

## Research Article

# Speech-Language Pathologists' Preparation, Practices, and Perspectives on Serving Indigenous Families and Children

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## ARTICLE INFO

## Article History:

Received March 22, 2023

Revision received June 2, 2023

Accepted July 19, 2023

Editor-in-Chief: Erinn H. Finke

Editor: Lauren Marie Cycyk

[https://doi.org/10.1044/2023\\_AJSLP-23-00105](https://doi.org/10.1044/2023_AJSLP-23-00105)

## ABSTRACT

**Purpose:** With the documented educational inequities that Indigenous children experience evidenced by disproportionate representation in special education and lower graduation rates, there is a need to better understand the backgrounds, training, professional perspectives, and clinical practices of speech-language pathologists (SLPs) serving this population. Therefore, the purpose of this study was to conduct a survey with SLPs from the Mountain West and High Plains region of the United States who serve Indigenous children to understand current patterns and to inform practices that SLPs can apply in addressing educational inequities.

**Method:** SLPs from the Mountain West and High Plains completed an online survey that gathered information about background, training, professional perspectives, and clinical practices.

**Results:** Three hundred thirty-three SLPs completed the survey. Results revealed that respondents, for the most part, understood educational disparities that Indigenous children experience, and they valued Indigenous dialects of English and Indigenous languages. Patterns in practice revealed strong reliance on standardized measures for assessment and a small percentage of respondents using bidialectal or narrative-based strategies.

**Conclusions:** Very few respondents had training on serving Indigenous children and families, yet they had overall awareness of educational disparities experienced by this group. Respondents reported challenges with developing relationships and overcoming access barriers. Their clinical practices were not as tailored to the language and learning needs of Indigenous children, especially when compared to practices recommended in two recent scoping reviews. The Indigenous Connectedness Framework, the abundance model, and Indigenous pedagogies are presented as ways to initiate change and meaningful engagement with Indigenous families and communities.

**Supplemental Material:** <https://doi.org/10.23641/asha.24100863>

The term *Indigenous* will be used throughout this article to describe Indigenous and tribal communities (also identified as Native American, American Indian and Alaska Native, First Peoples, etc.) within the United States. According to 2020 U.S. Census data, 3.7 million people identified as Indigenous alone, whereas 5.9 million people identified as Indigenous in combination with

another race (United States Census Bureau [USCB], 2020). In total, 9.7 million people, approximately 2.9% of the total population, identified as Indigenous alone or in combination with another race across the United States (USCB, 2020). The Indigenous population increased by 85% from 2010 to 2020 and is estimated to grow to 10.1 million by 2060 (Rezal, 2021; USCB, 2021). There are 574 federally recognized Indigenous tribes across the nation (USCB, 2022). The Mountain West and High Plains region of the United States has a comparatively higher population of Indigenous Peoples when compared to other regions (USA Facts, 2021). Indigenous Peoples account

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for more than 10% of the population in Alaska, Oklahoma, New Mexico, and South Dakota (National Council on Aging [NCOA], 2023). Other states with a large percentage (4% or more) of Indigenous Peoples include Montana, North Dakota, Arizona, Wyoming, Oregon, and Washington (NCOA, 2023). Tribal communities with a large percentage of the Indigenous population include the Cherokee Nation, Navajo Nation, and Choctaw Nation (NCOA, 2023; USA Facts, 2021).

### ***Impacts of Colonization and Historical Trauma on Indigenous Populations***

The colonization of North America, including the genocide, disease, war, and forced assimilation of Indigenous Peoples, has directly resulted in intergenerational historical trauma that has impacted the mental and physical health as well as social, spiritual, economic, and cultural well-being of Indigenous Peoples (Allison-Burbank & Reid, 2023; Smallwood et al., 2021). Indigenous Peoples were displaced from their homeland, and Indigenous youth were forced to “assimilate” into mainstream European American culture through institutionalized and state-sponsored boarding schools (Allison-Burbank & Reid, 2023). Indigenous children were frequently punished, physically and emotionally, for speaking their native languages, wearing traditional clothing, or attempting to return to their families (Allison-Burbank & Reid, 2023). The effects of colonization can be linked to the inequities experienced by Indigenous Peoples today, such as increased risk of disease, poor mental health, and poverty (Allison-Burbank & Reid, 2023; Smallwood et al., 2021). Indigenous Peoples experience higher poverty rates (25.4%) compared to other racial and ethnic populations. The median income of Indigenous Peoples is \$45,877 compared to \$64,994 for the entire nation (NCOA, 2023; Poverty USA, n.d.). Lower health status and lower life expectancy caused by disproportionate poverty, discrimination in the delivery of health services, and inadequate education are also observed for Indigenous Peoples (Indian Health Service, 2019). The historical trauma and adverse experiences of Indigenous communities are also exacerbated by trauma associated with systemic and individual racism (Allison-Burbank & Reid, 2023). Caregiver or parent responsiveness is impacted within Indigenous communities who experience increased trauma-induced stress, resulting in increased developmental and academic challenges for Indigenous children (Allison-Burbank & Reid, 2023). Although educational attainment has increased for Indigenous populations, they continue to experience the lowest educational achievement rates when compared to other racial and ethnic groups (Asante-Muhammad et al., 2022; USCB, 2021). In 2019, 84% of Indigenous Peoples obtained at least a high school diploma, compared to 93% of non-Hispanic Whites (Office of Minority Health, 2023). The adjusted cohort

graduation rate (ACGR) describes the percentage of first-time ninth-grade students in a “cohort” (adjusted for students who transfer in/out, immigrate/emigrate, or die) who graduate with a regular high school diploma within 4 years (National Center for Education Statistics [NCES], 2022). In 2018–2019, Indigenous students’ ACGR (74%) fell below the national rate for all students (89%) and other racial/ethnic groups, including White (89%), Black (80%), Hispanic (82%), and Asian/Pacific Islander (93%) students (NCES, 2022). Educational inequities in higher education are evidenced by the fact that the percentage of Indigenous Peoples who obtained a postsecondary degree (15%) is approximately half the percentage of White individuals (33.5%; Asante-Muhammad et al., 2022).

