had work experience in both medical and/or school environments. Finally, there were limitations with the results and analysis. There were discrepancies between the number of participants in each demographic group (e.g., 19 in the less than 10 years of experience group and 66 in the greater than 10 years of experience cohort), making it difficult to accurately compare datasets. The author also utilized liberal statistical reporting due to the exploratory nature of the project. This approach was appropriate for the study because the intent was not to provide specific outcomes with concrete solutions, but rather investigate the workings of the broader proposed process. However, the ample number of tests ultimately inflated the likelihood of a Type I error (i.e., results that falsely indicate significance).

An inflated Type I error has potentially negative effects on the study. It may weaken the results by overstating areas of need (McLeod, 2019). Overstating areas of perceived need within the group creates larger numbers of areas to investigate, resulting in a slower, more arduous process. Conversely, since Type I and Type II errors are inversely related, the liberal statistical reporting decreased the likelihood of a Type II error (i.e., results that falsely indicate insignificance) (McLeod, 2019). Meaning, the results were not likely to miss significant findings. This enhances the research because it provides a good amount of assurance that most areas of need have been identified. Future researchers should attempt to enhance the statistical reporting of the proposed process by carefully considering the tradeoffs of statistical analysis to identify areas of need when the goal is highly qualitative (i.e., to determine where further development of the field is needed). For example, increasing p-values to reduce Type I errors may result

in missing perceived areas of need, while attempting to decrease Type II errors through an increased sample size may not be feasible in countries with small numbers of SLPs. Future researchers should carefully weigh these options when developing realistic goals for SLP assistance in Majority countries, as the intention of the proposed process is to guide sustainable SLP services. With these limitations in mind, these specific results of this study from the population of SLPs in the United States should be interpreted with caution.

Future Directions

This thesis contributed relevant information regarding global speech-language pathology issues. However, there is still a great need for more research in this area. Future studies should consider several factors regarding the proposed process. To begin, the initial framework should be developed from a larger sample of global standards. More specifically, available data for Majority world SLP programs should be included in the creation of global standards. Next, different formats should be considered when creating a tool from the framework. For example, a structured interview or checklist might be a more appropriate way to gather comprehensive information. Additionally, the tool should be validated with relevant stakeholders of the country requesting assistance. This will aid with considerations related to terminology and cultural relevance. Future studies should also consider more representative means of surveying the current practices and perceived needs of SLPs. Larger sample sizes and shorter surveys should be considered. Finally, future research should attempt to understand why the CDM models are being unequally addressed.

Conclusion

The goal of this project was not to provide conclusive answers but rather to explore and pilot a process for developing standards for global speech-language pathology programs and evaluating their usefulness. The author developed a tool, which was piloted in a Minority world county where SLP assessment practices are considered stable and well-developed. Utilizing a more formal tool like the one modeled in this project may be beneficial for comprehensively identifying perceived values and areas of need for those seeking outside assistance to develop speech-language pathology services in Majority world countries. This project had many limitations, such as limited access to global assessment standard documents, a small sample size, and liberal statical reporting, but the guiding principles are intended to provide flexible structure for a complex issue. Those principles are to 1) develop a framework, 2) create a tool, and 3) identify future directions. These steps may help the Minority world appropriately support their Majority world colleagues' quest to provide quality communication services within their distinct cultural values.

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APPENDICES

APPENDIX A

SURVEY: GLOBAL SLP ASSESSMENT PRACTICES

Overview

Thank you for participating in the University of Nebraska-Lincoln's research! We are interested in the development of global speech therapy programs. As a first step, we are hoping to gather information from speech-language pathologists (SLP) in the United States.

Our goal with this survey is to

- 1) better understand how SLPs in the United States conduct assessment tasks
- 2) identify areas where you would like to see the speech-language pathology profession expand

You will be asked to complete a series of short questions so we can get a clearer understanding of how SLP practices in the United States fit into the World Health Organization's (WHO) model and assessment practices standards around the world.

We are also looking for feedback on the clarity of the questions and the content of this survey. Feel free to take notes about questions that are unclear or content you think is lacking. You'll be asked for this feedback at the end of the survey. The entire survey should take no more 30 minutes to complete.

Demographic Information Please fill out the demographic information. All personal information is confidential and will not be shared with outside sources.

