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AAC services for multilingual and non-English clients: Perspectives of speech-language therapists in the public healthcare setting in Gauteng

by

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The author, whose name appears on the title page of this dissertation, has obtained the applicable research ethics approval for the research described in this work.

The author declares that she has observed the ethical standards required in terms of the University of Pretoria's Code of Ethics for researchers and the Policy guidelines for responsible research.

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ABSTRACT

Background: South Africa recognizes 12 official languages and despite its commitment to supporting them equally, English still dominates in the healthcare and education sectors. Discrimination against multilingual clients who do not receive services in their languages is a concern, making appropriate communication assessment and intervention challenging for speech-language therapists (SLTs). The study aims to explore the perspectives of South African SLTs on augmentative and alternative communication (AAC) service provision for multilingual and non-English clients with complex communication needs (CCN) in the public healthcare sector in Gauteng.

Methods: This study was conducted using a qualitative research design. Semi-structured interviews were conducted via Zoom conferencing with nine SLTs working in the public healthcare sector who had more than one year of experience providing AAC to multilingual and/or non-English clients. Interviews were transcribed using the Happy Scribe software and transcriptions were checked by a research assistant. Thematic analysis (codebook approach) was used to analyse the data with the help of ATLAS.ti software.

Results: Three themes were identified in the data, namely (i) current practice in assessment and intervention, (ii) factors influencing practice, and (iii) best practice. Thematic coding showed that SLTs hold positive views of multilingualism and attempt to provide linguistically and culturally congruent services. However, several systemic challenges impede this process. Several initiatives were suggested to address this situation, such as policy development, development of linguistically and contextually appropriate AAC systems, continuous professional development and up-skilling of SLTs on best practices, and the implementation of family- and client-centred practices.

Conclusions: Understanding the perspectives of SLTs working in the public healthcare sector in Gauteng provides insights into the challenges they face in providing equitable services to all and the creative avenues they employ to overcome them. Gaps in policy, appropriate assistive technology provision and SLT training need to be addressed to ensure more appropriate AAC services for multilingual and non-English clients with CCN in South Africa. The findings highlight the pressing need for culturally sensitive and linguistically appropriate AAC practices for individuals from diverse backgrounds. Increased resources and

support are essential to develop AAC systems that are linguistically and culturally relevant for multilingual clients. By actively involving individuals from multicultural communities, promoting cross-cultural competence among professionals, and tailoring interventions to specific linguistic and cultural contexts, we can bridge the gap between current AAC practices and the diverse needs of individuals, ensuring that everyone has equitable access to effective communication tools.

Keywords: AAC, multilingualism, non-English, perspectives, SLTs, South Africa

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LIST OF ABBREVIATIONS

AAC	Augmentative and Alternative Communication
ASHA	American Speech-Language-Hearing Association
CCN	Complex Communication Needs
CEO	Chief Executive Officer
CUP	Common underlying proficiency model
HOD	Head of Department
HSRC	Human Sciences Research Council
ICF	International Classification of Functioning
MDT	Multidisciplinary team
OT	Occupational therapist
L1	First language
L2	Second language
LiEP	Language in Education Policy
SASLHA	South Africa Speech-Language-Hearing Association
SLT	Speech-language therapist

1. PROBLEM STATEMENT AND LITERATURE REVIEW

1.1 Problem statement

The Constitution of the Republic of South Africa (1996), promulgated as part of the first democratic regime post-apartheid, grants equal status to all official languages, and commits the government to promote and support all these languages equally. Although various language policies in health and education, such as the Language in Education Policy (LiEP) (Department of Education, 1997) and the National Department of Health language policy (Department of Health, 2011) have subsequently been developed to support this endeavour, there is limited evidence of successful implementation (Kathard et al., 2011). English still seems disproportionately influential at the expense of the other official languages (ten of which are spoken and one of which is signed) (Kathard et al., 2011; Khokhlova, 2015). To withhold or be unable to provide speech-language therapy services in the languages of a multilingual client can be seen as discriminatory (Kadyamusuma, 2016).

Speech-language therapists (SLTs) may find it challenging to provide appropriate communication assessment and intervention to clients and families who are multilingual or who come from language and cultural backgrounds that are different to those of the therapist who may or may not be multilingual themselves. They may struggle to conduct appropriate assessments, to appropriately support language development for children, to make decisions about prioritizing one or more languages in intervention, and to appropriately counsel families (Soto & Yu, 2014). Concerning clients with complex communication needs (CCN) who need augmentative and alternative communication (AAC) intervention, SLTs may experience challenges related to AAC system selection and customization (Soto & Yu, 2014).

According to Kohnert et al. (2020), bilingual individuals with language disorders may benefit from meaningful opportunities to develop, recover, or use both languages. Support from SLTs in assisting persons in need of AAC with building an integrated linguistic repertoire incorporating all the languages they know and are exposed to in their communities may result in increased communication opportunities, participation, and inclusion (Tönsing & Soto, 2020). For multilingual South Africans to be able to express themselves in all their languages, appropriate AAC systems, interventions, and literacy learning opportunities need to be developed and implemented (Tönsing et al., 2019).

Tönsing et al. (2018) conducted focus groups with mainly private AAC practitioners (SLTs, occupational therapists and physiotherapists) to determine their perspectives on AAC service provision for clients from multilingual backgrounds. The authors found that although the abovementioned service providers recognized the need for AAC provision in multiple languages, this did not necessarily translate into practice (Tönsing et al., 2018). Although these findings are helpful, the study was limited as a small group of primarily private practitioners was involved.

The experiences of SLTs who work in the public health sector in South Africa regarding AAC service provision to multilingual clients may differ from those of private practitioners for several reasons. For example, the likelihood of a language discrepancy between therapist and client in the public health sector may be higher as a greater proportion of non-English speaking clients make use of the public health sector in South Africa (Coovadia et al., 2009). AAC resources such as speech-generating devices may be less obtainable for clients in the public health sector than for those making use of the private health sector (Dada et al., 2017). These factors may represent challenges to SLTs but may also encourage them to find creative avenues to overcome these challenges.

Understanding the perspectives of SLTs working in the public health system in Gauteng regarding the provision of AAC services to multilingual and non-English populations can assist in obtaining an impression of current practices, beliefs and opinions about these practices and about factors that influence practices. SLTs' perceived needs regarding service provision for clients in need of AAC from multilingual and non-English backgrounds can also be established. This information can assist in informing an agenda for AAC system development for the South African context as well as relevant training opportunities for SLTs.

1.2 Literature review

The literature review will commence by describing communication intervention for multilingual and linguistically diverse clients. This will be followed by specifically reviewing the literature on the use of AAC within this population. Lastly, relevant information about the South African context will be discussed.

1.2.1 Multilingualism and language acquisition

Globally, more than half of the population speaks at least two languages (Kohnert et al., 2020). In many countries in the world, children are exposed to two or more languages from birth and in other countries, children are exposed to a second or third language when they start school or use additional languages for vocational purposes once they are adults (Kohnert et al., 2020). Sequential language acquisition refers to acquiring an additional language after the first language has been established (Thordardottir, 2019). Simultaneous language acquisition refers to acquiring two or more languages at the same time, typically from birth or during early childhood (Thordardottir, 2019).

Views about multilingualism are closely associated with language ideology, defined as a set of beliefs and attitudes about languages, speakers, and discursive practices (Kroskrity, 2004). Hornberger and Skilton-Sylvester (2000) argue that language ideologies are important in shaping the conditions under which language learning occurs and can influence the success or failure of language learning efforts. Language ideologies can also have an impact on language education policies and practices. According to Tönsing and Soto (2020), language ideologies can be plotted on a continuum which is conceptualized in three different views: monolingual, multilingual, and translanguaging. The monolingual view describes one language as the norm while a multilingual view describes multiple languages known and used but in separate contexts (Tönsing & Soto, 2020). The translanguaging view describes languages as a continuum, meaning there is no clear distinction between languages. Each view has implications for multilingualism (Tönsing & Soto, 2020). The monolingual view could potentially lead to language loss and the multilingual and translanguaging views could promote language maintenance and development (Tönsing & Soto, 2020). The concepts of subtractive and additive bilingualism, code-switching, and the common underlying proficiency model are all relevant to understanding the implications of different views of the language continuum for multilingualism.

Subtractive bilingualism occurs when the acquisition of a second language results in a loss or decline in the use of the first language (García & Wei, 2014). This can occur in situations where the second language is seen as more prestigious or economically valuable, or when the child's educational or social environment favours the use of the second language over the first language (García & Wei, 2014). Bronfenbrenner and Morris (2006) introduced the bioecological model of human development, emphasizing the interconnectedness between

individuals and their environments. In contrast, additive bilingualism occurs when the acquisition of a second language takes place while continuing to develop the first language (Cummins, 2000). In this case, both languages are valued and supported, with the child developing proficiency in both languages over time (Cummins, 2000).

The common underlying proficiency model (CUP) suggests that proficiency in one language can support the development of proficiency in another (Cummins, 1979). The CUP model proposes that the development of literacy and academic skills in a second language (L2) is highly dependent on the level of competence achieved in the first language (L1) (Cummins, 1979). According to this model, the cognitive and linguistic skills developed in the L1 can transfer to the L2, leading to faster and more effective language learning in the L2 (Cummins, 1979). A key aspect of multilingualism is code-switching, which differs from tanslanguaging in the sense that it broadly refers to the alternation between languages, dialects, or language varieties (King & Soto, 2022) whereas translanguaging involves the use of both languages in a context. This allows multilingual individuals to feel a sense of identity, community, and solidarity (King & Soto, 2022). The importance of considering the identities of clients in AAC intervention was recently highlighted by Wofford et al. (2022).

Language ideologies that favour one language over another can lead to policies that promote monolingualism or subtractive bilingualism, while ideologies that value multilingualism and language diversity can support additive bilingualism (García & Wei, 2014). Therefore, a monolingual view may promote subtractive bilingualism, while the multilingual and translanguaging views may promote additive bilingualism and code-switching.

Language ideologies may also influence the status that is accorded to a language. In sociolinguistic literature, the terms ‘majority’ and ‘minority language’ have been used. The majority language is defined as the language spoken by the majority of a given population and in a multilingual society it is also known as the dominant language which is considered to be of high status (Nordquist, 2019). Therefore, the minority language is defined as the language spoken by the minority of the population and is considered to have a low status. Although the majority of the population of South Africa does not have English as a first language it has become a majority language and has a high status. Research has shown that the status of a language can impact language attitudes, language learning outcomes, and multilingualism. For example, individuals who speak a minority language may feel pressure to learn and use the

majority language to gain access to education, employment, and social opportunities (García & Wei, 2014). In multilingual contexts, the status of different languages can also impact language use and language policies. For example, policies that promote the use of majority languages in education and government may limit opportunities for speakers of minority languages to develop and use their own languages (García & Wei, 2014). Similarly, policies that promote additive bilingualism, in which multiple languages are valued and supported, can help to promote language diversity and multilingualism.

Looking at native speakers, English is the third most spoken language in the world. However, looking at native and non-native speakers, English is the most spoken language in the world, spoken in 146 countries (Eberhard et al., 2023). This highlights the global dominance of English and this dominance, in turn, has resulted in many instances in a language ideology that can be described as Anglo-centric. The spread of English worldwide can be attributed to British colonialism and the influence of American culture. This has resulted in a monolingual mindset that privileges English speakers and contributes to societal inequalities for non-English speakers (Hajek & Slaughter, 2014; Costa, 2020; Soto, 2023). Furthermore, research on communication development and communication disorders has mainly focused on monolingual populations, neglecting the needs of multilingual populations (Tönsing et al., 2018). This reflects a language ideology that values monolingualism and places English at the centre of linguistic power, marginalizing other languages and cultural perspectives. Therefore, language ideology and Anglo-centrism impact on research and society as a whole.

1.2.2 Communication intervention for multilingual and linguistically diverse clients

There has been a propensity towards monolingual intervention and monolingual research in the field of communication disorders. There are various reasons for this, including a tendency to problematize multilingualism (Tönsing & Soto, 2020). Service providers and families may believe that exposure to multilingualism can cause further language delays for children with communication disorders, however, there is no evidence to support these beliefs (Soto & Yu, 2014). According to Kohnert et al. (2020) and Marinova-Todd et al. (2016), bilingual individuals with a language disorder may benefit from meaningful opportunities to develop, recover, or use both languages. Support of all the languages a child is exposed to is related to cognitive and academic gains (Soto & Yu, 2014; Penn et al., 2017). Addressing one language only does not allow a global view of the difficulties and it is also ethically not defensible due to the relevance of each language in a client’s emotional, social, and professional life

(Cargnelutti et al., 2019). When communication is impaired for a multilingual individual, for example, in the instance of aphasia, languages are often not compromised in the same way (Cargnelutti et al., 2019). This demonstrates the importance of language assessment in all languages of the individual to avoid bias. Premorbid language abilities in each language need to be established, as well as which is the dominant language (Cargnelutti et al., 2019).

Intervention approaches that support all the client's languages are aligned with various contemporary approaches to AAC intervention, such as the person-centred approach (McNaughton et al., 2019), the family systems framework (Mandak et al., 2017), and identity-affirming practices (Wofford et al., 2022). These approaches highlight the importance of making the client and their family the centre of intervention. This is supported by Granlund et al. (2008) who highlighted the importance of family involvement. Participatory research was highlighted by Nekoto et al. (2020) which refers to involving local communities and linguists in the development of tools that can bridge language barriers. Pert and Bradley (2018) provided a clinical guideline for SLTs working with bilingual clients that recognizes bilingualism as the norm.

Notwithstanding these findings, Mindel and John (2021) highlighted the challenges faced by speech-language therapists in providing appropriate assessment and intervention services for individuals from diverse linguistic backgrounds. They noted that there is a lack of appropriate assessment materials which can prevent accurate diagnosis and intervention plans (Mindel & John (2021). Furthermore, there is a lack of South African-specific guidelines such as the guideline by Pert and Bradley (2018) in the United Kingdom. A lack of guidelines on how to support multilingual individuals or individuals from language backgrounds that differ from the language of the clinician leads to professionals' failure to address the unique linguistic and cultural needs of these individuals. These challenges can lead to a lack of effectiveness in speech-language therapy services and may contribute to poor access to these services as well as poorer outcomes for individuals from multilingual or non-English backgrounds.