### ***Indigenous Populations and Disparities in Special Education***

A major factor in the educational inequities that Indigenous children encounter in K–12 settings is related to their representation in special education programming. Indigenous children are often disproportionately overrepresented in special education and are more likely to receive services under the Individuals with Disabilities Education Act (IDEA; Collier, 2012). The concern here is that children who are enrolled in special education miss out on experiences with general education peers and are denied rigorous learning opportunities, have less access to the curriculum, and have lower graduation rates (National Center for Learning Disabilities [NCLD], 2020). Furthermore, Indigenous children enrolled in special education are more likely to be taught in separate classrooms than their White peers. This only worsens the achievement gap because students in general education classrooms have better academic success and employment outcomes than the students placed in separate spaces (NCLD, 2020). Another concern is that Black and Indigenous children in special education are more likely to receive out-of-school suspensions or partial day suspensions and are restrained at a disproportionate rate. These punitive measures fail to provide students with pro-social and coping skills, which results in Indigenous children being held back, dropping out, and having a higher rate of being referred to the juvenile justice system compared to White peers (NCLD, 2020). Indigenous children being overidentified in special education has long-term negative effects. For example, it is known that students enrolled in special education are less likely to register for postsecondary school, less likely to be productively engaged in the community, less likely to be living independently, and less likely to have a checking account or credit card (Newman et al., 2011).

For the 2018–2019 school year, 18% of Indigenous students aged 3–21 years were identified with a disability,

whereas only 14% of White students, 16% of Black students, 13% of Hispanic students, 11% of Pacific Islander students, and 7% of Asian students were identified as having a disability (Hussar et al., 2020). For Indigenous, Hispanic, Pacific Islander, and White students, the percentage of those who received special education services for a specific learning disability and/or speech or language impairment accounted for 50% or more of students served under IDEA (Hussar et al., 2020). This overrepresentation and disproportionate identification may be related to limited access to culturally and/or linguistically responsive special education instruction and/or limited Indigenous (including bilingual Indigenous) special education educators and related service providers (Collier, 2012). Disproportionate representation in special education is detrimental to the education of Indigenous children. Some children are placed in programs that may hinder their potential, whereas others are not being provided services that may promote their educational success (Guiberson & Vining, 2023a).

### ***Promising Indigenous Frameworks***

There are several frameworks that may assist in addressing educational disparities and inequities that Indigenous children experience. These include the Indigenous Connectedness Framework (ICF; for a review, see Allison-Burbank & Reid, 2023), the abundance model (for a review, see Guiberson & Vining, 2023a), and Indigenous epistemologies (Allison-Burbank et al., 2023). The ICF involves family and community in looking at a child's well-being and considers how school performance connects with or relates to cultural routines and values. In this approach, Indigenous communities work together to restore Traditional Knowledge and children's well-being. Essentially, the ICF requires meaningful family involvement that values Traditional Knowledge. The abundance model has a relational and intergenerational approach that emphasizes support, empowerment, boundaries, and opportunities (Benson et al., 2012; Guiberson & Vining, 2023a). The abundance model highlights a child's assets, including positive development; identifying and building up student and family assets; and working with the child's interests, strengths, skills, talents, and competencies. In the abundance model, also known as the asset model, assets such as Indigenous languages and cultural heritage need to be identified, supported, and celebrated so that they can be built upon to maximize student potential. Effective educational programming and intervention needs to account for sociocultural considerations, Indigenous knowing and learning approaches, and the use of materials that celebrate Indigenous heritage. For both the abundance model and the ICF, culture, Indigenous identity, Indigenous language, and meaningful community/family involvement

are central pillars. Indigenous epistemologies may be especially useful in preservice and training programs, preparing graduate students and future practitioners in understanding the needs of Indigenous students. Allison-Burbank et al. (2023) describe the application of Indigenous epistemologies to Diné children and the importance of understanding the unique heritage and diverse experiences that shape learning. In this example, the authors emphasize the importance of Indigenous pedagogies and centering learning around oral storytelling, experiential and collective learning, and land-based experiences. Providing preservice, as well as in-service, professionals with this insight will lead to more culturally responsive practices.

### ***Current Composition of Speech-Language Pathologists***

The current composition of speech-language pathologists (SLPs) in the United States is important when discussing the effectiveness of SLPs to meet the needs of Indigenous populations. In 2022, 84% of American Speech-Language-Hearing Association (ASHA)-certified SLPs identified as female, 91% of SLPs identified as White, and 0.3% of SLPs identified as Indigenous (ASHA, 2022). Demographics of SLPs have remained relatively consistent since 2000, with the percentage of members who identified as other than White growing from 5% in 2001 to 8.7% in 2020. Despite this modest increase in diversity in the SLP workforce, the need for SLPs from a diverse range of cultural and linguistic backgrounds continues to be critical to better reflect the diversity within the United States (USCB, 2021). When the composition of a profession such as speech-language pathology is mostly White and female, there is the potential for a cultural mismatch or challenges in providing culturally congruent services to children and families from non-White backgrounds. The need for all SLP providers to receive continued training and professional development to meet the needs of a diverse population is recognized by ASHA. A recently added requirement for ASHA national certification is that providers must dedicate at least two professional development hours to cultural competency; cultural humility; culturally responsive practice; or diversity, equity, and inclusion (ASHA, 2023).

### ***Study Purpose***

The purpose of this study was to conduct a survey of ASHA-certified SLPs from the Mountain West region working with Indigenous children to better understand the background, professional perspectives, and clinical practices of SLPs. The research questions were as follows:

1. What is the background of respondents, including individual characteristics, work setting details, and training to work with Indigenous populations?
2. What are the professional perspectives of respondents, including perceptions of Indigenous children's educational experiences, beliefs about Indigenous languages, and beliefs about Indigenous dialects of English?
3. What are respondents' reported clinical practices, including in the areas of assessment, treatment, challenges, and perceived topics of importance in practice?