Identifying Information

1. Gender
 - a. Male, Female, Other (Drop down)
2. Age
 - a. 19-29, 30-40, 41-50, 50+ (Drop down)

Education

1. Degree
 1. Masters, Doctorate, Other (Drop down)

Speech-Language Pathology

1. Have you maintained your SLP license in the United States?
 - a. Yes, No (Drop down)
2. Are you currently employed as an SLP in the United States?
 - a. Yes, No (Drop down)
3. What setting best describes your professional experience?
 - a. School, Medical, Private Practice, Other (Drop down)
4. What location best describes your professional experience?
 - a. Urban, Suburban, Rural, Other (Drop down)
5. Years of professional experience
 - a. 0-5, 6-10, 11-15, 15+ (Drop down)

Survey Intro

Communication disorders often affect many aspects of an individual's life. As SLPs, we can assess these effects from different points of view. For example, we may want to know how the communication disorder affects these individuals' social lives. Others may be more interested in how decreased ability to communicate impacts education and their ability to read and write. Assessment can vary depending on which aspects an SLP emphasizes during the evaluation process.

In this survey, we will be asking questions about several different points of view used to assess communication disorders. These points of view have been developed from the World Health Organization and are discussed in greater detail later in the survey. You will find instructions at the top of each page of questions. Definitions and examples of the different assessment areas will also be provided. Please read all information on the page before answering.

Below are definitions of terms that will be used in this survey. They will be provided as a reminder in the upcoming pages. Simply hover over these terms to see the definition again.

- **“Assessment”** will refer to any tasks or procedures speech therapists administer to gather initial information about an individual's communication disorder. The intent is to identify a person's strengths and weaknesses related to their health and functioning. This information is then used to form specific goals and objectives to meet their communication needs (IDEA Part C, 2011; ASHA, 2016; WHO, 2018).
- **“Client background”** will refer to any information you gather about an individual through interviews or shared documents from the individual, their family members, teachers, or other healthcare workers.
- **“Informal assessment”** will refer to any evaluation tasks other than tests with normative data and statistics.
- **“Formal assessment”** will refer to any evaluation tasks that include a standardized procedure (e.g., a test with normative data).
- **“Documentation”** will refer to the written description of assessment findings through a report, daily log, or other documents.
- **“Diagnosing”** will refer to the act of assigning a formal disorder/disability label and/or making the decision to provide speech-language services for an individual.
- **“Discussing results”** will refer to talking about assessment findings with an individual, their family members, and/or other relevant people.
- **“Treatment plan”** will refer to the act of creating therapy goals and objectives to improve communication skills.

Survey- Part 1

The World Health Organization proposed a model for rehabilitation services that considers the whole person. It consists of three overarching branches that address treatment at the level of the body, person, and society (WHO, 2018). Hartley & Wirtz (2002) expanded earlier versions of the model to discuss four specific levels of function that can be assessed in individuals who have trouble communicating.

The first level is impairment. Evaluation of impairment happens when you assess the diagnosis of an individual, the body structures that are missing/damaged (e.g., tongue, lips, vocal cords, brain), and/or other underlying causes of the problem the person is having (Hartley & Wirtz, 2002; WHO, 2018).

As you answer the following questions, please consider your **current** assessment practices. Select ONE response.

How often do you consider the **impairment** level when...

1. Gathering information about an individual's background?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

2. Conducting an informal assessment?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

3. Conducting a formal assessment?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

4. Completing documentation?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

5. Diagnosing individuals?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

6. Discussing results with individuals and/or their family members?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

7. Creating a treatment plan?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

The second level of the Hartley & Wirtz (2002) model is **range of function**. Evaluation of range of function happens when you assess how an individual's communication disorder affects specific activities they have difficulty doing (e.g., greeting a friend, asking for food, reading age-appropriate material) (Hartley & Wirtz, 2002; WHO, 2018)?

As you answer the following questions, please consider your **current** assessment practices. Select ONE response.

How often do you consider the range of function level when...

1. Gathering information about an individual's background?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

2. Conducting an informal assessment?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

3. Conducting a formal assessment?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

4. Completing documentation?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

5. Diagnosing individuals?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

6. Discussing results with individuals and/or their family members?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

7. Creating a treatment plan?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

The third level of the Hartley & Wirtz (2002) model is **social factors**. Evaluation of social factors happens when you assess how an individual's communication disorder affects their ability to form and/or maintain relationships and participate in community and/or family events (e.g., Does the person have friends, participate in family events, or communicate with new people they meet to form relationships?) (WHO, 2001; Hartley & Wirtz, 2002)?