The lack of SLTs who speak minority languages is a concern in many parts of the world. There is a shortage of professionals who are proficient in the minority languages spoken by their clients (Beauchamp et al., 2022). This can lead to a lack of access to services or services that are provided in the dominant language, which may not be the client's preferred language or the language they are most proficient in. In countries with linguistic diversity, such as South Africa,

there is an absence of SLTs who speak minority languages (Southwood & van Dulm, 2015) which can limit access to services for individuals who speak those languages. This can result in disparities in access to care and ultimately impact health outcomes for these individuals. Additionally, SLTs who do not speak the same language as their clients may struggle to communicate effectively, leading to potential misdiagnosis or inadequate treatment (Southwood & Van Dulm, 2015).

There is a lack of norms for language development in South African languages, which poses challenges for professionals working with individuals from diverse linguistic backgrounds (Gxilishe, 2008). The absence of normative data makes it difficult to identify language disorders (Gxilishe, 2008). This knowledge gap also affects the development of culturally sensitive assessment and intervention tools and the ability to advocate for the linguistic rights of African language speakers (Gxilishe, 2008). Additionally, a lack of norms for minority languages can lead to inaccurate assessments, as assessments developed for majority languages may not accurately capture the language abilities of individuals who speak minority languages (ASHA, n.d.). This can result in misdiagnosis and inappropriate or inadequate interventions, ultimately affecting the language development and academic success of individuals who speak minority languages. The lack of norms for minority languages results from and also contributes to a broader lack of research on language development in these populations, which can limit our understanding of typical and atypical language development and the factors that influence it.

SLTs may find it challenging to accurately assess a client in need of AAC in more than one language, to know how to support language development for multilingual children, which language to use in intervention, and how to counsel families from multilingual and multicultural backgrounds (Soto & Yu, 2014). Studies have reported that SLTs have questioned the reliability and validity of their assessment findings during their communication assessments of individuals from multilingual backgrounds which then leads to inappropriate treatment plans (Hassan et al., 2020). This can also occur when SLTs are unable to speak the languages or understand the cultural beliefs and practices of clients and their families (Hassan et al., 2020).

Internationally, assessment tools are mainly available in languages like English, which is well-studied, has a high social status, and is often the language of schooling (Norvik & Goral, 2021). English assessment tools are not easily adaptable to other languages as translated items need

to be of comparable difficulty and social valence (Cargnelutti et al., 2019). Cultural adaptations are likewise important to make. Albin et al. (2022) discussed the link between cultural adaptation and effective intervention. Boesch and Da Fonte (2014) discussed tailored assessment and intervention for multilingual clients as best practice. Language is also intertwined with culture and neither can exist without the other (Calvo-Rodriguez, 2021). Language and symbols allow us to express our culture, giving us a sense of belonging (Calvo-Rodriguez, 2021). Cultural inappropriateness is just as important as linguistic inappropriateness. Some items or concepts in rehabilitation may be uncommon or improper in a language (Cargnelutti et al., 2019). Amery et al. (2022), Amery et al. (2022) and Amery et al. (2020) discuss the importance of cultural relevance in intervention. Rigorously translated and culturally adapted assessment materials are rare as processes to compile such instruments are lengthy and resource-intensive (Bornman et al., 2018). In many countries, therefore, a dearth of linguistically and culturally appropriate assessment tools is available. As a result, it is often not possible to conduct a standardised language assessment in all the languages of a multilingual client, and clients from minority language backgrounds may therefore be disadvantaged (Norvik & Goral, 2021).

In various contexts, SLTs working with multilingual populations may rely on informal and unstructured ways of assessing communication (Hassan et al., 2020; Pascoe & Norman, 2011). A study by De Lamo White and Jin (2011) found that SLTs used informal assessment methods rather than standardized tests when assessment tools were found to be inappropriate to their context. SLTs may utilize untrained people to act as interpreters or use informally translated materials, however, there may be variations in translations which may impact assessment and intervention (Barratt et al., 2012). An untrained interpreter may also not pick up on areas that require intervention (Barratt et al., 2012). Panayiotou et al. (2019) and Squires (2018) discussed the use of language translation apps to bridge linguistic gaps in healthcare which do not require a human interpreter. This may also come at the risk of being inaccurate at times.

ASHA (n.d.) has developed guidelines for culturally and linguistically responsive practice, which include recommendations for conducting assessments, developing intervention plans, and collaborating with families and community members. ASHA (n.d.) also has guidelines for bilingual service delivery. Pert and Bradley (2018) also provide guidelines and resources for SLTs working with multilingual clients. However, a lack of appropriate protocols on how to support multilingual individuals or individuals from language backgrounds that differ from

those of the clinician poses a significant challenge for SLTs. Most SLTs are not trained to provide services to individuals who speak languages other than their own, and there is a lack of evidence-based practices for assessment and intervention with multilingual clients (Santhanam & Parveen, 2018).

Without appropriate guidance, SLTs may struggle to develop appropriate assessment and intervention plans that account for their clients' diverse linguistic and cultural backgrounds, leading to ineffective interventions (Southwood & van Dulm, 2015). Additionally, the lack of guidelines for multilingual assessments and interventions may lead to discrepancies in the quality of services provided to individuals from different linguistic backgrounds. One proposed solution to this issue is language protocols or guidelines however, the implementation has been unsuccessful according to (Kathard et al., 2011). These protocols would provide SLTs with guidelines for adapting assessments and interventions to meet the specific linguistic and cultural needs of their clients. Additionally, these protocols could help to reduce disparities in access to care and improve health outcomes for individuals from diverse linguistic and cultural backgrounds.

1.2.3 Augmentative and Alternative Communication (AAC) for multilingual and non-English populations

When a person presents with CCN, AAC is typically introduced to address communication challenges. ASHA (n.d.) defines AAC as multiple ways to communicate to compensate or supplement, either temporarily or permanently, for the communication difficulties of those with CCN. SLTs have a role in the assessment, selection, and implementation of AAC symbols, techniques, aids, and strategies (Dada et al., 2017). AAC has the potential to improve effective communication for people with complex communication needs (Beukelman & Light, 2020). AAC includes aided and unaided forms. Aided AAC requires external low-technology or high-technology systems, whereas unaided AAC does not (Beukelman & Light, 2020). An example of a high-technology aided form would be computer-based speech-generating technologies with a range of applications and digital communication media and a low-technology aided form would be communication boards or picture-exchange systems (Beukelman & Light, 2020). Unaided forms would include gestures, signs from sign language, eye-blinking/movements, and vocalizations (Beukelman & Light, 2020).

When providing AAC services to clients from multilingual backgrounds, SLTs and other professionals may experience additional challenges to those discussed in Section 1.2. Some of

these challenges and possible solutions have been discussed in studies describing stakeholder perspectives on the provision of AAC intervention to clients from multilingual backgrounds. Singh et al. (2017) identified language barriers including a lack of AAC resources in local languages. A study by Salisbury (2022) revealed that AAC users who speak more than one language have access to AAC systems in one language only. Pickl (2011) found that for multilingual children, successful intervention involves teachers who are open to different languages and cultures. There is a lack of knowledge about code-switching between languages when communicating via an AAC system (King & Soto, 2022). However, the ability to do this may increase opportunities for communication thus enhancing community engagement (King & Soto 2022). A study by Tönsing et al. (2019) showed that more than half of the participants in their study (who were South African adult AAC users) reported they did not have access to AAC in their home language or multiple languages. Most participants reported a desire to use more languages as it would contribute to identity, mutual understanding, and social cohesion (Tönsing et al., 2019).

Limited literacy in languages other than English can also pose a barrier to the use of orthography-based AAC systems. In many countries, especially those with a colonial history, English is the language used in education. In South Africa, for example, English is the dominant language in education from Grade 4 onwards (South African Schools Act, 1996). Literacy in the home language is not prioritized, making the home language a spoken rather than a written language. This then limits access to certain methods of AAC using literacy in the home language (Tönsing et al., 2019; Wills and Hofmeyr, 2019). A study by Alcazaran and Rafanan (2017) analysed the language in education policies and implementation across developing countries in Asia and Africa. It was found that many children did not have the official language used in schools (English) as a first language and found that to be a disadvantage. This can lead to limited opportunities for literacy development in the home language. Since AAC interventions often rely on the use of written materials, such as alphabet boards and text-to-speech devices, clients who have limited literacy skills in their home language may struggle to use these types of materials effectively, which can limit the potential benefits of AAC interventions. Herold et al. (2008) suggested that text prediction in other languages may assist with the lack of literacy skills. AAC systems that do not require literacy skills should be developed for children as well as adults who have not fully acquired literacy skills (Tönsing et al., 2019). Collaboration between persons in need of AAC, service providers, linguists and human language technology specialists is needed in this regard (Tönsing et al.,

2019). Schlünz et al. (2017) mentioned that access to text-to-speech systems in South African languages is a need. Support from SLTs in assisting AAC users with building an integrated linguistic repertoire incorporating all the languages they know and are exposed to in their communities may result in increased communication opportunities, participation, and inclusion (Tönsing & Soto, 2020).

1.2.4 Communication interventions and AAC in the South African context

South Africa is an upper-middle-income country (Hamadeh et al., 2021) and poverty and inequity in the health system are evident (Dada et al., 2017). South Africa is still grappling with health inequities post the apartheid era (Coovadia et al., 2009). These inequities including the distribution of resources exist across racial groups, across provinces, as well as within each province (Coovadia et al., 2009). By far the majority of the South African population does not have private medical insurance but relies on public health and rehabilitation services – 64% rely fully on public health services while a further 21% may consult private practitioners for primary healthcare consultations but rely on the public health system for other services (Coovadia et al., 2009). However, the healthcare expenditure attributable to the 15% of South Africans who do have private medical aid amounts to 46% of the total (Coovadia et al., 2009). There is a misalignment in the resource allocation when comparing the private and public health systems.

The public health system is organised in various tiers namely tertiary, regional, and district tiers (Coovadia et al., 2009). Tertiary (provincial) and regional hospitals form the highest and middle tier respectively, while the lowest tier (district) comprises clinics, community health centres, and district hospitals. Speech-language therapy services are provided through all three levels of the public health system in South Africa. Several challenges have been noted with these services. These challenges include unequal resource distribution, a lack of trained professionals working in these settings, high caseloads and limited client contact.

There is a misalignment of resource allocation and circumstantial differences across these three tiers (Coovadia et al., 2009) perhaps giving SLTs working within these different tiers various perspectives regarding intervention. At each level, there may be differences in funding, staffing, infrastructure, and access to equipment and resources, which can affect the provision of speech-language therapy services.

At the tertiary level, which includes academic hospitals and specialized facilities, there may be more resources available for healthcare workers, including access to advanced equipment and a wider range of specialists and support staff (Coovadia et al., 2009). However, there may also be a high demand for services and a limited capacity to provide care for all patients who require it (Coovadia et al., 2009). At the regional level, which includes district hospitals and community health centres, resource allocation may be more limited, and speech-language therapists may face challenges in providing comprehensive services (National Health Insurance White Paper, 2015). This can include a lack of access to diagnostic tools and materials, limited opportunities for continuing education, and difficulties in collaborating with other healthcare providers. At the district level, which includes primary care clinics and mobile health units, resource allocation may be even more limited, and speech-language therapists may need to rely on creative solutions to provide services, such as tele-practice or group interventions (South African Speech-Language-Hearing Association, 2018). These differences in resource allocation and infrastructure can have significant consequences for speech-language therapists and their clients, particularly in terms of access to high-quality care. Advocacy for adequate funding and resources at all levels of the healthcare system is crucial to ensure that all clients have access to the care they need (National Health Insurance White Paper, 2015).

South Africa faces a shortage of trained professionals working in public healthcare settings, including SLTs. According to the South African Speech-Language-Hearing Association (SASLHA, 2017), approximately 800 registered SLTs are working in South Africa, with the majority working in the private sector. This leaves a large gap in the provision of speech-language therapy services in public healthcare settings, which serve the majority of the population. In addition, SLTs in public healthcare settings often face high caseloads and limited client contact due to a lack of resources and staff (Coovadia et al., 2009). This can lead to a reduced quality of care and limited access to services for individuals with communication impairments in South Africa.

There is a lack of South African SLT services that are contextually and linguistically appropriate and culturally sensitive, which can be attributed to a lack of appropriate assessment and intervention materials and resources. Furthermore, the lack of resources and staffing in public healthcare settings can also lead to burnout among healthcare workers (De Hert, 2020). According to ASHA (n.d.), SLT services are often provided using assessment and intervention materials that have been developed in other countries, which may not be appropriate for use in

populations that differ, such as the South African context. This can result in a lack of cultural and linguistic sensitivity in SLT services, as well as reduced effectiveness of the services provided. Additionally, Alant (2007) noted that there is a lack of resources and funding in the field of AAC in South Africa and this can further exacerbate the issue of inadequate assessment and intervention materials. This can lead to a reduced quality of care and limited access to services for individuals with communication impairments in South Africa.

A key challenge faced by South African SLTs working with multilingual populations is the mismatch between the language and culture of the therapist and that of their clients (Barrat et al., 2012). This issue can impact the effectiveness of therapy, as well as the rapport between the therapist and the client. As noted by Hassan et al. (2020), SLTs who are not fluent in the languages and dialects spoken by their clients may struggle to accurately assess and diagnose communication disorders and may have difficulty developing appropriate intervention plans. In addition, SLTs who are not familiar with the cultural backgrounds of their clients may inadvertently provide interventions that are not culturally appropriate, which can lead to a lack of engagement and buy-in from clients and their families. Jordaan (2008) and Marinova-Todd et al. (2016) highlighted the importance of recognizing language and cultural diversity.

SLTs struggle to provide equitable services to all clients in South Africa as the majority of SLTs have a home language of English or Afrikaans whereas the majority of the population accessing the services are African language speakers (Barratt et al., 2012; Ndimande-Hlongwa & Ndebele, 2017). Only 16% of the South African population speaks English as a first language (Stats SA, 2012). Only 7% of SLTs and 16% of SLTs and audiologists (dual registration) are black (Pillay et al., 2020) which is disproportionate to the number of African language speakers receiving services in the public health system. The black-African Majority accounts for 79.2% of the population (Coovadia et al., 2009). The language of communication at healthcare institutions is English, leaving the majority of the population underserved (Tönsing et al., 2018).