## Method

### Survey

In developing our survey, we adopted items from existent surveys that described SLP practices with culturally and linguistically diverse children, and we reviewed studies that described practices with Indigenous populations (Clark et al., 2021; Ferris et al., 2021; Guiberson & Atkins, 2012; Guiberson & Ferris, 2023; Guiberson & Vining, 2023b; Hersh et al., 2015; Williams & McLeod, 2012; Zingelman et al., 2021). Our survey consisted of 60 questions, several of which included checklists that included multiple items for respondents to complete. Items were selected or modified from existing surveys if they aligned with the research questions of this study. Twenty-four questions were from Guiberson and Atkins' (2012) survey, 12 questions were from Williams and McLeod's (2012) survey, seven items were from Clark et al. (2021), and 17 questions were based on the review of the literature and/or designed to answer our specific research questions. An initial version of the survey was piloted with two SLPs; feedback was collected to refine the questions and survey format. The final survey was organized into three sections, namely, background information, professional perspectives, and clinical practice, and is available as Supplemental Material S1. Survey questions required yes/no, multiple-choice, and Likert-type scale responses and included checklists. The survey was delivered electronically using Qualtrics, a web-based electronic survey program. Captcha and fraud detection tools were used to guard against the survey being hacked or spammed. We used repeated and parallel items as an index of interrater reliability and found no significant differences across questions used for interrater reliability. On the basis of these results, the survey appeared to have good reliability.

### Participants

This study received approval from the University of Wyoming Institutional Review Board. Given our interest

in serving Indigenous children in the Mountain West and High Plains areas, we obtained a mailing list from ASHA to invite potential participants. We only invited certified SLPs who reported to ASHA that they worked with children and resided in Alaska, Arizona, Colorado, Montana, North Dakota, New Mexico, South Dakota, Utah, and Wyoming. The mailing list consisted of 8,025 names and addresses. Postcards were sent out to each of these individuals, and it included a QR code (or a quick-response code) linked to the digital survey. Potential participants were asked if they worked with Indigenous children, and if so, they were invited to participate in the study. Eligible participants received a \$15 electronic gift card upon completion of the survey. Perspective participants had access to the electronic survey for approximately 1 month.

### Procedure

Participants completed the survey on a secure website that was accessed by invitation only. Each question was presented individually, except in the case where questions required multiple responses. Participants could skip any of the survey questions or parts of questions. To progress to the next question, participants simply clicked the "next" arrow at the bottom of the screen. We estimated that it would take respondents 10–15 min to complete the survey. After 1 month, we deactivated the survey and downloaded the results.

### Scoring and Data Analysis

We imported the survey responses into an SPSS file for analysis. We used repeated and parallel items as an index of interrater reliability. We found no significant differences in any of the four comparisons made. On the basis of these results, the survey appeared to have good reliability.

## Results

Three hundred thirty-three SLPs completed the survey anonymously. Recall that the eligibility requirement to participate was that the respondents had to work with Indigenous children. It is unclear how many of those who were invited met this criterion, and thus, it is impossible to calculate a response rate.

### Background

#### Characteristics of Respondents

Table 1 presents information on respondents' characteristics. Respondents were from the nine states that we sampled from (Alaska, Arizona, Colorado, Montana,

**Table 1.** Participant characteristics.

Characteristic	<i>n</i>	% of respondents
State		
Alaska	34	10
Arizona	78	23
Colorado	40	12
Montana	38	11
New Mexico	44	13
North Dakota	28	8
South Dakota	29	9
Utah	25	8
Wyoming	17	5
Age (years)		
20–29	67	20
30–39	122	37
40–49	88	26
50–59	39	12
> 59	17	5
Years employed as an SLP		
1–3	56	17
4–6	67	20
7–10	56	17
11–15	54	16
> 15	100	30
Racial/ethnic background		
White	291	87
Latino/a	23	7
Indigenous	10	3
Asian	7	2
Black	1	0.3
Multiracial	1	0.3
Bilingual status		
Bilingual	50	15
Not bilingual	283	85

Note. SLP = speech-language pathologist.

North Dakota, New Mexico, South Dakota, Utah, and Wyoming). Eighty-seven percent of respondents were White, 7% were Latino/a, 3% were Indigenous, and 2% were Asian. One respondent was Black, and one identified as multiracial. Note that 3% of Indigenous respondents is notably higher than the national average for Indigenous SLPs (0.3%; ASHA, 2022). The age of the participants varied; 30- to 39-year-old respondents were the largest group (representing 36% of respondents). A wide range of years of experience was observed with nearly even distribution across the age ranges, with “4–6 years” representing the largest response (20% of respondents). Fifteen percent of respondents reported they were bilingual, 29% reported they were fluent in Spanish, 8% reported they were fluent in American Sign Language, 3% reported they were fluent in Mandarin, 2% reported they were fluent in Navajo, and a single respondent spoke several other languages (e.g., Hindi, Russian, Portuguese, Belizean Creole).

## Work Setting

Respondent work setting was considered among several parameters, including population density of the work setting, employment setting(s), age group of the children served, and ethnicity of the caseload (see Table 2). Respondents worked in areas with a wide range of population density, ranging from large cities to rural areas. Respondents reported on the types of work setting(s) they worked in and could indicate multiple settings if applicable. Most respondents (61%) reported they worked in public schools; however, 6% of respondents worked in settings that were specific to Indigenous populations (tribal schools, Bureau of Indian Education schools, Native American boarding schools, Indian Health Services). “Private practice/home health” was the second highest work setting indicated (20.4%). Forty-four (13.2%) respondents worked in multiple settings.

**Table 2.** Work setting.

Work setting	% of respondents
Population	
Large city (> 500,000 residents)	22
Midsize city (> 200,000 to < 500,000 residents)	15
Small city (> 100,000 to < 200,000 residents)	12
Large town (> 50,000 to < 100,000 residents)	12
Midsize town (> 5,000 to < 50,000 residents)	17
Small town (> 2,500 to < 5,000 residents)	6
Rural (< 2,499 residents)	13
*Skipped question	3
Employment setting(s)	
Public school	61
Tribal school	4
Bureau of Indian Education school	2
Native American boarding school	0.3
Hospital	10
Clinic	8
Private practice/home health	20
University program	3
Early intervention	7
Indian Health Services	0.3
Grade level(s) of caseload	
Early intervention (birth–3 years)	41
Preschool (3–5 years)	66
Elementary (kindergarten to ≈ 5th grade)	78
Middle school (≈ 6th grade to ≈ 8th grade)	56.2
High school (≈ 9th grade to 12th grade)	35
Percentage of caseload that is Indigenous	
< 10%	39
10%–25%	38
26%–50%	12
51%–75%	4
> 75%	6

Caseload characteristics were considered among two dimensions: grade levels and percentage of Indigenous children on the caseload. First, it should be noted that 76.3% of respondents indicated they served multiple grade levels. Over 50% of respondents served children at pre-school, elementary, and middle school grade levels. Forty-one percent served children in early intervention (from birth to 3 years of age). Over 30% of respondents reported that their caseload consisted of less than 10% of Indigenous children, and over 30% reported that 10%–25% of the children on their caseload were Indigenous. Very few respondents reported that their caseload consisted of more than 50% of Indigenous children (10.5%).