As you answer the following questions, please consider your **current** assessment practices. Select ONE response.

How often do you consider **social factors** when...

1. Gathering information about an individual's background?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

2. Conducting an informal assessment?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

3. Conducting a formal assessment?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

4. Completing documentation?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

5. Diagnosing individuals?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

6. Discussing results with individuals and/or their family members?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

7. Creating a treatment plan?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

The fourth level of the Hartley & Wirtz (2002) model is **environmental factors**. Assessment at this level evaluates how policies, cultural norms, settings, and resources negatively impact an individual. Evaluation of environmental factors happens when you assess factors outside of a person's control (e.g., Does the family take them out to the same places others their age go, is their home set up to promote optimal communication, does the classroom encourage communication for the person?) (WHO, 2001; Hartley & Wirtz, 2002)?

As you answer the following questions, please consider your **current** assessment practices. Select ONE response.

How often do you consider environmental factors when...

1. Gathering information about an individual's background?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

2. Conducting an informal assessment?

Never	Rarely	Often	Always
0% of the time	Less than 50% of the time	Greater than 50% of the time	100% of the time

3. Conducting a formal assessment?

Never	Rarely	Often	Always
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0% of the time Less than 50% of the time Greater than 50% of the time 100% of the time

4. Completing documentation?

Never Rarely Often Always
 0% of the time Less than 50% of the time Greater than 50% of the time 100% of the time

5. Diagnosing individuals?

Never Rarely Often Always
 0% of the time Less than 50% of the time Greater than 50% of the time 100% of the time

6. Discussing results with individuals and/or their family members?

Never Rarely Often Always
 0% of the time Less than 50% of the time Greater than 50% of the time 100% of the time

7. Creating a treatment plan?

Never Rarely Often Always
 0% of the time Less than 50% of the time Greater than 50% of the time 100% of the time

Survey- Part 2

Part 2 asks questions about *areas of growth* in assessment practices. The purpose is to see how you would like the SLP profession to evolve in the United States. This could be related to assessment topics you would:

1. appreciate further training on or
2. areas that were not covered in your training program

Please select any area(s) you feel are needed but currently lacking during SLP assessments. To see definitions of the assessment areas, hover over the word.

- **Impairment:** Assessing the diagnosis of an individual, the body structures that are not working, and/or what basic functions the person cannot do (WHO, 2001; Hartley & Wirtz, 2002).
- **Range of function:** Assessing how the individual's communication disorder affects the specific activities they are able to perform (WHO, 2001; Hartley & Wirtz, 2002).
- **Social factors:** Assessing how an individual's communication disorder affects interactions with peers, family, and society (WHO, 2001; Hartley & Wirtz, 2002).
- **Environmental factors:** Assessing factors outside of an individual's control, such as how policies, cultural norms, settings, and resources negatively impact the person (WHO, 2001; Hartley & Wirtz, 2002).

Please check **ALL** areas that apply for the following questions about assessment tasks.

What areas would you like to see the speech therapy profession grow in the assessment task of...

1. Gathering background information? (check all that apply)

Impairment Range of Function Social Factors Environmental Factors All of the above
All areas are currently being addressed

2. Informal assessment? (check all that apply)

Impairment Range of Function Social Factors Environmental Factors All of the above
All areas are currently being addressed

3. Formal assessment (check all that apply)

Impairment Range of Function Social Factors Environmental Factors All of the above
All areas are currently being addressed

4. Documentation? (check all that apply)

Impairment Range of Function Social Factors Environmental Factors All of the above
All areas are currently being addressed

5. Making diagnoses? (check all that apply)

Impairment Range of Function Social Factors Environmental Factors All of the above
All areas are currently being addressed

6. Discussing results with the client/caregiver? (check all that apply)

Impairment Range of Function Social Factors Environmental Factors All of the above
All areas are currently being addressed

7. Creating a therapy plan? (check all that apply)

Impairment Range of Function Social Factors Environmental Factors All of the above
All areas are currently being addressed

Please use the textbox if you have any additional comments related to the survey. They could be related, but not limited to, the following:

- 1) Unclear questions
- 2) Areas that were not considered in a section
- 3) Any additional thoughts you have about what the survey means for clinical practice in the United States.

Comments: _____

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