Although language policies (including policies for language use in health settings) have been developed post the end of the apartheid era to counter linguistic inequalities, one cannot say that there has been successful implementation (Kathard et al., 2011). The Policy on Language Services (2011) for the Department of Health, South Africa (Department of Health, 2011) advocates for the use of interpreters in healthcare settings. However, there are very few trained

interpreters available within the public healthcare sector (Penn, 2007). Nurses, cleaners, general assistants and family members are used as untrained interpreters (Barratt et al., 2012). There has been limited implementation of language policies in various sectors of the South African public sector, including education and healthcare. The Language in Education Policy (1997) mandates that learners have the right to receive education in their home language for at least the first three years of primary schooling. However, many learners still receive education in a language that is not their home language. In the healthcare sector, language policies in South Africa aim to ensure that patients have access to healthcare services in their home language and that language barriers do not prevent individuals from receiving appropriate care. The National Health Act (2003) mandates that all citizens have the right to access healthcare services in the language of their choice. However, this is not the case in healthcare settings in South Africa. According to Beukes (2009), there has been a lack of effective implementation of language policies in South Africa and this results in limited access to education and healthcare for individuals who speak languages other than English or Afrikaans.

More specifically regarding the field of AAC, many persons in need of AAC in South Africa come from multilingual backgrounds where the country has 11 official languages (Tönsing et al., 2018). The client's home language is not always promoted by AAC (Dada et al., 2017), which, according to Soto and Yu (2014) is not the best practice in communication intervention. It has been shown that AAC interventions are being provided through the public health sector (Dada et al., 2017). This means that services are potentially reaching a larger part of the population, including historically disadvantaged populations, which are predominantly people from African-language backgrounds (Van Niekerk et al., 2017).

AAC training is essential for professionals working in this field as it equips them with the necessary skills and knowledge to provide effective communication support. However, there is a shortage of AAC-trained professionals (Muttiah et al., 2022), which can pose significant challenges to individuals with communication disabilities and their families. A survey conducted by Dada et al. (2017) on SLT perceptions of their training in AAC found that many therapists feel underprepared to work with individuals who require AAC. Furthermore, the linguistic and cultural incongruences observed between SLTs and their clients in South Africa are also relevant to AAC services. Similar to traditional speech-language therapy, understanding the cultural and linguistic background of the client is crucial in providing effective AAC services (Dada, et al., 2017; Collin Stone, 2019).

Regarding AAC technology, the National Tender document contains a list from which therapists working within the public healthcare sector can procure assistive technology (including AAC devices) based on the budget of the hospital (Van Niekerk et al., 2017). However, different budget allocations at different tiers of service delivery affect if and what assistive technology is available (Van Niekerk et al., 2017). Available AAC technology may not always be appropriate for the multilingual and multicultural South African context (Van Niekerk et al., 2017). Most AAC technology has been developed in high-income countries like the United States of America (Tönsing, et al., 2019). Tönsing et al. (2019) note that AAC technology developed in high-income countries is often designed with Western cultural and linguistic norms in mind and may not consider the unique needs and experiences of individuals from other cultural and linguistic backgrounds. This can lead to a lack of relevance and effectiveness of AAC technology in South Africa and other low- and middle-income countries.

Ward et al. (2023) conducted a study exploring the perspectives, practices, and confidence of SLTs providing AAC to bilingual clients in the United States. The findings of this study showed a discrepancy between SLTs' practices and perceptions regarding bilingual clients. Two studies have explored the perceptions of South African SLTs regarding AAC practices (Dada et al., 2017) and AAC service provider perceptions on AAC services to multilingual populations in South Africa (Tönsing et al., 2018). The study by Dada et al. (2017) was the first study to investigate the perceptions of South African SLTs regarding their current practices in AAC. The results of this study suggested that the South African sociolinguistic and geopolitical context, such as a lack of funding and multilingualism, influence SLT practices in AAC (Dada et al., 2017). International developments such as technology trends were also found to influence these practices (Dada et al., 2017).

Tönsing et al. (2018) then conducted focus groups with mainly private practitioners working in the field of AAC to determine what their perspectives were regarding current practices of AAC assessment and intervention for clients from multilingual backgrounds. This study found that intrinsic factors such as the language competency of the service provider and their beliefs about the cognitive demands of multilingual AAC devices influenced their practices. Extrinsic factors also play a role, such as a lack of appropriate AAC devices, applications and software for non-English populations (Tönsing et al., 2018). Both studies are valuable in allowing one to understand current practices in AAC and current practices in AAC for clients from multilingual backgrounds.

However, the studies either did not explicitly address multilingualism (Dada et al., 2017) or involved primarily private practitioners (Tönsing et al., 2018) where the opportunities and challenges in serving multilingual clients who require AAC may be different to the public health sector in terms of demographics, language diversity of SLTs and clients, and resource distribution. The current study will build on the above studies by addressing AAC service provision to multilingual clients and those from minority language backgrounds as provided by SLTs within the public healthcare. This study will focus specifically on the Gauteng province – area-wise the smallest province of South Africa with the largest population (13.4 million) (Statistics South Africa, 2016). Gauteng also has the largest number of SLTs or dually qualified therapists (SLTs/audiologists) with 0.97 practitioners per 10 000 population (Pillay et al., 2020). However, proportionally the least amount of SLTs work within the public sector with 13.4% working in the public sector in Gauteng compared to 22% in the rest of the country (Pillay et al., 2020).

2. METHODOLOGY

2.1 Aims

2.1.1 Main aim

The main aim of the study was to describe the perspectives of SLTs regarding AAC service provision for clients from multilingual and non-English backgrounds in the public healthcare sector in Gauteng.

2.1.2 Sub-aims

The sub-aims of the study were:

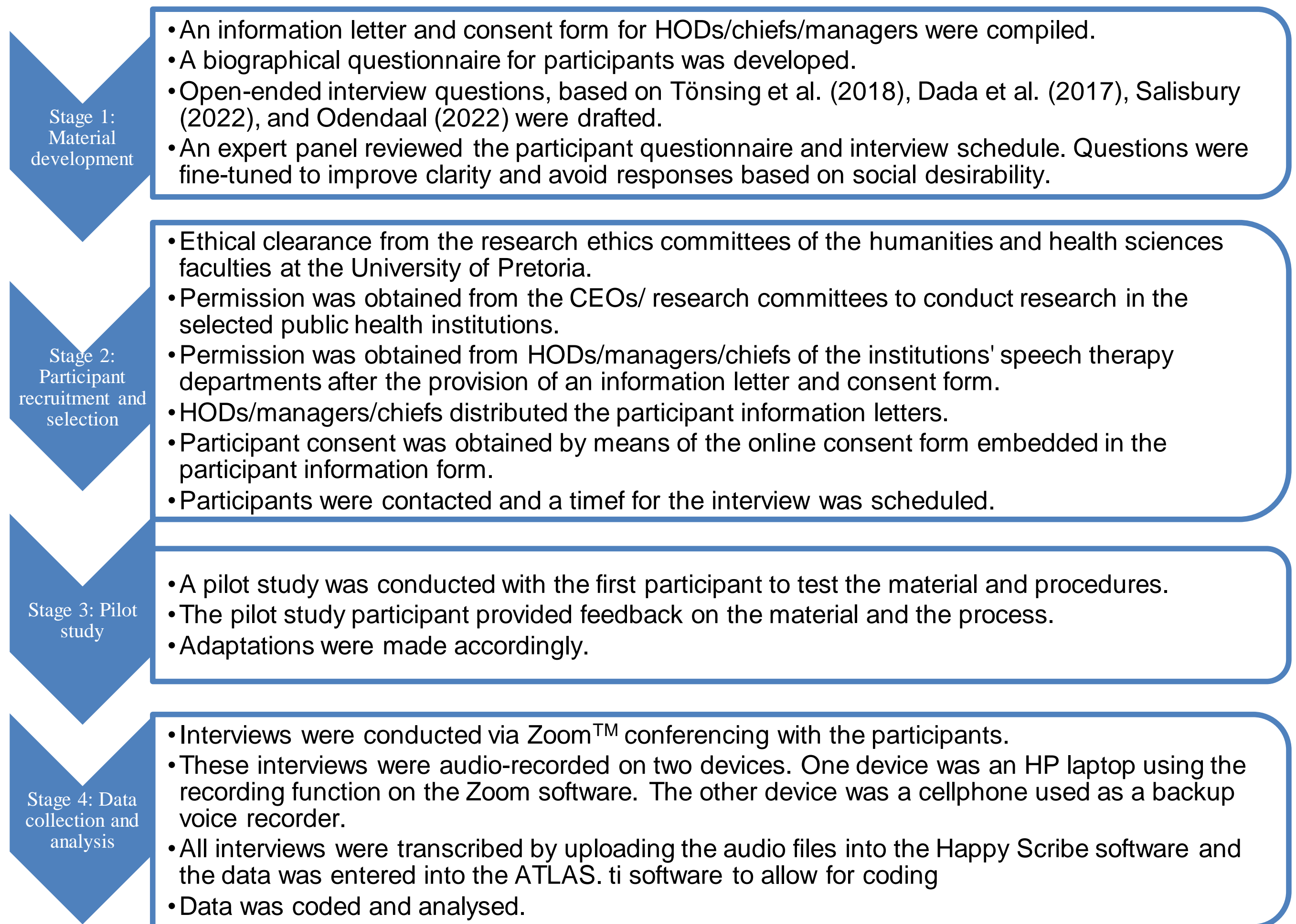
i. To describe the current assessment and intervention practices of SLTs regarding AAC provision to multilingual and non-English speaking clients.
ii. To describe factors that influence their practices, including challenges and enablers.
iii. To explore their beliefs about best practices in the provision of AAC to multilingual and non-English speaking clients, and which factors could promote it.

2.2 Research design and phases

A research design should be well-aligned with the research question (Newcomer et al., 2015). This study was conducted using a qualitative research design – this means it set out to explore and understand the meaning that participants ascribe to a social or human problem or condition (Creswell & Poth, 2016). Specifically, a phenomenological design was used, as the researcher aimed to understand the perspectives of the participants' lived experiences with a particular phenomenon (McMillan & Schumacher, 2014). This design was appropriate to the research question as it aimed to explore the perspectives that South African SLTs have about AAC service provision for multilingual and non-English speaking clients, based on their experience, thereby increasing the reader's understanding of this phenomenon. Semi-structured interviews were used. An interview schedule with open-ended questions was developed to guide the interview. The schedule was followed with some flexibility, asking relevant follow-up questions and probing as needed to obtain rich and nuanced data (McMillan & Schumacher, 2014). The research proceeded according to four stages, as set out in Figure 1.

Figure 1

Stages of the Study.



2.3 Participants

2.3.1 Sampling and recruitment

Purposive sampling was used to recruit participants for the study. This is a technique that is non-random and does not need a set number of informants (Tongco, 2007). The researcher decides what information the study needs and finds participants who may provide this information as they have knowledge or experience (Tongco, 2007). This study sought to obtain perspectives from SLTs working within all three tiers of the public health system in Gauteng. Therefore, institutions across all three tiers were purposively approached within the public health system.

Before recruitment, the researcher received clearance from the Research Ethics Committee of the Faculty of Health and the Faculty of Humanities at the University of Pretoria (see Appendices A and B). SLTs in the public health sector of the Gauteng province providing AAC services to individuals from multilingual and non-English backgrounds were recruited. the researcher applied for permission online on the National Health and Research Database website to approach seven tertiary, eight regional and nine district-level institutions or districts. Permission was received from the CEOs/research committee chairs who presided either over individual institutions or districts to conduct the study at four tertiary, five regional and four district-level institutions/clusters of clinics in the district. Where permission was received from a district, an attempt was then made to contact the CEOs/managers of individual institutions/sub-districts in the district by email and/or telephonically to arrange for contact with the head/chief/manager of speech therapy departments.

The head/chief/manager of speech therapy departments of five institutions (two tertiary, one regional and two district level) were successfully contacted and, where required, were sent a letter (Appendix C) requesting their permission to recruit participants via their institutions. All gave permission and sent out the participant information letter with an embedded link to an online consent form (Appendix D) to the SLTs in their department via appropriate distribution channels. A total of nine SLTs responded via the online consent form and consented to take part in the study. Of these, the first respondent took part in the pilot study, while the remaining eight took part in the main study.

2.3.2 Selection criteria

The selection criteria the participants had to meet are provided in Table 1.

Table 1

Participant Selection Criteria

Inclusion	Justification	Measure used
SLTs registered with the Health Professions Council of South Africa (HPCSA)	SLTs are trained to provide AAC services (SASHLA, 2020). An HPCSA number shows that the SLT is currently eligible to practice in South Africa	Biographical questionnaire (Appendix E)

Inclusion	Justification	Measure used
SLTs working in the public healthcare system in Gauteng	64% of the South African population rely fully on public health services while a further 21% may consult private practitioners for primary healthcare consultations but rely on the public health system for other services (Coovadia et al., 2009). It can therefore be expected that the majority of clients in need of AAC services should be served through the public health system. Gauteng is the province with the largest population (Statistics South Africa, 2016), and was therefore selected for this study.	Biographical questionnaire (Appendix E)
SLTs who have one year or more experience in providing AAC intervention to multilingual and/or non-English clients	The study aimed to explore SLTs' perceptions of the provision of AAC to multilingual clients.	Biographical questionnaire (Appendix E)

2.3.3 Participant description

Additionally, participants are described according to their work experience, linguistic repertoire and institution where they work (see Table 2). The specific populations of persons in need of AAC they work with are also described (e.g., diagnosis, age, etc.).

Table 2

Description of Participants

No.	Age	Home language	Languages used in service delivery	Self-reported Qualifications	Tier of service delivery	Years of experience providing AAC	Years of experience providing AAC to multilingual/ non-English clients	% of caseload in need of AAC that are multilingual/ non-English speaking	% of caseload in need of AAC that would benefit from expression in multiple languages/ non-English languages
1	27	English	English - some knowledge of isiZulu however an interpreter is required	Bachelor of Speech-Language Therapy	Tertiary	4	2	80%	80%
2	25	Afrikaans	Afrikaans, English, isiXhosa (with assistance from caregivers/ translators)	Bachelor's Degree: Speech-Language and Hearing Therapy	Tertiary	2	2	>90%	100%
3	32	English	English and Afrikaans	BA Speech Pathology and Audiology	Tertiary	10	10	99%	99%
4	26	English	English and isiZulu	BSc Speech-Language Pathology	Tertiary	4	4	80%	70%

No.	Age	Home language	Languages used in service delivery	Self-reported Qualifications	Tier of service delivery	Years of experience providing AAC	Years of experience providing AAC to multilingual/ non-English clients	% of caseload in need of AAC that are multilingual/ non-English speaking	% of caseload in need of AAC that would benefit from expression in multiple languages/ non-English languages
5	26	English	English and Greek	BA Speech Therapy and Audiology	Tertiary	3	3	100%	100%
6	29	Zulu	isiZulu and English	BA (Speech and Hearing)	Tertiary	A few years inconsistently	A few years inconsistently	50%	50%
7	27	English	English and Greek	BA Speech & Hearing Therapy MA Audiology	District	5	5	80-90%	80%
8	35	English	English and basic isiZulu	Bachelors in Communication Pathology Masters in Early Childhood Intervention	Tertiary	13	13	>90%	>80%
9	29	English	English and Afrikaans	BA in Speech and Hearing Therapy MA Audiology	Tertiary	6	6	80%	30%

2.4 Researcher positionality

The researcher is a first-language English-speaking woman who qualified with a Bachelor of Arts in Speech Pathology and Audiology at the University of the Witwatersrand, Johannesburg. She is not fluent in other languages but does have a basic language proficiency in Afrikaans and Zulu. She currently works at one of the institutions from which participants were recruited. She works closely with two of these participants. Although the researcher had experience with her views of the topic at hand, she bracketed these to hear the participants' voices (see credibility section below). In her analysis, the researcher stayed close to the verbatim meaning of the participants' contributions. The supervisor also checked all analyses.