### Training

Thirty-seven percent of respondents indicated they had specialized training in providing services to Indigenous children. This training was provided through multiple methods (see Table 3); the most frequently reported types of training included training from professional workshops

**Table 3.** Providing services to Indigenous children: training type and content.

Variable	% of respondents
Type of training	
Undergraduate coursework	11
Graduate program	16
Mentorship from SLP	11
Mentorship from Indigenous colleague or cultural mentor	9
Professional conference or workshop	20
Reading journal articles	15
Other (websites or digital resources, lived experiences as an Indigenous person, life experiences with Indigenous cultures)	2
Training content	
Indigenous languages	17
Indigenous English dialects	12
Communication patterns of Indigenous communities	21
Considerations for assessment of Indigenous children	25
Differentiating disorder from difference with Indigenous children	21
Culturally responsive approaches with Indigenous children/families	32
Specific speech strategies that are effective with Indigenous children	4
Specific language strategies that are effective with Indigenous children	6
Specific literacy strategies that are effective with Indigenous children	4
Importance of cultural humility	25
Importance of historical trauma	23

Note. SLP = speech-language pathologist.

or conferences (20%), training in a graduate program (16%), and reading research articles (15%). Respondents were also asked to report on the topics of the training(s) they received. The three most frequently reported topics of trainings included culturally responsive approaches with Indigenous children and families (32%), the importance of cultural humility (25%), and considerations for assessment of Indigenous children (25%). Table 3 presents the full list of training content reported by respondents.

### Professional Perspectives

The survey presented questions about several different areas related to respondents' professional perspectives and beliefs about Indigenous children's educational experiences, Indigenous language, and Indigenous dialects of English. There were 12 questions related to beliefs about Indigenous children's educational experiences (see Table 4). Almost all respondents reported that they believed Indigenous children had lower graduation rates than other children at the national level (94%) and in the respondents' home states (87%). Eighty-six percent of respondents also believed that Indigenous children were disproportionately represented in special education at the national level, and 71% believed they were disproportionately represented in special education in their home states. Two questions specifically about educational disparities were presented; both were agreement scale-type questions. These results indicate that respondents had an understanding that Indigenous children have lower graduation rates than other children at state and national levels. They also understood that Indigenous children were disproportionately represented in special education at state and national levels, with misidentification being the most frequent pattern respondents believed existed. For the graduation and special education data, respondents tended to believe these patterns were worse or more prevalent at the national level than in their home states. Misidentification is likely a common problem given the patterns observed with lower autism and speech-language disability being identified. However, considering representation trends at state and national levels, there is clearly an overidentification problem where too many Indigenous children are identified for special education services.

Sixty-five percent of respondents indicated they *disagreed* or *strongly disagreed* with the statement "Indigenous children have the same educational opportunities as children from other racial/ethnic backgrounds." Seventy percent reported they *agreed* or *strongly agreed* with the statement "Indigenous children experience developmental and educational disparities because of inadequate educational programming or other problems with educational systems."

**Table 4.** Respondents' perspectives and beliefs about education.

Variable	% of respondents
<b>Beliefs about Indigenous graduation rates</b>	
At the national level, Indigenous children have lower graduation rates than other children.	94
In my state, Indigenous children have lower graduation rates than other children.	87
<b>Beliefs about Indigenous children in special education</b>	
At the national level, Indigenous children are disproportionately represented in special education.	86
At the national level, special education patterns indicate Indigenous children are:	
Overrepresented in special education	26
Underrepresented in special education	35
Misidentified in special education (labeled with wrong disability)	48
In my state, Indigenous children are disproportionately represented in special education.	71
In my state, special education patterns indicate Indigenous children are:	
Overrepresented in special education	26
Underrepresented in special education	30
Misidentified in special education (labeled with wrong disability)	36
<b>Beliefs about educational disparities</b>	
Indigenous children have the same educational opportunities as children from other racial/ethnic backgrounds.	
Percentage of respondents who <i>strongly disagree</i> or <i>disagree</i>	65
Indigenous children experience developmental and educational disparities because of inadequate educational programming or other problems with educational systems.	
Percentage of respondents who <i>agree</i> or <i>strongly agree</i>	70

SLP awareness of these inequities is an indicator that SLPs are poised to move forward in creating culturally responsive, optimal learning environments for Indigenous children, which will result in improved and accurate special education processes and, ultimately, improved graduation rates. There were six questions about Indigenous language and Indigenous dialects of English (see Table 5). Eighty-five percent of respondents indicated they believed Indigenous languages are important for children to develop and maintain. Ninety-five percent of respondents indicated they believed Indigenous dialects of English have an important

purpose to the individuals and communities who speak those dialects. Ninety-five percent of respondents also reported they had difficulty involving Indigenous families, and 94% of respondents reported access to and limited family resources were a challenge when serving Indigenous families and children. Respondents were also asked to rate the importance of SLPs' knowledge on the following topics: generational trauma, historical interactions with formal schooling, Indigenous culture, communication styles, views on education, views on disability, and views on medical practices (see Table 6). Respondents rated the top four items that

**Table 5.** Respondents' perspectives and beliefs about Indigenous languages and Indigenous dialects of English.

Variable	% of respondents
<b>Beliefs about Indigenous languages</b>	
Indigenous languages are important for children to develop and maintain.	
Percentage of respondents who <i>strongly agree</i> or <i>agree</i>	88
Given the limited number of speakers of Indigenous languages, there is no justification in spending time or resources on teaching Indigenous languages.	
Percentage of respondents who <i>strongly disagree</i> or <i>disagree</i>	80
<b>Beliefs about Indigenous dialects of English</b>	
Indigenous dialects of English have an important purpose to the individuals and communities who speak that dialect.	
Percentage of respondents who <i>strongly agree</i> or <i>agree</i>	95
Standard English is the only dialect that should be used in educational settings.	
Percentage of respondents who <i>strongly disagree</i> or <i>disagree</i>	85
Nonstandard English is often just a mispronunciation or a grammatical error.	
Percentage of respondents who <i>strongly disagree</i> or <i>disagree</i>	80
Educational programs should teach children about dialects and provide bidialectal instruction.	
Percentage of respondents who <i>strongly agree</i> or <i>agree</i>	75

**Table 6.** Respondents' rankings of topics speech-language pathologists should be knowledgeable about.

Variable	Ranking
Indigenous culture	1
Indigenous communication styles	2
Indigenous views on education	3
Indigenous views on disability	4
Indigenous medical practices	5
Generational trauma	6
Historical interactions with formal schooling	7

SLPs should be knowledgeable about, as follows: Indigenous culture, Indigenous communication styles, Indigenous views on education, and Indigenous views on disability.

### Clinical Practice

The survey included a section regarding respondents' confidence in clinical practice with Indigenous children, such as assessment, treatment, challenges, and topics of importance. Two questions asked about confidence in treatment and assessment activities, and three questions asked about sufficient training to meet the speech, language, or literacy needs of children (see Table 7). Sixty-eight percent of respondents reported they felt confident assessing Indigenous children to establish the presence of a disability, whereas 53% of respondents reported they felt confident providing culturally responsive services to address the needs of Indigenous children. Over 60% of respondents felt they had sufficient training and knowledge to address the speech and language needs of Indigenous children, and 43% of respondents felt they had sufficient training to address the literacy needs of these children.

There were two checklists of assessment and treatment strategies. Table 8 presents the percentage of respondents who used each of the assessment and treatment strategies that were included in the survey. Eighty percent of respondents reported they modify speech or language therapy for

Indigenous children; the top modifications included collaborating with parents or caregivers (55%), selecting different materials (50%), and collaborating with other professionals (45%). An additional set of questions on experiences and practices in providing intervention were also collected (see Table 9). Seventy-nine percent of respondents indicated they sometimes or always had difficulty involving Indigenous families in intervention. Fifty percent of respondents indicated they almost never provide home programming or homework activities for families to use with their children.

Approximately half of respondents indicated they felt confident in assessing Indigenous children. Most respondents reported they used case history information, standardized assessment measures, and language sampling. Less than half of respondents used dynamic assessment, even though there is research supporting the uses of dynamic assessment with Indigenous populations (Henderson et al., 2018; Ukrainetz et al., 2000). Even fewer respondents used informal assessments/materials or local norms. This is problematic because most standardized assessment tools are based on European American-style discourse and life experiences. To the authors' knowledge, there are no standardized speech-language assessment tools that were developed from an Indigenous framework or that adequately sampled Indigenous populations. This reliance on standardized tools is likely a factor in the overidentification of Indigenous children for special education services.

In terms of treatment, approximately half of respondents reported they were confident in providing culturally responsive services, and a slightly higher percentage reported they felt confident addressing the speech and language needs of Indigenous children. Less than half of respondents reported they had sufficient training in addressing the literacy needs of Indigenous children. There were 11 questions that specifically asked about challenges respondents faced while serving Indigenous children (see Table 10). These 11 questions were practice related, cultural competence related, relationship related, and access

**Table 7.** Respondents' reported confidence in clinical practice with Indigenous children.

Variable	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
I feel confident assessing an Indigenous student to determine if he/she has a speech-language impairment or related disability.	16%	52%	19%	11%	2%
I feel confident providing culturally responsive services to adequately address the needs of Indigenous children.	8%	45%	30%	16%	1%
I have sufficient training and knowledge to address the speech needs of Indigenous children.	11%	54%	23%	10%	2%
I have sufficient training and knowledge to address the language needs of Indigenous children.	9%	52%	23%	14%	2%
I have sufficient training and knowledge to address the literacy needs of Indigenous children.	6%	37%	28%	24%	5%



**Table 8.** Assessment and treatment strategies used with Indigenous children.

Variable	% of respondents
Assessment strategies	
Collect case history information	88
Standardized assessments	84
Criterion-referenced assessments	49
Language and/or speech samples	87
Naturalistic observations and/or work samples	80
Dynamic assessment procedures (i.e., test, teach, retest)	43
Informal assessments or materials	23
Developed local norms based on children from the child's community	6
Treatment strategies	
Teach pronunciation, spelling, grammar, discourse, or writing conventions of Indigenous English dialects	11
Use contrastive analysis to discuss dialect features	8
Use demonstration, realia, and models while teaching	40
Provide multiple opportunities for storytelling	39
Teach story grammar	54
Teach inferencing and prediction skills with stories	66
Shift responsibility to child during book reading	48
Identify print after hearing words	46
Phonemic awareness tasks	67
Phonics tasks	20
Return sweep prompting (read all words of a sentence and then start reading the next line)	23
Create books and other culturally consistent materials that represent Indigenous Peoples historically and in modern times	9

related. The lack of assessment materials/procedures, lack of treatment materials, lack of knowledge about typical development, and lack of research were challenging to over 90% of respondents. In the area of cultural competence, over 90% of respondents reported that lack of knowledge about Indigenous culture and linguistic variables was a challenge. Of the relationship-related questions, difficulty involving Indigenous families was a significant concern for over 50% of respondents. In terms of access-related questions, 70% of respondents reported that limited family resources was a significant challenge, and 62% reported that poor or limited child attendance in services or school was a significant challenge as well.

### **Post Hoc Analysis With Indigenous SLP Responses**

A post hoc analysis was conducted, examining the responses from respondents who identified as Indigenous ( $n = 10$ ) in order to better understand the backgrounds, perspectives, and practices of these respondents. These analyses are descriptive only given the design of the study. Three of the respondents identified as fluently bilingual, two identified as being fluent in Navajo, and a third identified as being fluent in Spanish. The Indigenous respondents worked in a range of settings, including early intervention, K–12, private clinics or hospitals, and universities. They

**Table 9.** Respondents' reported frequency of practices and experiences when providing services to Indigenous children.