2.5 Materials and equipment

2.5.1 Materials for recruitment

An electronic information letter and permission form (Appendix C) were sent to heads of departments/chiefs/managers of speech-therapy departments at the selected institutions where required. Participant information letters (Appendix D) were distributed by heads of departments/chiefs/managers of speech-therapy departments through an avenue convenient to them (e.g., WhatsApp or email) to potential participants. The information letter included the title of the study, the main aim, the rationale, the inclusion criteria, detailed procedures of the study, the rights of participants, participants' access to the research results, and the risks and benefits of the study. It also contained a link to an online consent form populated on Google Forms (also shown for convenience in printed format as part of Appendix D).

2.5.2 Biographical questionnaire

Participants were asked to complete a biographical questionnaire (Appendix E) before the interview. The questionnaire was adapted from Tönsing et al. (2018) and was emailed to participants as a Word document. Table 3 provides an overview of the aspects included in the biographical questionnaire as well as a rationale for asking about this aspect.

Table 3

Biographical Questionnaire Rationale

Aspect included	Specific information requested	Rationale
Personal information	Home language, language in which service provision takes place, professional qualifications, and work setting.	The main aim of the study is to describe the perspectives of SLTs regarding AAC service provision for clients from multilingual and non-English backgrounds in the public healthcare sector in Gauteng. The variables gained from the personal information may influence perspectives.
Experience	Years practising in the field of AAC, years providing AAC services to multilingual/non-English clients, and type of AAC services provided.	The amount of experience someone has or the type of experience they have been exposed to may influence their perspectives.
Client information	Percentage of adults and children, modes of communication, the percentage who require AAC, percentage who are from multilingual/non-English backgrounds, language clients are exposed to, languages that clients need access to, and the percentage that would benefit from multiple languages/languages other than English.	The type of clients that clinicians have had experience with will determine their exposure to other languages, multilingualism, and AAC and therefore, influence their perspectives.

2.5.3 Interview schedule

A self-constructed semi-structured interview guide consisting of open-ended questions was used to guide the interview (Appendix F). The interview guide consisted of the author's questions as well as questions adapted from four interview schedules/surveys by Dada et al. (2017), Tönsing et al. (2018), Salisbury (2022), and Odendaal (2022). The construction of the interview schedule was guided by the International Classification of Functioning, Disability, and Health (ICF; World Health Organization, 2001), which makes mention of environmental factors that can act as enablers and challenges. The implementation science framework also guided the interview protocol by the inclusion of questions at the level of the patient, the clinician, the organization, and at policy level (Damschroder et al., 2009). The interview questions are aligned to the sub-aims of the study which relate to SLT perspectives on i) current assessment practices; ii) current intervention practices; iii) decision making and language choice; iv) challenges to provision; v) enablers to provision; vi) best practice; and vii) resources and support needed. Each main question had possible probes and follow-up questions.

Appendix F shows the interview schedule and contains a column that shows how the questions were related to the sub-aim and also provides an indication of the underlying literature that

informed the questions. The interview schedule was checked by an expert panel consisting of five speech therapists who had experience in providing AAC services to multilingual and/or non-English clients for an average of five years of which an average of three years was within the public healthcare sector. The input received from the panel and the changes made are summarized in Table 4.

Table 4

Expert Review Feedback

Aim	Suggested change	Change made
To determine if any questions seem unrelated to the aim of the study and should be excluded.	Add a sub-aim regarding decision making	Sub-aim added: to determine factors which influence SLTs' decision-making as to language/s incorporated into AAC intervention with multilingual and non-English speaking clients.
To determine if any questions should be added.	None.	N/A
To determine if any questions are unclear and should be rephrased.	Rephrase questions to avoid participants trying to be socially desirable	One question was re-phrased. The researcher was also vigilant to the possibility of socially desirable responses and tried to minimize these if noted by, for example, acknowledging that providing services to this population is fraught with uncertainties and challenges, and referring to her own experiences in this regard. At the beginning of the interview, it was made clear to participants that there are no right or wrong answers but that their perceptions are important.

2.5.4 Equipment and software

The interviews were done via Zoom™ video conferencing using the recording feature on a laptop. Researchers have found that Zoom video conferencing may be used for qualitative research studies because it is easy to use, cost-effective, and contains data management features, and security options (Archibald et al., 2019). The researcher used security options such as a waiting room for participants where she had to admit the participant for them to join, had to be present before the meeting started, and only she was able to record the interview, and a passcode was used to protect the meeting. Happy Scribe™ software[1] was used for automatic transcription and ATLAS.ti software[2] was used to support the data analysis.

[1] https://www.happyscribe.com/
[2] https://atlasti.com/

2.6 Pilot study

A pilot interview was conducted to prime the researcher for the interview process and refine the interview protocol (Roberts, 2020). It also allowed her to ensure that all equipment worked efficiently and effectively, such as the online platform, the recording feature/device, the transcription software, and the analysis software.

2.6.1 Participant

The pilot participant was recruited from one of the health institutions that were approached for this study, as described under Section 4.3. The first participant who gave consent was included in the pilot study. During the pilot study, the researcher conducted an online semi-structured interview with an SLT who was 27 years old and monolingual. She had been working in the public healthcare sector providing AAC to multilingual and or non-English speaking clients for four years.

2.6.2 Aims, materials, procedures, results and recommendations

Table 5 gives an overview of the aims of the pilot study, the materials and procedures used, the results and the subsequent recommendations.

Table 5

Pilot Study Aims, Materials, Procedures, Results and Recommendations

Aim	Materials	Procedures	Results	Changes made for the main study
To determine whether the method to provide participants with information and request their consent was effective	Information letters Consent forms	The participant read the information letter, clicked on the embedded link, and was transferred to a Google form with questions to fill out.	The participant had no difficulties.	None
To determine whether the biographical questionnaire was easy to understand and complete. To determine the time taken to complete it	Biographical questionnaire on a Microsoft Word document	The participant received the biographical questionnaire via email once she provided consent. The participant filled out the questionnaire and emailed it back to me.	The participant had no difficulties. She reported that it took approximately 10 minutes to complete the questionnaire.	None
To determine whether the interview schedule was easy to understand and administer. To determine the time taken to complete the interview	The interview schedule Zoom conferencing software	An online meeting link was sent to the participant which she clicked to join the meeting. The interview questions were asked via Zoom. The researcher asked the participant to provide feedback regarding the interview.	The interview took approximately 40 minutes. The participant suggested rephrasing a probing question regarding intervention. She also suggested the main questions be sent out ahead of the interview and that the questions in written format be projected onto the screen during the interview. This would help participants to be prepared for the interview and assist them in keeping the main question in mind when answering during the interview.	One probing question was rephrased as follows: *What languages do you incorporate in intervention? For example, the home language, language of education/the workplace, language of the community, language of the clinician, etc.* The main questions were sent to participants before the interview and the questions were projected in written format during the interview as they were asked.
To determine if the recording devices/functions recorded the interview successfully	HP laptop Zoom conferencing (recording feature) Cell phone	The interview was audio recorded on the Zoom platform as well as on a cell phone.	The recording was successful and clear.	None

Aim	Materials	Procedures	Results	Changes made for the main study
To determine if the transcription software successfully transcribed the interview	HP laptop Zoom conferencing Happy scribe	The audio recording of the interview was uploaded to the Happy Scribe software for transcription. The transcription was then manually checked by me.	The transcription software was successful. Minor errors were corrected when the transcription was checked.	None
To evaluate whether the data collected and thematically analysed using the ATLAS.ti software was effective in answering the research question.	HP laptop ATLAS.ti software	The checked transcription was uploaded to the ATLAS.ti software where inductive and deductive thematic analysis was done by me.	The data collected was thematically analysed successfully using the ATLAS.ti software and was effective in answering the research question.	None

2.7 Procedures

2.7.1 Data collection

Participants who provided consent completed the biographical questionnaire sent to them via email. They were then contacted and arrangements were made regarding the scheduling of the interview. A semi-structured interview was conducted via Zoom video conferencing. Before the interview, participants were once again asked to provide oral consent to the study and the audio recording. They were also briefed on the procedures of the interview, their rights to decline to answer any question or discontinue at any point, and they were once again assured that all information would be kept confidential. Any questions they may have had were answered by the researcher. A standard set of questions as set out in the interview script was asked across all participants. Depending on the nature of the responses, the participants were probed in different ways. After all questions had been answered, interviewees were thanked and reminded that a summary of the themes from all interviews would be sent to them for verification. Interviews took about 30 to 45 minutes. Interviews were audio recorded for data analysis only and all participant information was kept confidential, only known to the researcher, research assistant, and research supervisor.

2.7.2 Transcription and data analysis

Audio recordings of the interviews were uploaded onto the Happy Scribe software for transcription. The research assistant then checked the transcriptions against the original audio files and corrected any errors. She also de-identified the transcripts in this process by removing any participant-identifying information such as names, locations, etc. The research assistant was asked to sign a confidentiality agreement to ensure that she was aware of keeping all participant information confidential. (Appendix G). The researcher then checked a proportion of these transcriptions against the original audio files to ensure reliability.

Qualitative data analysis refers to making sense of the data gathered from interviews, observations or documents and then presenting the findings (Newcomer et al., 2015). Thematic analysis was used to analyse the data. Thematic analysis offers an accessible and theoretically flexible approach to qualitative data analysis (Braun & Clark, 2006). It provides a useful research tool that may provide a rich and detailed as well as complex data account (Braun & Clark, 2006). This type of analysis may be used to identify, analyse and report themes using

the data collected (Braun & Clark, 2006). The process of thematic analysis was conducted using ATLAS.ti analysis software.

A combination of inductive and deductive coding was used and a codebook was developed (see Appendix H for the final code book). Three a-priori themes were identified, adapted from the study by Tönsing et al. (2018). These themes were (a) current practices, (b) factors influencing current practices and (c) beliefs about best practices. The first two themes were identical to themes established by Tönsing et al. (2018), while the last theme was slightly expanded from Tönsing et al.'s (2018:62) third theme ('service providers orientation towards different languages'). Codes related to these three themes were identified largely inductively, although the ICF and implementation science framework were kept in mind. Fereday and Muir-Cochrane (2006) noted that combining inductive and deductive approaches can enhance the rigour and credibility of the coding process. The themes were clearly defined.

Coding reliability was ensured by the use of the codebook approach (Braun & Clarke, 2021). The codebook approach involves creating a codebook to systematically categorize and analyse data (Saldana, 2021). The following steps were followed:

1. Data coding: The researcher read through the transcripts and preliminary generated and assigned codes to text segments in line with three a-priori themes. The supervisor perused the preliminary codes and reached a consensus with the researcher on the preliminary coding.
2. Codebook development: The researcher created a list of codes based on the preliminary list of codes generated under each a-priori theme. Codes related to each of the themes were clustered into subthemes.
3. Codebook testing: The researcher tested the codebook by coding a subset of the transcripts and adapting the codes. The supervisor once again verified the coding and suggested changes.
4. Data coding: The researcher used the codebook to code the rest of the data. Once again changes were made as needed. The supervisor perused the final codebook, coded data and suggested changes. A consensus was reached on the final coding.
5. Data analysis: The researcher analysed the coded data by examining the frequency and distribution of codes. This allowed her to determine patterns and relationships.

2.7.3 Trustworthiness and rigour

Trustworthiness refers to credibility, dependability and transferability (Graneheim & Lundman, 2004).

2.7.3.1 Credibility

Credibility refers to the confidence that the data and analysis procedures address what they intended to (Graneheim & Lundman, 2004). Credibility was ensured by having a few rounds of coding the same transcripts as well as by having a codebook. Synthesized member checking was then done to confirm that the themes identified resonated with the participants. An accessible summary describing the themes and subthemes identified was sent to the participants. Participants were asked to check the accuracy and completeness of the summary and to suggest any additions or amendments (Birt et al., 2016). Thereafter, the researcher made final amendments to the coding, themes and subthemes. A measure of data saturation was achieved as each participant contributed to all three themes. Hennink et al. (2020) define data saturation as the point at which no new data is being generated, and the data collected is sufficient to answer the research question. It was noted that no new codes were assigned to the transcript of the last participant.

2.7.3.2 Dependability

Dependability refers to the researcher making adaptations if the data happens to change over time (Graneheim & Lundman, 2004). Dependability was ensured by having the researcher as well as the research supervisor analyse the data for codes. The thematic analysis was conducted in close collaboration with the supervisor to ensure that interpretations were consistent and plausible.

Synthesized member checking (Birt et al., 2016) further ensured that the participants could identify with the proposed thematic summaries of the data. A summary of the results describing the themes and sub-themes was written and sent to the participants. Participants were asked to check the summary and report back whether it captured their responses or if they required any changes. Eight participants responded. Seven did not request any changes. One participant requested that gender neutral pronouns be used in the summary for inclusivity which was then changed as requested. All eight participants who responded accepted the data.

2.7.3.3. Transferability

Transferability refers to the extent to which the results can be transferred to other contexts (Graneheim & Lundman, 2004). Participants were purposefully selected to ensure the applicability of the research findings. A total of 9 participants working at different tiers in the public health system, with experience in AAC service provision to multilingual and non-English individuals, were recruited to obtain a holistic and nuanced view of the topic at hand. All except one participant had English as a first language. With a proportion of only 16% of SLTAs and 7% of SLTs who are Black (and likely to have an African language as first language) (Pillay et al., 2020), this demographic is not completely surprising, and may well be relatively representative of SLTs in South Africa. The semi-structured interview was developed based on recent literature by Dada et al. (2017), Tönsing et al. (2018), Salisbury (2022) and Odendaal (2022). An expert panel reviewed the interview schedule to ensure that questions were relevant to the study and context. A pilot study was done before the main study.