How often do you . . .	Always—almost always	Sometimes	Never—almost never
Modify speech or language therapy for Indigenous children	59%	21%	20%
Have difficulty involving Indigenous families in intervention	11%	68%	21%
Influence family regarding their involvement in intervention	24%	54%	22%
Seek out and use knowledge of cultural attitudes about language learning	17%	55%	28%
Seek out and use knowledge of cultural attitudes toward children rearing when planning intervention	18%	50%	32%
Give home programming or homework activities to parents/ other family members when working with Indigenous children	14%	36%	50%

**Table 10.** Respondents' reported challenges in providing services to Indigenous children.

Variable	Not a challenge	Somewhat of a challenge	Significant challenge
Practice related			
Lack of appropriate assessment instruments/procedures	9%	45%	46%
Lack of information about "typical" development in Indigenous children	4%	46%	50%
Lack of relevant research about treatment or assessment of Indigenous populations	3%	44%	53%
Lack of appropriate materials to use with Indigenous children	9%	47%	44%
Cultural competence related			
Lack of knowledge about Indigenous culture and linguistic variables	4%	43%	53%
Relationship related			
Difficulty involving Indigenous families	5%	44%	51%
Difficulty establishing trust and relationships with Indigenous families and/or the community a challenge to serving this population	11%	50%	39%
Parent or family mistrust of educational and health care providers a challenge to serving this population	8%	52%	40%
Access related			
Limited family resources (e.g., transportation, insurance, distance from home to site where services are offered, etc.)	6%	24%	70%
Family or community limited awareness of speech-language services	9%	50%	41%
Poor or limited child attendance in services/school	8%	30%	62%

also worked with a range of age groups, including early intervention (50%), preschool (90%), elementary (50%), middle school (20%), and high school (10%). Fifty percent of the Indigenous respondents reported they had received training in providing services to Indigenous children, a percentage higher than that of the total sample (37%). Approximately a third of the Indigenous respondents reported they received training in providing services to Indigenous children from their graduate programs, mentorship from an SLP, or mentorship from an Indigenous culture mentor. In terms of training content, the Indigenous respondents reported a similar frequency of training across all areas presented in Table 3, except for historical trauma, which was reported to be an area of training for 40% of the Indigenous respondents (compared to 23% of the entire sample). The Indigenous respondents rated the top four items that SLPs should be knowledgeable about, as follows: generational trauma, historical interactions with formal schooling, Indigenous culture, and Indigenous views on disability. These items differ from what was indicated by the larger sample.

In the area of clinical practice, all Indigenous respondents felt confident or very confident to adequately address the needs of Indigenous children. Ninety percent of the Indigenous respondents also felt that educational programs should teach children about dialects and provide bidialectal instruction. Lack of research on Indigenous children and lack of treatment and assessment materials were reported by all Indigenous respondents as challenges. Limited family resources and difficulty involving families were also reported as a significant challenge by the

Indigenous group. Difficulty establishing trust and family mistrust of educational and health care providers were indicated as somewhat of a challenge or a significant challenge by 80% of Indigenous respondents. In terms of sources of diagnostic information, the Indigenous respondents had similar response patterns as the larger sample. In the area of treatment, it appeared that the Indigenous respondents engaged in teaching Indigenous dialects of English and contrastive analysis more frequently than did the larger sample. The Indigenous respondents also reported using storytelling, story grammar, and culturally consistent materials that represented Indigenous Peoples historically and in modern times more often than did the larger sample.

## Discussion

The purpose of this survey was to better understand the background, professional perspectives, and clinical practices of SLPs working with Indigenous children from states in the Mountain West and High Plains region. To summarize some of the main results, this study revealed that most of the respondents were White, had limited training in Indigenous topics, and understood educational disparities experienced by Indigenous children but believed these problems were worse in other states. This study documented patterns of clinical practice, with about half of respondents feeling confident with assessment but tended to over-rely on standardized tools and reporting they had difficulty because of lack of knowledge about indigenous

culture and access-related challenges for families. This overview of the findings provides a clear rationale for action to address the learning needs of Indigenous students. For the remainder of this discussion, the authors present several promising ways in which the discipline can address some of the inequities that Indigenous children experience and how these ideas can apply to both preservice or graduate education and continuing education for practicing SLPs.

More research with Indigenous populations is needed. Guiberson and Vining recently completed two scoping reviews that focused on Indigenous children, specifically on culturally responsive and Indigenous language strategies (Guiberson & Vining, 2023a) and language and literacy strategies (Guiberson & Vining, 2023b). Comparing the scoping review findings to the findings from this survey study may provide insight into improving the confidence of SLPs and the quality of services provided to Indigenous children. Very few respondents reported using contrastive analysis or featuring Indigenous English dialects despite the respondents' general support for dialect usage. Developing dialect awareness, teaching when dialects are used in scenarios/contexts, using contrastive analysis, and teaching dialect code-switching have been found to be promising strategies with Indigenous children (Guiberson & Vining, 2023b). A very small percentage of respondents reported creating books or other materials that present Indigenous Peoples historically and in modern times. Using Indigenous materials and books with illustrations reflective of the community and developing authentic Indigenous print and audiovisual materials have all been described as culturally consistent interventions (Guiberson & Vining, 2023a). Approximately half of respondents reported teaching story grammar, and even fewer reported using storytelling in their interventions. Narrative-based strategies, including teaching listener-storyteller interactions, teaching story grammar, teaching inferencing skills, discussing narratives, and teaching how to code-switch roles in storytelling, are strategies that have been found to have promising or compelling evidence (Guiberson & Vining, 2023b).

There is clearly a need for continued recruitment and career pathway development to support more diversity and more Indigenous students in communication sciences and disorders programs (Fannin & Mandulak, 2021). Given the shortage of Indigenous SLPs, providers need to have *cultural humility* when working with Indigenous children and families. Cultural humility is a complicated and multilayered process that involves self-reflection, a commitment to lifelong learning, appreciation of others' knowledge of the social and cultural context of their lives, and openness to establishing power-balanced relationships with others (Lekas et al., 2020). More information and ideas on cultural humility and related cultural

competencies can be found in ASHA's resource titled "Cultural Competence Check-Ins" (ASHA, n.d.).