2.8 Ethical issues

The proposed research adhered to the guidelines prescribed by the University of Pretoria Research Ethics Committee of the faculties of Humanities and Health. The following principles guided the research process (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979):

Autonomy

Participants were given a choice of whether or not they would like to participate in the study and they were informed that they were free to withdraw from the study at any stage, without any negative consequences. Upon withdrawal, their data would be destroyed immediately. No participant was coerced or forced to participate.

Benevolence

No harm was caused to the participants during the research process. There were no risks involved in the research study. The participants were allowed to withdraw at any stage if they felt that they were putting themselves at risk in any way.

Respect for persons

Participants were treated with respect throughout the research process and were encouraged to ask questions as needed. All identifying information (including audio

recordings and biographical questionnaires) was kept confidential and any identifying information was only known by the researcher, research assistant and research supervisor. The research assistant was asked to sign a confidentiality agreement. All identifying information was removed from the transcriptions. Participant numbers were used to refer to the participants to maintain confidentiality. Participants also received feedback on the final results of the study.

Justice

All participants were treated fairly throughout the research process. Participants were not excluded based on biases. A data bundle was provided for the online interviews for those participants who requested it, to ensure they did not have expenses due to taking part in the study.

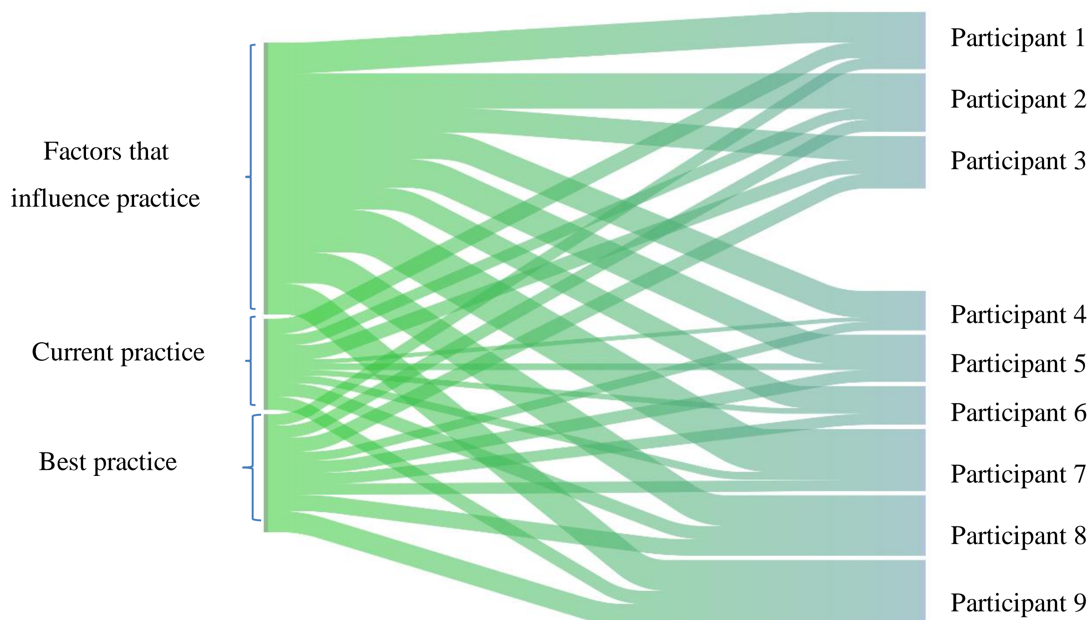
3. RESULTS

This section presents the findings of the thematic analysis. All participants provided data in response to the open-ended interview questions. The researcher transcribed and coded the data, keeping the three a-priori themes and seven sub-aims in mind. She identified 443 codable segments of the data and assigned 31 different codes.

To understand the extent to which each participant contributed to the three themes, a Sankey diagram was generated using Atlas.ti. The diagram is displayed in Figure 2.

Figure 2

Sankey Diagram Showing the Contribution of Each Participant to the Three Themes

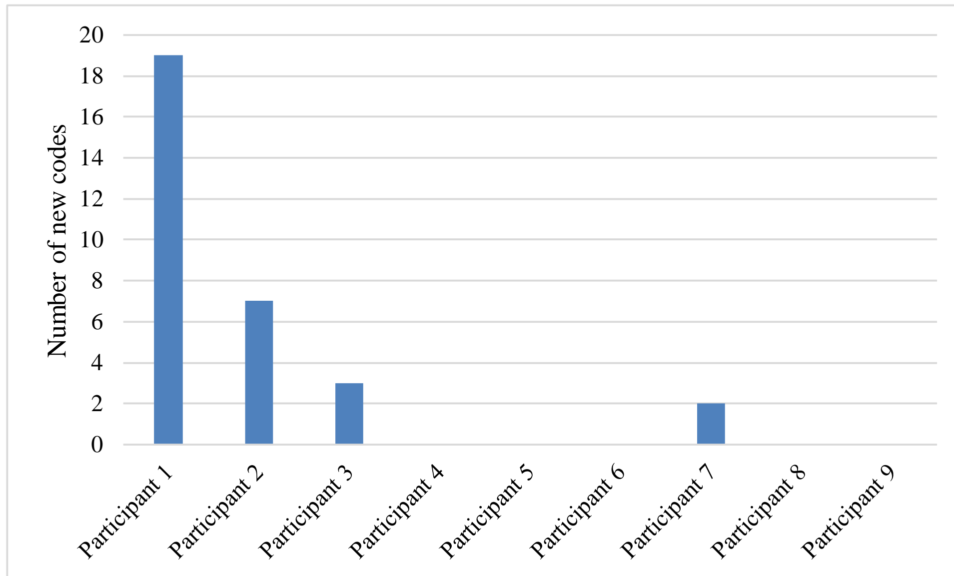


The diagram indicates that each participant contributed to each theme, although not in equal measure.

As the degree of data saturation needed to be understood, the number of new codes assigned per participant was summarized in Figure 3.

Figure 3

Number of New Codes Contributed by Each Participant



It can be noted that no new codes were identified for Participants 4, 5, 6, 8 and 9. Data saturation was therefore reached.

Table 6 demonstrates a summary of the themes, sub-themes, and associated codes. the researcher indicated the number of segments allocated to a specific subtheme and the number of participants mentioning a particular subtheme. The themes and subthemes are described with the added quotes from the participants in the sections following the table. All quotes are italicized and my clarifications are included in brackets.

Table 6

Themes, Sub-themes, and Examples of Codes

Themes	Sub-themes	No. of segments	No of participants	Examples of codes
Current practice in assessment and intervention	Language in assessment and intervention	26	9	Interpretation Predominantly English Language independent
	Approach	28	9	Informal assessment No difference in English client Multidisciplinary team (MDT) involvement
	Materials	33	9	Developed/translated material Provide low-tech AAC
Factors that influence practice	Factors related to the clinician	43	9	Clinician knowledge/skills/attitude Training
	Factors related to the client/family	109	9	Client/family language needs and preference Clients' language proficiency profile Family involvement Perception of/motivation to use AAC Multilingualism as an asset
	Factors related to AAC methods and systems	40	9	Access to appropriate AAC systems and technology Support for non-South African languages Inappropriate/limited systems
	Factors related to finance and the health system/organization	37	9	Budget/resource constraints Lack of official interpretation service
	Factors related to policy, ethical principles and research evidence	24	8	Lack of appropriate guidelines/protocols available or implementation thereof Assumed lack of research Guided by policy/guidelines/ethical principles
Best practice	Beliefs about best practice	34	9	Home language and language of education Client-centred approach
	Factors that could promote best practice	79	9	Guidelines/protocols/policy Practice-based evidence and research, and increased AAC implementation Training Linguistically diverse professionals Access to client information, resources, and services

3.1 Theme 1: Current practice in assessment and intervention

This section describes the current practices and procedures undertaken by clinicians in their AAC service provision for multilingual and non-English clients. A total of 87 coded segments were related to this theme and this was mentioned by all nine participants. Three subthemes describing three different aspects of the current practices were identified under this theme, namely (a) language in assessment and intervention, (b) approach, and (c) materials.

3.1.1 Language in assessment and intervention

This refers to the language that is used by clinicians and clients/their families in the AAC sessions. Accommodating the client's home language via translation and interpretation was mentioned by most participants, while a predominantly English approach was also mentioned. Lastly, a language-independent approach was also described.

Eight out of nine participants spoke about using interpretation within their sessions. This is either done by family members or other colleagues who can speak the language of the clients as well as English.

> *I think the caregiver is usually the main person who facilitates that process in terms of translation and indicating if we've made a board, for example. When we have a caregiver who is comfortable in English and the other languages, that I think facilitates the process where we don't require anybody additionally to come into the session because the caregiver then takes on the role of translation.* (P8)

> *So I think it would mainly be more than two language then I think what I incorporate is parent coaching, for instance. I would then work through the parent with the child. (P2)*

Four participants reported predominantly using English within AAC service provision. This recommendation was made by participants predominantly having English as their first language.

> *So to be honest, if a patient is able to get along in English, I will do it in English most of the time, which isn't necessarily right.* (P7)

One participant who had English as a third language reported being able to provide services in her clients' home language the majority of the time. However, resources are still predominantly made in English.

> *So what I've noticed especially in the African population because I'm a Zulu first language speaker, my second language is Sotho. So English becomes my third. So when assessing with AAC, majority of the things I've often noticed is that one, the material that we're using 90% of the time is English-based.* (P6)

The same participant reported that in the absence of a human interpreter, online interpretation may be used. However, this method is not always 100% accurate.

> *Google Translate doesn't translate accordingly. I've seen it with the Zulu. I've just typed in a simple sentence in Zulu and see how it is in English. So completely different. So you can't even use that. (P6)*

Two participants mentioned using what they regarded as language-independent measures when providing services to a client who is multilingual or non-English-speaking to assist with AAC service provision. Participants were of the perception that these measures could work within any language. The participants felt like gestures and symbols were universal which might actually not be the case across different contexts and cultures.

> *I think a lot of the time we're actually using gestures to probe the assessment. So I think our assessments have been successful, finding what works best for the patients but even though they're not first-language English speakers. We're almost using AAC to assess AAC, if that makes sense.* (P5)

> *The use of Talking Mats was particularly helpful. More like, I know it's aimed more at the nonverbal patients and allowing them to participate in something like Vocab selection. So it does fit under intervention as well. But its symbols, thank God, are universal. So having a symbol-based assessment tool and then intervention planning tool is very, very helpful.* (P3)

3.1.2 Approach

This refers to the specific approach clinicians take in terms of providing AAC services to multilingual and/or non-English clients. Approaches mentioned included using informal assessment measures, not changing the approach for a multilingual or non-English client versus an English client and using a multidisciplinary team (MDT) approach to assessment and intervention.

All nine participants reported using informal assessment measures to assess clients from multilingual or non-English backgrounds for AAC. Participants reported feeling as though standardized assessment measures were not appropriate to the South African context and that they found themselves adapting standardized measures for the population and thus their assessments were generally informal.

> *So in the setting that I work in currently, we use informal measures because we found that formal tests haven't been normed on the South African population and it's not applicable. A lot of the vocab and test items are not applicable or relevant to our patient population. So we use informal measures because of that.* (P3)

> *So they are based on standardized assessments, especially our Speech-Language assessment forms but they have been adapted to the South African context as much as possible but they are in English. So again, they'll be informally translated if a patient isn't English speaking.* (P7)

Three participants, however, did report that the informal assessments used for multilingual clients were no different to an assessment that would be done for an English-speaking client in terms of the assessment procedure.

> *So regardless of what it is, I don't think your assessment for multilingual patient would differ from a patient who only speaks one language. He's trying the same devices. You (are) personalizing it towards them. You including things that are patient specific. I don't think that it makes a difference whether they're multilingual or not.* (P5)

Three participants reported MDT sessions for AAC assessment and intervention particularly with an occupational therapist (OT). The MDT session allows for holistic management of the client but also opens up more opportunities to reduce language barriers.

> *So that's the assessment of children with autism, which we do in conjunction with the OT, which I think brings its benefits in terms of AAC and assessment or holistic assessment of children. And I think throughout the session, often we'll ask a caregiver what languages the child is exposed to and then based on our abilities as the therapist, like my Zulu is a little bit stronger than Sarah's (OT), for example, her Sotho is a little bit stronger than mine. So within the session, whatever caregivers will indicate, we then*

between the two of us will incorporate that into our communication in the session as well as on the AAC systems. (P8)

3.1.3 Materials

This refers to the specific materials being used for AAC service provision for clients from multilingual and/or non-English backgrounds. These included developed or translated materials as well as using low-tech AAC.

Eight out of the nine participants spent time explaining how they are currently developing and/or translating materials for their clients to suit the languages their clients require within AAC service provision. Participant 1 discussed having readily available generic AAC systems in common languages within her context, however, she needed to spend additional time to personalize systems, especially with unfamiliar languages. Participant 3 mentioned having to ask for help with translating materials. Help is requested from family members or colleagues.

> *And we are trying to ensure that our assessment accommodates the different population of patients that we see. So we have started translating AAC systems into different languages and creating both low-tech and high-tech boards in different languages, and that has helped us provide AAC and providing assessments for some of our patients.* (P1)

> *The AAC can be developed in any language, which is fantastic. So even if it's not a language that I'm competent in, then I will ask for assistance with the translation. So getting the vocab that's been identified translated into whatever language the patient selected, and then if they're using a low-tech, we'll have that vocab available on the low-tech device. If we are having a high-tech device, we would program the device in that language the patient has selected.* (P3)

Two participants also mentioned that using low-tech AAC was helpful as the systems were not necessarily aligned only to one specific language. The system could therefore be used with a client speaking any language or multiple languages.

> *But majority of my patients that I've seen are on either like a line drawing or a picture or photograph level. So I do also include the word next to the picture when developing AAC. This is more low-tech that I'm speaking (about), so at least because it's pictures, it's not in a specific language (language agnostic). So I think that helps a lot.* (P7)

3.2 Theme 2: Factors that influence practice

This section describes the factors that influence AAC service provision for multilingual and non-English clients. A total of 195 coded segments were related to this theme and this was mentioned by all nine of the participants. Five subthemes describing five different aspects related to barriers and enablers were identified under this theme, namely (a) factors related to the clinician, (b) factors related to the client/family, (c) factors related to AAC methods and systems, (d) factors related to finance and the health system/organization, and (e) factors related to policy, ethical principles, and research evidence.