Furthermore, cultural humility forces those involved in education to consider power balances and imbalances in interactions and to examine personal and institutional accountability for inequities. Twenty-five percent of respondents in this study indicated they had training in cultural humility. The majority of respondents showed a level of cultural humility by identifying not only that educational disparities in graduation rates and learning opportunities exist for Indigenous children but also how Indigenous children are disproportionately represented in special education. Respondents also understood the importance of Indigenous languages and Indigenous dialects of English. However, only 23% had training on the importance of historical trauma. This pattern points to the need for more specialized training both in graduate programs and for SLPs serving Indigenous communities. Approximately 20% of the respondents received training in providing services to Indigenous children, with most respondents receiving training in the assessment of differentiating difference from disorder.

Other factors that respondents reported were challenging included developing trusting relationships with Indigenous families and access-related factors, including limited family resources and poor or limited child attendance in school. To change the educational outcomes of Indigenous children, major changes need to occur, including training for preservice SLPs in graduate programs and continuing education for current SLPs. A shift from the deficit-oriented special education or disability professional lens is needed. Applying the ICF is a way to see the larger picture with Indigenous children (see Allison-Burbank & Reid, 2023, for more details). Also adopting the abundance model would help with using a culturally appropriate lens when working with Indigenous families. More detailed information about the abundance model can be found in the works of Benson et al. (2012), Guiberson and Vining (2023b), Matthews and López (2019), and Renkly and Bertolini (2018). Furthermore, training in Indigenous epistemologies and pedagogies could guide clinicians in developing culturally consistent practices with Indigenous families. The Allison-Burbank et al. (2023) article provides useful information on this topic. Each of these approaches builds upon culture, Indigenous identity, and Indigenous language and fosters meaningful community/family involvement.

## Limitations

This study included respondents from very specific areas in the Mountain West and High Plains region. The

results may not capture the background, perspectives, and experiences of SLPs serving Indigenous children in other areas of the country. This study provided a first step to understanding the practices, backgrounds, professional perspectives, and clinical practices of SLPs from the Mountain West and High Plains region who serve Indigenous children. Including only SLPs from this region may have resulted in responses or patterns that are not representative of SLPs working in other areas of the country. This restriction to the Mountain West and High Plains region also may have led to sample bias. For example, the percentage of respondents in this survey who identified as Indigenous was much higher than the national average. Nonetheless, it is also likely that Indigenous SLPs often choose to work in settings where they can serve Indigenous families. Even so, the goal of the study was to describe SLP practices in this region and better understand the background, professional perspectives, and clinical practices of SLPs who serve Indigenous children and families. This study provided useful information about SLPs' backgrounds, diversity training, and professional perspectives.

## Data Availability Statement

Data from this study are not available to the public.

## Acknowledgments

This study was funded by a grant from the University of Wyoming, awarded to Mark Guiberson.

## References

- Allison-Burbank, J. D., Conn, A., & Vandever, D. (2023). Interpreting Diné epistemologies and decolonization to improve language and literacy instruction for Diné children. *Language, Speech, and Hearing Services in Schools, 54*(3), 707–715. [https://doi.org/10.1044/2023\\_LSHSS-22-00147](https://doi.org/10.1044/2023_LSHSS-22-00147)
- Allison-Burbank, J. D., & Reid, T. (2023). Prioritizing connectedness and equity in speech-language services for American Indian and Alaska Native children. *Language, Speech, and Hearing Services in Schools, 54*(2), 368–374. [https://doi.org/10.1044/2022\\_LSHSS-22-00101](https://doi.org/10.1044/2022_LSHSS-22-00101)
- American Speech-Language-Hearing Association. (n.d.). *Cultural competence check-ins*. <https://www.asha.org/practice/multicultural/self/>
- American Speech-Language-Hearing Association. (2022). *2022 member & affiliate profile*. <https://www.asha.org/siteassets/surveys/2022-member-affiliate-profile.pdf>
- American Speech-Language-Hearing Association. (2023). *Maintaining your certification*. <https://www.asha.org/certification/prof-dev-for-2020-certification-standards/>
- Asante-Muhammad, D., Kamra, E., Sanchez, C., Ramirez, K., & Tec, R. (2022, February 14). *Racial wealth snapshot: Native Americans*. National Community Reinvestment Coalition. <https://ncrc.org/racial-wealth-snapshot-native-americans/>
- Benson, P. L., Leffert, N., Scales, P. C., & Blyth, D. A. (2012). Beyond the “village” rhetoric: Creating healthy communities for children and adolescents. *Applied Developmental Science, 16*(1), 3–23. <https://doi.org/10.1080/10888691.2012.642771>
- Clark, E. L., Easton, C., & Verdon, S. (2021). The impact of linguistic bias upon speech-language pathologists' attitudes towards non-standard dialects of English. *Clinical Linguistics & Phonetics, 35*(6), 542–559. <https://doi.org/10.1080/02699206.2020.1803405>
- Collier, C. (2012). Special education for Indigenous students. *NABE Perspectives*. <https://jan.ucc.nau.edu/~jar/NABE/Collier%20SE.pdf>
- Fannin, D. K., & Mandulak, K. C. (2021). Introduction to the forum: Increasing diversity in the communication sciences and disorders workforce, Part 1. *American Journal of Speech-Language Pathology, 30*(5), 1913–1915. [https://doi.org/10.1044/2021\\_AJSLP-21-00258](https://doi.org/10.1044/2021_AJSLP-21-00258)
- Ferris, K. P., Guiberson, M., & Bush, E. J. (2021). Native American caregivers' developmental priorities for young children: Implications for intervention. *Topics in Language Disorders, 41*(2), 169–184. <https://doi.org/10.1097/TLD.0000000000000247>
- Guiberson, M., & Atkins, J. (2012). Speech-language pathologists' preparation, practices, and perspectives on serving culturally and linguistically diverse children. *Communication Disorders Quarterly, 33*(3), 169–180. <https://doi.org/10.1177/1525740110384132>
- Guiberson, M., & Ferris, K. P. (2023). Native American caregiver-child shared book reading interactions: A descriptive study and integrative review. *Language, Speech, and Hearing Services in Schools, 54*(2), 409–424. [https://doi.org/10.1044/2022\\_LSHSS-22-00085](https://doi.org/10.1044/2022_LSHSS-22-00085)
- Guiberson, M., & Vining, C. B. (2023a). Culturally responsive and Indigenous language strategies: Findings from a scoping review. *Communication Disorders Quarterly*. Advance online publication. <https://doi.org/10.1177/15257401231155812>
- Guiberson, M., & Vining, C. B. (2023b). Language and literacy strategies for Indigenous children: A scoping review. *Seminars in Speech and Language, 44*(1), 26–41. <https://doi.org/10.1055/s-0042-1758802>
- Henderson, D. E., Restrepo, M. A., & Aiken, L. S. (2018). Dynamic assessment of narratives among Navajo preschoolers. *Journal of Speech, Language, and Hearing Research, 61*(10), 2547–2560. [https://doi.org/10.1044/2018\\_JSLHR-L-17-0313](https://doi.org/10.1044/2018_JSLHR-L-17-0313)
- Hersh, D., Armstrong, E., Panak, V., & Coombes, J. (2015). Speech-language pathology practices with Indigenous Australians with acquired communication disorders. *International Journal of Speech-Language Pathology, 17*(1), 74–85. <https://doi.org/10.3109/17549507.2014.923510>
- Hussar, B., Zhang, J., Hein, S., Wang, K., Roberts, A., Cui, J., Smith, M., Mann, F. B., Barmer, A., Cui, J., & Dilig, R. (2020). *The Condition of Education 2020* (NCES 2020-144). National Center for Education Statistics. <https://files.eric.ed.gov/fulltext/ED605216.pdf>
- Indian Health Service. (2019, October). *Disparities*. <https://www.ihs.gov/newsroom/factsheets/disparities/>
- Lekas, H.-M., Pahl, K., & Fuller Lewis, C. (2020). Rethinking cultural competence: Shifting to cultural humility. *Health Services Insights, 13*, 1178632920970580. <https://doi.org/10.1177/1178632920970580>
- Matthews, J. S., & López, F. (2019). Speaking their language: The role of cultural content integration and heritage language for academic achievement among Latino children.

- Contemporary Educational Psychology*, 57, 72–86. <https://doi.org/10.1016/j.cedpsych.2018.01.005>
- National Center for Education Statistics.** (2022). *Condition of Education: Public high school graduation rates*. U.S. Department of Education, Institute of Education Sciences. Retrieved March 19, 2023, from <https://nces.ed.gov/programs/coe/indicator/coi>
- National Center for Learning Disabilities.** (2020). *Significant disproportionality in special education: Current trends and actions for impact*. [https://www.nclld.org/wp-content/uploads/2020/10/2020-NCLD-Disproportionality\\_Trends-and-Actions-for-Impact\\_FINAL-1.pdf](https://www.nclld.org/wp-content/uploads/2020/10/2020-NCLD-Disproportionality_Trends-and-Actions-for-Impact_FINAL-1.pdf)
- National Council on Aging.** (2023, January 10). *American Indians and Alaska Natives: Key demographics and characteristics*. <https://www.ncoa.org/article/american-indians-and-alaska-natives-key-demographics-and-characteristic>
- Newman, L., Wagner, M., Knokey, A.-M., Marder, C., Nagle, K., Shaver, D., & Wei, X.** (2011). *The post-high school outcomes of young adults with disabilities up to 8 years after high school: A report from the National Longitudinal Transition Study-2 (NLTS2)* (NCSE 2011–3005). National Center for Special Education Research.
- Office of Minority Health.** (2023, February 24). *Profile: American Indian/Alaska Native*. U.S. Department of Health and Human Services. Retrieved March 7, 2023, from <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=62>
- Poverty USA.** (n.d.). *The population of Poverty USA*. Retrieved March 7, 2023, from <https://www.povertyusa.org/facts>
- Renkly, S., & Bertolini, K.** (2018). Shifting the paradigm from deficit oriented schools to asset based models: Why leaders need to promote an asset orientation in our schools. *Empowering Research for Educators*, 2(1), Article 4.
- Rezal, A.** (2021, November 26). *Where most Native Americans live*. U.S. News. <https://www.usnews.com/news/best-states/articles/the-states-where-the-most-native-americans-live>
- Smallwood, R., Woods, C., Power, T., & Usher, K.** (2021). Understanding the impact of historical trauma due to colonization on the health and well-being of Indigenous young peoples: A systematic scoping review. *Journal of Transcultural Nursing*, 32(1), 59–68. <https://doi.org/10.1177/1043659620935955>
- Ukrainetz, T. A., Harpell, S., Walsh, C., & Coyle, C.** (2000). A preliminary investigation of dynamic assessment with Native American kindergartners. *Language, Speech, and Hearing Services in Schools*, 31(2), 142–154. <https://doi.org/10.1044/0161-1461.3102.142>
- United States Census Bureau.** (2020, December). *RACE*. <https://data.census.gov/table>
- United States Census Bureau.** (2021, October 4). *Facts for features: American Indian and Alaska Native Heritage Month: November 2021*. <https://www.census.gov/newsroom/facts-for-features/2021/aian-month.html>
- United States Census Bureau.** (2022, October 11). *Facts for features: American Indian and Alaska Native Heritage Month: November 2022*. <https://www.census.gov/newsroom/facts-for-features/2022/aian-month.html>
- USA Facts.** (2021, November 11). *How the Native American population changed since the last census*. Retrieved March 15, 2023, from [https://usafacts.org/articles/how-the-native-american-population-changed-since-the-last-census/?utm\\_source=usnews&utm\\_medium=partnership&utm\\_campaign=fellowship&utm\\_content=link](https://usafacts.org/articles/how-the-native-american-population-changed-since-the-last-census/?utm_source=usnews&utm_medium=partnership&utm_campaign=fellowship&utm_content=link)
- Williams, C. J., & McLeod, S.** (2012). Speech-language pathologists' assessment and intervention practices with multilingual children. *International Journal of Speech-Language Pathology*, 14(3), 292–305. <https://doi.org/10.3109/17549507.2011.636071>
- Zingelman, S., Pearce, W. M., & Saxton, K.** (2021). Speech-language pathologists' perceptions and experiences when working with Aboriginal and Torres Strait Islander children. *International Journal of Speech-Language Pathology*, 23(3), 225–235. <https://doi.org/10.1080/17549507.2020.1779345>