3.2.1 Factors related to the clinician

This refers to all the factors concerning the clinician which influence practice. These included the clinicians' knowledge, skills, and attitudes as well as training.

All nine participants reported their inability to speak specific languages as a challenge to AAC service provision. They reported being unable to speak languages other than English, multiple languages, or specific African languages. Participants reported that AAC service provision presents its challenges in the South African context and the language barriers are an additional challenge that may affect the quality of AAC systems and services.

> *I think therapist knowledge and skills in different languages is also a problem. Like I'm only properly confident in one language whereas I can count (on one hand) the number of patients that I would see on a daily basis that only speak one language, if that makes sense.* (P1)
>
> *I think it (my limited ability to speak African languages) does hinder the type of service and the comprehensiveness of the service that I'm able to offer. To set up an AAC system is challenging. And then to throw in a language dynamic, this really does take it to the next level.* (P3)

There was only one participant in this study who found that her linguistic abilities enabled her to see the majority of her multilingual or non-English clients as she found herself to be from similar linguistic backgrounds.

I speak the languages that (are) spoken by the community. It's very unlikely once in a rare moon when you have a patient coming through and say, I speak Setswana. So that I haven't necessarily faced an issue with that. But I think for now, I think the languages I speak actually accommodate the patients I'm seeing in my caseload. (P6)

Despite the overwhelming language barriers described by the majority of the participants, they generally had a positive attitude towards providing client-centred and language-congruent AAC services and were intent on finding solutions by using creative ways to overcome the barriers as well as trying to connect with clients from different linguistic and cultural backgrounds.

I think everything we've come up with has been individual therapists trying to remedy a gap where it's been identified that there is a gap. (P8)

It's really more like what is available and we try and make do with what we can. (P7)

Having eleven official languages and I don't know anyone that can speak all official eleven languages. So at some point you're going to not be on the same language level as your patient. So it's about approaching the problem with a solution driven mindset and just working around it. It's going to be there (at) some point just working around it and making sure that the patient's needs are still met regardless. (P3)

3.2.2 Factors related to the client/family

This refers to all the factors concerning the client or family which influence practice. These included the client/family language needs and preferences, the clients' language proficiency profile, family involvement, perception of/motivation to use AAC, and lastly, multilingualism as an asset.

Seven participants reported taking the client/family's language needs and preferences into consideration when making language decisions for AAC. Regarding preference, participants mentioned that the language of preference may sometimes differ from the home language. The language of education/work or the language of the community may also be considered a preference.

So I think it's important to ask not only what is their home language but just like what is their language of choice or preference? I have found that some patients that even

> *though their home language is maybe Portuguese, maybe they're not a South African national, so their home language is Portuguese but because they live here in (Area X), they have learned Zulu, and that's the language that they actually speak the most in their day-to-day life. And that's the language that they'd like to speak more when they go back in their recovery because that's the language that they speak predominantly.* (P3)

At times more than one language is desired. At other times, one language may be preferred. One participant mentioned that sometimes one language is chosen as the focus due to the current communication difficulties.

> *And often caregivers will identify a specific language and I think that comes from with the child already having the communication difficulties, there's lots of concern about exposing the child to too many different languages and what we've often found in our ASD clinic is that caregivers will say they prefer us to do it in English.* (P8)

Exposure to different languages in different environments was regarded as an important consideration in determining language needs. One participant discussed how a client can be exposed to many different languages and that this plays a significant role and is important to note when working with multilingual clients. Another participant described how she considered multiple environments in which the client participates to ensure AAC usage in all of them.

> *I think what we often find is within that population, a lot of our children are nonverbal and caregivers often ask us questions about multiple languages or that they're exposed to a different language in the home setting and sometimes more than one language in the home setting based on each of the parents or grandparents who look after the child or assist with looking after the child, and then different languages that they're exposed to at either crèche or care facility that they're in.* (P8)

> *And I think that's why you have to keep your AAC system as a dynamic system. It's constantly got to be changing and you can have duplicate systems. So, for example, if you have a kid who predominantly speaks Zulu at home with mom and dad but then when they're in the school environment, the language of the medium of education is English. You'd want a communication device that supports the child in all of their environments or the adult in all of the environments that they find them(selves) in.* (P3)

Six participants reported that the client/family's language proficiency profile influences their language decisions in service provision. Participants enquire about this information before decisions are made. For children specifically, proficiency is observed through the sessions and the session is then tailored accordingly.

> *So it's not necessarily that patients who are multilingual only have one language that predominates another. And so that's obviously something that you'd need to take into consideration is, okay, a patient speaks more than one language but what is the level of proficiency in languages?* (P9)

> *And I think also just the child's response to the input that they're getting… using the child's first language and looking for responses in terms of facial expression… Also in terms of how the child is engaging in the activity when we use English, when we use a different language.* (P8)

Five participants reported that family involvement in the provision of AAC services to multilingual or non-English clients is an advantage as it allows for interpretation within the sessions – not only between languages but also of non-verbal communication. Participant 3 found that families have been very willing to interpret and translate within sessions.

> *I think I'm always so impressed by how understanding patients have always been understanding with me that I don't speak the same language as them. I've never once felt like they are resentful of that fact. So I found that willingness or spirit to be very big enabler very helpful. I found the multilingual skills of the average patient and average, like caregiver or friend or person that comes with them to be outstanding. South African people are incredibly talented at speaking a broad variety of languages, and that's such an asset.* (P3)

Four participants spoke about the perceptions of families and clients – for example, about AAC or about what may or may not be appropriate within their cultural context. For example, when therapists spoke English in the session, some families came to assume that therapy and AAC systems would be in English. In general, therapists exhibited a desire to understand the client and family's culture, to ensure cultural congruence in AAC service provision. However, a notion that some AAC practices, though beneficial to the client, were not always congruent with the family's culture was also evident. Three participants also mentioned the client/family's motivation to use AAC as a factor when implementing AAC for multilingual or non-English

clients. They reported that getting buy-in from the clients and their families, needs to be targeted.

> *So regardless of what their choice is but you already speaking to them in English is already like, okay, maybe this is the best decision to do whatever device, whatever program, do it in English.* (P6)

> *But if it's the benefit for the patient, you have to actually discuss that with the patient that okay ... We're going to be trying a few things but within culture, I know it's a bit disrespectful but for the patient to communicate, for you to understand them, certain things have to be broken down.* (P6)

> *Yes, I think, once again, just their perception and just how, because if you almost don't break that... not a stigma, almost like their view on this device, if they don't understand what the goal is of this, for instance, or if this goal is almost like not we're not on the same page, essentially, you're not going to get good carryover from the family side.* (P2)

Two participants felt that multilingualism itself in clients and families was an asset to be harnessed as it allows for various options and avenues of communication.

> *We've looked at multilingualism as a challenge but I think it's also a huge benefit. You know, it only becomes a challenge when I only speak the one language. It's always an asset when you can speak more than one language. I think sometimes if you are using the AAC more as, like an augmentative method, completely replacing verbal, I find that having a patient that is multilingual can often lead you to having a language, that is one language may be more preserved than the next or another language. So having a multilingual kind of brain – if I can say that – to do therapy with is helpful because if L1, for example, is very aphasic or dysarthric, no just aphasic, then L2 may be stronger. For some reason saved in the brain. Multilingualism is a big asset.* (P3)

3.2.3 Factors related to AAC systems and technology

Access to appropriate AAC systems and technology was the primary focus under this subtheme. Seven participants (who all worked within the tertiary tier) felt that they did have some access to appropriate AAC technology. Access to low-tech systems comprised the ability to print words in different languages on low-tech systems. Hi-tech systems described as

appropriate consisted mostly of devices with message-recording capabilities where a speaker of any language could record messages.

> *As far as I'm concerned, in terms of the technology, it gives you that option to have it in whatever language it is that you want because you are recording.* (P5)

> *The fact that there are companies out there that are interested in making South African-specific software is a huge thing. That's very recent development. The longest time we only relied on European and American companies to supply us with communication devices and that's changing. So I think the growing ... ICT (information and communication technology) solutions in South Africa and Africa (are) a big enabler.* (P3)

However, three participants reported a lack of support specifically for non-South African languages.

> *So you may have patients ... they're not South African citizens, so they don't speak any of the languages that we have here. And I think that is the most challenging form of the patient because they often have family members who also speak very limited English. And in that kind of scenario it's very difficult to then (implement) a proper AAC system for those patients and to get carry over.* (P9)

Three participants reported that AAC systems and methods that are developed, adapted and/or used for multilingual clients are often limited or inappropriate. Translation, for example, was found to be an inadequate approach when adapting a system.

> *I think we often just take what was in English and just find the Sotho word or find the Zulu word (for the system) and not necessarily looking at is that actually appropriate and is it being translated in the correct way.* (P8)

> *I find that that's when you start to see AAC boards that are full of fringe vocab and no core. It's all nouns because that's easy to translate. I can find the word for cup and shoe and box and toy but to say in Zulu, I'm feeling stressed, or I want to talk to you personally. To translate phrases like that may be more difficult and may get lost in translation. So everybody kind of sticks to the nouns because that becomes easier. And*

then the quality of the AAC that you're offering is severely degraded, probably another barrier. (P3)

In addition to linguistic appropriateness, cultural appropriateness was also a concern for participants.

But then also when it comes to using your unaided gestures or anything like that, you also have to expect culture because things like pointing sometimes can become quite inappropriate for your patients. …Or even your eye contact. Some cultures, you do not look at people directly in their eye but if you have to gain their attention for you to show point something to them, unfortunately you have to break those rules, which is unfortunate. (P6)

3.2.4 Factors related to finance and the health system/organization

The seven participants working in the tertiary tier felt that although they had some access to resources where they could record messages in different languages, they still had a lack of budget allocation and resources for multilingual clients. It was also reported that the client/family's financial abilities were a challenge.

The paid software does have more availability (in multiple languages), like the Qfrency Voices (trade mark name for South African text-to-speech engines) but the free ones are very limited (to English). I think it's more of an indirect impact but I think public health as a whole, the system burden and how overburdened the staff are, how overburdened the resources are for something as silly as toner and paper. At an organizational level, we are short in every regard. So our AAC systems that we are able to develop and implement and how much follow up we're able to do. (P3)

And in a country like ours, if you've (client or family) got the resources, you're able to access something. If you don't have it, then unfortunately you're not able to. Or you are given or provided with something that may not necessarily meet your needs or maybe entry level as compared to something you would benefit hugely from. (P8)

Five participants felt that a lack of a professional interpretation service was challenging. Colleagues would not always be readily available to interpret. Family members were likewise not always present – especially if the client stayed in the hospital. Also, some families did not

speak English. Furthermore, interpretation is a trained skill, and relying on untrained ad hoc interpreters may not always result in providing the best service.

> *I think it's also not having a professional interpreter. I know most of the time when we ask for help and, like there's different steps that you would follow with interpretation. So you'd have to explain your assessment, you'd have to debrief before, you'd have to debrief after. And in the setting that we working in, not having a professional translator around, we sometimes just require help from each other.* (P1)

> *Challenges that I've faced have been the lack of access to translators, formally trained translators. So I'm relying on a layman to help with translation and I'm worried that a lot of the stuff that is being said is getting lost in translation.* (P3)

Five participants reported that having colleagues from diverse backgrounds is an enabler of service provision and this was not only within the context of interpretation but in being able to match a clinician with a client according to their spoken languages and also regarding an understanding of linguistic and cultural differences.

> *And I think we are a diverse department as well, so we are able to see the needs of our patients and try our best to match our care accordingly.* (P9)

> *But I think fortunately, I'm in an environment where there's access to people, basically human resources that speak multiple languages. And I think it was like seeing this as I have access to not only the language but I think a deeper understanding to the person's culture, to the functioning within different communities, seeing that the people you work with is coming from such diverse backgrounds.* (P2)

Two participants felt that reduced time in the clinical setting and reduced staffing capacity was a challenge in ensuring effective multilingual AAC services.

> *I mean I wouldn't say that just because I speak English doesn't mean I only program devices in English. I will always find a way to put it in the language of the patient's choice but it slows the process down maybe and it does make it a little bit more tricky because now I've got to maybe find a third party that can help with the translation. So it slows the process down and it does make it a bit more cumbersome. So there'd probably be better flow if I was able to speak that patient's language.* (P3)

> *So if a patient speaking another language in multiple languages, it's just the time. The time needed and the manpower needed is the challenge.* (P5)

Two participants mentioned guidance from their organization as an enabling factor towards providing AAC services to multilingual clients.

> *I think within our department, our multilingual CPDs (continuing professional development activities) that we've done has helped me to understand a bit more and improve also.* (P4)

> *So I think it's almost at the point, if I can call it like, a very generic consensus, yeah, that okay, this is your starting point, and this is how you go about your assessment.* (P2)

3.2.5 Factors related to policy, ethical principles, and research evidence

Six participants felt that there were barriers related to guidelines and policies on the topic of multilingualism. These guidelines/policies either did not exist, were inappropriate or were not implemented.

> *It's (service delivery to multilingual clients in need of AAC) not something that we receive a lot of guidance from within the Department of Health.* (P8)

> *I think at a policy level where it becomes very difficult in terms of giving out devices and issuing them. We're not responsible for maintenance ... People don't have money for food, let alone repairing an AAC device. I think just based on policy, I don't think it really looks at long-term effects of using an AAC and what costs may incur* (P3)

Four participants felt that there was a lack of research available regarding the provision of AAC service to multilingual or non-English clients specifically in the South African context.

> *So I definitely think there is a huge gap in terms of the research that is context-specific and culturally and linguistically appropriate for our context. (P8)*

Four participants reported that some of their decisions are being guided by either a policy, research evidence or ethical principles.

> *A lot of the literature strongly supports that therapy should rather not be offered in a patient's non-dominant language, like L3 or L4, which English often is. I know that's what the literature suggests but the reality is that the therapists that are here, for*

example, are predominantly English-speaking, and the demographic of our profession is changing very slowly. So the reality is that the therapist you see will probably not speak same language as you. So then it becomes an ethical question of am I rather going to offer slightly substandard therapy in English or no therapy at all? What is the greater risk versus benefit in terms of language (and) literacy? (P3)

I think I don't know what the name of the policy is but just the importance of patients receiving therapy in the home language. (P4)

I think like patients' rights' and the Batho Pele principles (national governments' White Paper for Transforming Public Service Delivery about delivering good customer service to the users of government services) in terms of healthcare and the healthcare setting, I think, would always guide me. And ethics principles would always guide me in terms of the patient's rights. Their right to access to communication and their right to access to communication in a language that they are comfortable with. To receive care in a language that is comfortable for them, or to receive translation services. I think those principles do guide me using a person or patient-centred approach. (P3)

3.3 Theme 3: Best practice

This section describes the beliefs of participants regarding best practices and factors they believe would promote best practices regarding AAC service provision for multilingual and non-English clients. A total of 84 coded segments were related to this theme and this was mentioned by all nine of the participants.

3.3.1 Beliefs about best practice

This refers to what the clinicians believe best practice means to them.

Six participants felt that the best practice is using the clients' home language in AAC service provision. Two participants felt that the language of education should also be considered.

I think their home language specifically so that they're able to engage with their families at home and be part of activities of daily living within the household. And then I think also their educational language so that they're able to take part in school, communicate with their teachers and their peers, and be able to understand their language that they learning. (P4)

A person-centred perspective was also mentioned as best practice. The needs of the person and/or family as well as their choices should guide decisions.

> *Giving options to patients and family members and let them decide what's best for them instead of us deciding what we think is best for the patient.* (P2)

> *Maybe we could get more insight. I think if we're looking from our side and like, yeah, we're doing this, we're doing that but let's actually look from the patient's perspective. You might get much more info on that.* (P6)

3.3.2 Factors that could promote best practice

The following section describes what clinicians felt they needed to provide best practice.

Six participants suggested that having specific guidelines, protocols or policies in place could promote best practice.

> *I think for me, it would be definitely first to maybe have a guideline or protocol that will literally outline considerations ... for people coming from ... multilingual backgrounds, I think that would be a first starting point. And I think just constant updating of specific protocols, like, and what the considerations are for the management of specific cases.* (P2)

Six participants spoke about research, practice-based evidence and training of clinicians to promote best practices. Participants felt that CPD activities, external training, or case discussions could help improve service delivery for multilingual clients.

> *I think almost setting up continuous professional development within organizations, not just like one AAC, maybe like, workshop or two in a year.*

> *And I think something that I've noticed is so valuable is maybe just like, doing a case report on a specific client so that other therapists within, for instance, South Africa or Gauteng (province) specifically can learn from these cases* (P2)

Two participants reported increasing general AAC implementation would allow clinicians to increase multilingual AAC service provision as general AAC service provision is lacking. If this is done it would help to identify more gaps and solutions to service provision for multilingual and non-English clients.

First of all, I would say encouraging therapists, first of all, to incorporate AAC more into the therapy sessions because hopefully, this will stimulate, like, thinking and questioning as to why is this working, why is this not working. Maybe that will prompt us into furthering the evidence that's currently available. (P2)

Six participants mentioned the need for undergraduate training on providing AAC service to multilingual clients.

Yes, I think first of all, I think really, looking at our undergraduate training with regards to AAC assessment and management, and expanding almost like the horizon of where do we want students to be, for instance, and how are we adequately preparing them to work within the South African clinical context with patients coming from multilingual backgrounds? (P2)

I think the policy is looking at undergrad education and what are the prerequisites for entry into the course or what subjects or courses are covered in the undergrad. So for example, in my undergrad, we took South African sign language for first and second year and then we didn't have to take it for third and fourth year. And I know in other degrees, other universities, for example, they took Zulu as a subject from first to fourth year and it was a requirement that they pass that. So I think something like that is far more progressive for its getting clinicians to speak at least the majority language of the province where that university was located (P3)

Four participants reported needing access to professional interpretation instead of the current informal interpretation measures.

And then availability of translators, I think, in the public sector, like formal translators. (P7)

Two participants felt that linguistically diverse clinicians could promote best practice as they could provide services in the language of their clients within the context that they work in or at least clinicians and clients could pair up based on languages that they can speak.

I think best practice would be for the clinician to also be able to speak that language fluently that they're providing the service in and to be able to speak the language that the child's home language or language of education is in. Just to ensure a full

understanding of cultural and linguistic barriers or just to have a better understanding of that language. I think that would lead to better practice. (P4)

I would have a pool of therapists that could speak a variety of languages. I would be able to pair patients and therapists who share the same L1. So Zulu speaker with a Zulu speaker, for example. I would be able to pair them up so that we could have a therapist and a patient that are speaking the same language. So translation and all the barriers that would arise wouldn't be present. (P3)

Participants reported a variety of different needs in terms of access. Eight participants reported the need for appropriate AAC systems and technology for multilingual clients.

And I think just having more systems in different languages, I think that's what we want. Having apps that cater for all of our patients, having different low-tech and high-tech systems that will cater for all of our patients' language profile. And that would always be an advantage to our assessment. (P1)

Two participants reported needing a budget for AAC systems and resources that are context-specific.

So we wouldn't be governed by budget. We would be able to purchase, for example, the Sepedi voice for a patient so that they could use an AAC device that is able to cope with the Sepedi language and produce a message that sounds like it should. So we wouldn't be limited by cost or equipment restraints.

I think policies that guide how much budget we have for staffing, for equipment that needs to be looked at closely. (P3)

Two participants reported needing access to appropriate assessment tools for multilingual or non-English clients.

Having assessment tools in our patients' many different languages that they may speak is important because then that would decide whether firstly, there is a difficulty or not, or secondly, that would then guide your intervention going forward and also help with correctly diagnosing our patients. (P1)

Participant 7 discussed having resources that are standardized across the different tiers within the public healthcare sector to allow equal access for all and save clinicians from individual troubleshooting and replication of resources.

> *And also just adapting assessments and intervention resources into different languages. I'm just thinking the government sector from a head office perspective, and then that needs to be stepped down, I guess, to tertiary and district and clinic levels so that we can use those resources but it needs to be standardized. I think we're all trying to replicate the same thing and we all trying to make our own resources but if central office or someone centrally creates those resources for us, then we're all on the same page. (P7)*

Participant 6 discussed having African language speakers be involved in the creation of AAC resources to account for language as well as culture and context.

> *I don't know if it's ideal but some of the pictures, those pictures… I don't think they accommodate our …. non-English speakers, maybe it needs revision. I know even the people who seem to make your Boardmaker or anything like that, they're also English speakers, so it doesn't actually accommodate – I don't know if they have a panel of people they're like, okay, let's actually get someone from an African population or someone who actually review these pages and see do they actually meet everyone. (P6)*

3.4 Summary

Participants contributed to each of the three a-priori themes. Participants spoke about their current practices in providing AAC services to multilingual and/or non-English clients, highlighting that translation and interpretation were common practices to accommodate clients' home language. They also mentioned various factors that influence their practices, including factors related to themselves as clinicians, as well as factors related to the client, family, AAC method and systems, finances available and health system, as well as factors related to policy, ethical principles, and research evidence. Lastly, they shared their beliefs about best practices, highlighting an approach that is client-centred and that includes the home language of the client. They also spoke about what they believe is needed to provide best practice, mentioning factors like policies and guidelines, training, increased AAC service provision, increased diversity amongst clinicians and access to relevant resources.

4. DISCUSSION

According to the American Speech-Language-Hearing Association (2023), AAC plays a vital role in supporting individuals with communication difficulties. Limited guidance exists around the provision of AAC services for clients from multilingual and/or non-English speaking backgrounds. The current study explored the perceptions of nine SLTs working in the South African public health system in Gauteng regarding AAC service provision for clients from multilingual and non-English backgrounds. This is relevant to ensure inclusive and culturally sensitive AAC service provision, considering the linguistic diversity and unique challenges faced in this context. Participants contributed to all three a-priori themes and spoke about (i) current practice in assessment and intervention, (ii) factors influencing practice, and (iii) best practice. In this section, specific findings will be highlighted in light of the prevailing literature. Specifically, participants' positive view of multilingualism and their awareness of systemic factors influencing their practices will be discussed.

4.1 A positive view of multilingualism

As in other studies, most participants in this study were from English backgrounds. In South Africa, English remains the dominant language in many spheres of life, including healthcare service provision. Pillay et al. (2020) found that 59.7% of SLTs and/or audiologists are white and 15.2% are black which indicates the percentage of African first language speakers that are clinicians. The dominance of English in service provision poses challenges for clients who speak African languages. A similar situation was described by Barratt et al. (2012) where there was a mismatch between clinicians and their clients in terms of language in South Africa. Although English is the home language of the minority in South Africa, it has a high status (Khokhlova, 2015). This links to the status of English globally since it is the most spoken language in the world (Eberhard et al., 2023). Kathard et al. (2011) found that English dominated the provision of Speech-Language therapy and audiology services. According to Coovadia (2009), modern South Africa is still grappling with transformation post the apartheid era.

Despite their language profiles, participants in this study emphasized the provision of services in the client's home language. This finding aligns with the notion that language accessibility enhances effective communication in AAC. It shows that although SLTs were English-speaking, they did not have a monolingual view in terms of language ideology (Tönsing & Soto, 2020). They had a positive view of multilingualism and attempted to put it into practice

with some success. For example, SLTs included English and the client's home language on their picture communication board and they made efforts to conduct their sessions in the client's home language through the use of interpretation. In contrast to the tendency amongst AAC service providers to problematize multilingualism (Soto & Tönsing; 2020), participants in this study viewed it positively, even at times describing it as an asset.

Similarly, the attempted multilingual practices are in contrast with the findings by Tönsing et al. (2018) where service providers believed in a multilingual approach but were not practising it. They are also in contrast with the findings by Marinova-Todd et al. (2016) and Ward et al. (2023), which reflected a disconnection between practice and opinion. In the current study, participants reported that efforts are being made to provide services in clients' home languages and multiple languages to enhance effective communication using AAC. A multilingual view is important for South African clinicians who should recognize that African languages are the home language of the majority of the population (Ndimande-Hlongwa, & Ndebele, 2017)

The positive views around multilingualism expressed by the participants are to be welcomed within the context of recent efforts in the field to counter the monolingual Anglocentric and colonial bias of service provision. Amery et al. (2020) highlighted that being multilingual can empower individuals with diverse linguistic backgrounds to communicate effectively and access healthcare services. This perspective resonates with Collin Stone (2019), who emphasized the cultural significance of te reo Māori (Eastern Polynesian language) AAC as a means of preserving indigenous languages. The value of multilingualism goes beyond communication. According to Penn et al. (2017), it can contribute to cognitive flexibility, problem-solving skills, and enhanced cultural awareness. Pillay and Kathard (2015) in South Africa also highlighted the importance of embracing multilingualism in healthcare education, promoting equitable access to SLT services for individuals from various linguistic backgrounds. In the context of designing AAC systems, Amery et al. (2022) and Amery et al. (2022) demonstrated the necessity of incorporating culturally relevant vocabulary and layouts to effectively support Aboriginal Australians in their communication needs.

While participants had a positive view of multilingualism and the provision of services in languages other than English, they demonstrated an awareness that not all the strategies they employed to provide such services were ideal. For example, when relying on interpretation by colleagues and family members, participants raised concerns that aspects of their service provision were getting lost in translation. This is linked to the risk of the alteration of messages

mentioned by Barratt et al. (2012) and that untrained interpreters may not pick up on specifics related to communication needs that a clinician would. According to Soto and Yu (2014), an interpreter should be proficient in both languages, be sensitive to cultural nuances, and be familiar with professional jargon and clinical processes. Having family members interpret may result in the client withholding information they do not want to share in front of their family members or result in the family member who is interpreting to leave out or censor information (Soto & Yu, 2014). Asking colleagues to assist with interpretation places a high demand on staff as more than one clinician is required for one client. Squires (2018) reported that when other healthcare professionals are called to interpret, they are taken away from their patients and their caseload is increased. Squires suggests language-matching patients to healthcare workers to reduce the demand for multilingual healthcare professionals. When a human interpreter is not available, online interpretation may be used – however, the translation is not always accurate. A study by Panayiotou et al., (2019) reported that online translation is limited by the fact that confirmation of the client's understanding cannot be made and it may be difficult to allow clients to communicate back or answer questions.

Translation of AAC resources was another strategy mentioned. However, translation of a concept from English to an African language may not always mean direct and accurate translation. English and African languages are non-cognate languages, meaning that their form and structure differ considerably (Kathard et al. 2011). Translation and cultural adaptation in collaboration with families may assist in mitigating some of the challenges inherent in translation (Albin et al. 2022). However, working from an existing system may preclude the possibility of co-developing a system that is inherently aligned with the cultural and linguistic identity of the person. Amery et al. (2022), for example, report that the AAC system co-developed with Yolŋu people differed substantially from the existing English systems. According to Soto (2023), translation, cultural adaptations, and culturally and linguistically grounded AAC solutions represent a hierarchy of three increasingly more robust and defensible approaches to ensure culturally and linguistically congruent AAC services.

Generally, informal assessment measures were used by the participants when evaluating clients from multilingual and/or non-English speaking backgrounds. This is in line with the findings by Hassan et al. (2020), who found there was a lack of access to formal assessment measures and 50% of SLTs were using informal measures. This preference for informal measures suggests the inadequacy of standardized assessments in the South African context,

necessitating adaptations to suit the population (Pascoe & Norman, 2011) and are therefore more appropriate. This finding also highlights the need for culturally sensitive and linguistically appropriate assessment practices that address the unique needs of diverse populations (Mophosho, 2018). Interestingly, some informal assessments for multilingual clients are not fundamentally different from those conducted for English-speaking clients. Roulstone et al. (2015) acknowledge that informal assessment measures lack scientific rigour, however, they are more appropriate for the intended population and context as opposed to standardized measures. According to ASHA (n.d.), standardized assessments may be normed according to a specific population. Therefore, it may be inappropriate to use them to assess a population that differs from the one the assessment was based on.

The incorporation of MDT sessions, particularly involving OTs, emerged as a valuable approach for AAC assessment and intervention. MDT sessions facilitate holistic client management and present opportunities to address language barriers comprehensively. Amongst the MDT professionals, there may be varying levels of competence in different South African languages which serves as an advantage in the case of multilingualism. This may also assist in reducing the risk of alteration of messages mentioned by Barrat et al. (2012) as the MDT professionals such as the OT are more familiar with the SLT assessment and intervention processes due to closely working together with SLTs.

4.2 A systems perspective

The perspectives of the participants shed light on the factors influencing AAC practice for multilingual clients which will be discussed according to bioecological systems theory by Bronfenbrenner and Morris (2006) at the levels of the microsystem, mesosystem, and macrosystem. At the microsystem level, the clients' language proficiency profiles were identified as a key factor influencing language decisions in AAC service provision. Considering the client's language abilities in each of their languages is a critical aspect. This approach recognizes the multilingual nature of clients and ensures individualized AAC support. When communication is impaired for a multilingual individual, for example, in the instance of aphasia, languages are often not compromised in the same way (Cargnelutti et al., 2019). SLTs do consider this by assessing the client's language proficiency profile. Language use within the different microsystems within which the client participates also needs to be considered, for example, the language used in education and the language used in the community. Tönsing and

Soto (2020) highlighted the fact that the inclusion of all of the client's languages may lead to increased participation and inclusion within the community.

Person-centred practices in the context of AAC emphasize not only an individual's communication abilities but also their choices and preferences. In the current study, participants highlighted that the language preferences of the client needed to be considered in service provision. Such an approach is in alignment with a person-centred approach proposed by McNaughton et al. (2019), highlighting the importance of tailoring AAC interventions to the specific needs and desires of the individual. This entails involving the individual in setting goals, making choices about communication tools and strategies, and fostering their autonomy in expressing themselves. Wofford et al. (2022) expand on this concept by introducing the idea of identity-focused practice within AAC services. This framework acknowledges the identities of individuals with complex communication needs, recognizing that communication and identity are deeply intertwined. Recognizing and honouring language preferences of clients forms part of identity-affirming practices.

Another factor at the level of the microsystem concerns the clinicians' linguistic abilities. Clinicians acknowledged their limitations – often, they had little or no proficiency in the home language of their clients. It is positive to note that they recognized this as a limitation of themselves, rather than assuming that clients had to adjust to them. Mophosho (2018) reported that South African SLTs often find themselves speaking a language and having a culture that is different to those of their clients. She also reported that SLTs were unaware of the cultural implications for their clients. From the findings in the current study, the awareness seems to have improved. This awareness can be seen in the efforts of SLTs stated in the literature to make use of translation and interpretation to try to bridge the gaps that have been found in providing effective services in a language that is not their own.

At the level of the mesosystem, great emphasis was placed on collaborations with families. The most important implementers and facilitators of AAC are the family (Granlund et al. 2008). This highlights the importance of considering the family's needs and preferences. To provide culturally and linguistically responsive services, professionals need to include family needs and perceptions in their considerations (Soto & Yu, 2014). Brett (2002) found that when parents and professionals combine their knowledge, skills, and expertise they try to provide the best possible service for children. Family-centred AAC services include beliefs and practices that treat families with respect and dignity and are individualized, flexible, and responsive to

family situations (Mandak et al., 2017). Research suggests that these services result in greater family satisfaction, increased family involvement, stronger family self-efficacy, greater family empowerment, and improved child behaviour and functioning (Mandak et al., 2017).

One aspect of family-centred service entails the provision of accurate information and research evidence to mitigate unfounded fears or myths about certain practices. In this study, participants reported that sometimes clients and their families would choose to receive services in English due to a fear that access to multiple languages may pose an additional risk to language development or recovery. Such fears have been reported repeatedly in the literature (Soto & Yu, 2014) however, there is no evidence that this is the case. A narrative review of empirical studies of children with developmental disabilities growing up bilingually found that there was no evidence that exposure to multiple languages further disadvantaged the language development of these children (Marinova-Todd et al., 2016). Jordaan (2008) further investigated clinical interventions for bilingual children, aiming to debunk unfounded fears and provide evidence-based insights into best practices. Her study involved an international survey looking at the approaches taken by SLTs when working with bilingual populations. This research sought to address any unfounded fears or misconceptions by highlighting the necessity of considering cultural and linguistic factors in assessment and intervention planning. Mindel and John (2021) highlight the significance of interventions that cater to the diverse linguistic and cultural backgrounds of individuals.

Addressing client and family beliefs, concerns, and motivations was identified as crucial for successful AAC interventions in the current study. A pertinent point is that cultural beliefs need to be respected. This forms part of culturally responsive practice according to Mindel and John (2021). A discussion between the SLT and the client/family should entail information sharing on the benefits of AAC service provision as well as information sharing on what the cultural beliefs are and where a bridge of understanding can be formed in the best interest of the patient. The SLT should be careful not to impose his/her beliefs on the client and their families (ASHA, 2017) but rather to inform and empower them to make their own decisions regarding AAC service provision that they find appropriate and acceptable for them. Respect for the family's culture was also largely reflected in the comments made by the participants, although one participant (P6) suggested that the need to communicate may at times override what was considered respectful in a culture. Such a situation would require a discussion between clients/families and clinicians to respectfully address the purpose of the AAC interventions and

the ways they intersect with culture. Amery et al. (2022) found that cultural associations in multilingual AAC systems are very important to allow the client to communicate authentically. For example, having vocabulary, layouts, and access methods that align with culture.

Many macrosystemic factors interact with factors at the meso and microsystemic levels. The state of assistive technology provision in South Africa, for example, is lagging behind that of other high-income countries. Reasons for this could include a lack of resources, less financial support for AAC, and fewer human resources impacting training and expertise in AAC (Alant, 2007). It is therefore not surprising that participants found that they were not always able to access appropriate AAC systems and technology, assessment tools, and resources that are context-specific and culturally and linguistically appropriate. A study by Singh et al. (2017) in Malaysia presented similar findings where resources and AAC mobile applications did not support local languages. Digital language resources such as text-to-speech synthesis are often hard to develop for so-called low-resource languages (Nekoto et al., 2020). It is laudable that efforts have already been made in this regard in South Africa. For example, Schlünz et al. (2017) developed text-to-speech voices for all 11 South African languages. However, more needs to be done to harness this resource in AAC system development and design. Amery et al. (2022) were one of the studies that found that linguistic differences have implications for vocabulary representation, layout, and access.

A lack of fiscal allocation for assistive technology procurement and therapeutic interventions is another macrosystemic factor that was mentioned as a challenge. Coovadia et al. (2009) highlight the historical roots of current public health challenges in South Africa, indicating that the legacy of inequalities and resource limitations still affects various sectors, including healthcare. This situation has a direct impact on the allocation of resources for assistive technology services. Van Niekerk et al. (2017) highlight the factors perceived by rehabilitation professionals that hinder the provision of appropriate assistive technology, including the characteristics of the assistive technology as well as its availability for a trial period.

Most SLTs were also not familiar with research in the area of AAC service provision for multilingual clients or any policies/implementation guidelines on service provision to multilingual clients. SLTs were guided by some principles such as the Batho Pele and ethical principles, however, they were not aware of the specific language policies such as the National Department of Health language policy and the Language in Education Policy (LiEP) which are

specific in guiding language practice in healthcare and education. Policies and guidelines regarding language have not been successfully implemented which has also been pointed out by Kathard et al. (2011). The Policy on Language Services (2011) for the Department of Health, South Africa (Department of Health, 2011) has not been successful in the implementation phase. While the policy calls for interpreters in healthcare institutions, many institutions do not have formal interpretation services available. This was also the case at the institutions of the participants, who reported formal interpretation services as a need for best practice. Having specific guidelines, protocols, or policies in place to guide clinicians in their multilingual service provision is essential. Such guidelines would provide a standardized framework for delivering effective AAC interventions and address the unique challenges associated with multilingual clients.

Research, practice-based evidence, and training are also considered vital in promoting best practices. There is a general dearth of evidence regarding the provision of AAC to multilingual clients locally and internationally (Tönsing et al., 2018). Continuing professional development activities, external training opportunities, and case discussions are suggested as avenues for improving the delivery of AAC services for multilingual clients. The need for undergraduate training in providing AAC services to multilingual clients was also emphasized. Pillay and Kathard (2015) discussed the need for decolonizing the education of professionals to work towards a more inclusive and equitable society. There is a gap in many university programmes concerning cultural competence training for SLTs (Mophosho, 2018). It is therefore recommended that practising clinicians make use of ongoing professional development (McNaughton et al. 2019).

4.3 Summary

In conclusion, the study showed that South African SLTs in the public health sector have a positive view of multilingualism. Although they experience linguistic and cultural differences between themselves and their clients, they are trying to provide multilingual services. However, challenges remain in services AAC provision for multilingual and non-English clients and their families. These challenges occur across the various nested ecological systems. These challenges must be addressed to enable SLTs in the public health sector to engage in best practices when providing services to multilingual and non-English clients who require AAC services.

5. CONCLUSIONS AND RECOMMENDATIONS

In this study, the researcher investigated the perspectives of nine South African SLTs working in the public healthcare sector in Gauteng regarding AAC service provision for multilingual and/or non-English populations. Individual interviews were conducted, and the transcriptions were analysed using a combination of inductive and deductive thematic analysis (codebook approach). A summary of the main findings is presented in the next section.

5.1 Summary of main findings

Data was coded according to three a-priori themes. The themes were (i) current practice in assessment and intervention, (ii) factors influencing practice, and (iii) best practice.

The findings revealed that most of the participating SLTs primarily used English as their first language and possessed limited proficiency in African languages. Many of their clients, however, were perceived to benefit from non-English/multilingual AAC provision. This points to an apparent mismatch between the clinician and the client's language background. Nevertheless, amidst these concerns, the study also highlighted that SLTs employed several strategies to overcome linguistic barriers. Translation and interpretation were frequently mentioned but also critiqued for limitations. SLTs showed an awareness of the need for cultural adaptation. SLTs involved families as integral members of the therapy process, recognizing the significance of family support and collaboration in providing appropriate services. These findings demonstrate the SLTs' commitment to providing appropriate interventions that are culturally and linguistically sensitive.

SLTs do, however, still encounter significant challenges when delivering services to multilingual and/or non-English-speaking populations. Communication difficulties arise when clients and therapists do not share a common language, making it challenging to assess, diagnose, and treat individuals accurately. Language barriers can impede the development of a strong therapeutic alliance, hindering progress in therapy and limiting the overall effectiveness of interventions. Another critical challenge is the limited access to appropriate resources for multilingual populations. SLTs often struggle to find materials, assessments, and therapeutic tools that are available in languages other than English. This scarcity of resources can hinder the therapist's ability to create tailored intervention plans that align with the linguistic and cultural needs of their clients. Furthermore, a lack of comprehensive and context-specific

research adds to the challenges faced by SLTs. In many cases, guidelines and policies governing speech-language therapy are not adequately informed by research that specifically addresses the needs of multilingual populations. The absence of context-specific research can lead to the implementation of generic practices that may not be suitable for the diverse linguistic and cultural backgrounds of the clients.

To overcome these challenges, SLTs expressed certain needs to achieve best practice. Some of these needs included continuous professional development in the area of multilingualism and AAC to stay abreast of the latest research. SLTs require guidelines and policies as well as the appropriate implementation thereof. They require increased funding, professional interpretation or cultural mediators, and access to linguistically and culturally relevant materials and formal assessments that are appropriate to the South African context. It was suggested that future SLTs should have undergraduate training regarding AAC provision to multilingual clients.

5.2 Critical evaluation of the study

5.2.1 Strengths

The findings of this study shed some light on the views of SLTs working in the public health sector, which the majority of the population accesses. These participants were able to report on the current status of AAC service provision that the majority of the South African population experiences, unlike a previous study, where most participants worked in the private sector. The researcher used strict inclusion criteria to ensure that participants included had the knowledge and experience to provide valuable insights. The researcher tested the relevance of the interview questions and applicability by conducting a pilot study and asking open-ended interview questions during the interview, which allowed for in-depth discussion between myself and participants. This allowed for the trustworthiness and rigour of the data collected, as the researcher could probe further or clarify where necessary.

The researcher ensured the reliability of the transcript by employing a research assistant who checked the transcriptions generated by the automated transcription software against the audio recordings, and made corrections as needed. The transcripts were then also checked by me. Thematic analysis was done by me and checked by the supervisor, using the codebook approach. In addition, the researcher used a combination of inductive and deductive analysis. Synthesized member checking was done by emailing a summary of the results to each

participant and asking for feedback. Of the nine participants, eight replied and agreed with the summary strengthening the trustworthiness of the findings.

5.2.2 Limitations

Being a qualitative study, the study's sample size was limited. Although the researcher recognized many recurring themes, some perspectives were only reported by one participant.

Permission to recruit was received from 13 public health institutions across all three tiers of the public healthcare system; tertiary, regional, and district. However, permission from the specific speech therapy departments was received from only six institutions across all three tiers. Those who provided permission to participate in the study only came from three institutions across the tertiary and district tiers. In addition, seven participants worked at one of the institutions which forms part of the tertiary tier. In hindsight, this may have been a result of many staff members working at that institution in comparison to the other two institutions. This is a limitation as the data may be skewed towards the experiences within the tertiary tier.

Participant reactivity may have been a limitation if participants reported what they thought the researcher wanted to hear or what was considered to be socially desirable rather than acknowledging their true perspectives. Researcher bias may have been a limitation; however, it was sought to be minimized by having clearly defined research aims, maintaining consistency within the data collection and analysis methods across participants, having a codebook, member checking by the participants, and review of the data analysis by the research supervisor.

5.3 Implications for practice

The findings discussed above highlight various positive practices that can be implemented to provide linguistically and culturally appropriate services to the diverse SA population. These include involving family members or colleagues in the interpretation and the development or translation of materials. Close collaboration with clients and families in co-developing AAC solutions will ensure that these are congruent with the client and family language proficiencies and preferences. Collaboration with team members and the use of informal assessment measures are other methods that can be helpful to ensure that services are authentic and meaningful. The findings also highlight the importance of trained interpreters.

However, the findings also highlighted the micro-, meso, and macrosystemic factors that need to be addressed for better service delivery to diverse populations in South Africa. For example, it is crucial to allocate increased resources and support toward developing linguistically and culturally appropriate AAC systems. This entails recognizing that different languages and cultures have unique communication styles, symbols, and social norms. By investing in the creation and adaptation of AAC resources that align with the specific linguistic and cultural contexts of multilingual clients, professionals can ensure that these individuals have access to effective communication tools that resonate with their unique backgrounds.

A key aspect of achieving culturally sensitive and linguistically appropriate AAC practices involves actively involving individuals from diverse populations in the design and development process. It is essential to engage individuals within communities (Bird, 2020) as consultants, collaborators, and decision-makers in AAC research, design, and implementation. By involving these individuals, professionals can gain valuable insights into the cultural and linguistic nuances that should be considered when creating AAC systems. Additionally, this collaborative approach fosters a sense of ownership and empowerment within the community, enhancing the effectiveness and acceptance of AAC interventions (Moorcroft et al., 2020).

Furthermore, efforts should be made to promote cross-cultural competence and awareness among SLTs and other professionals working in the field of AAC. Training programs and continuing education opportunities should focus on providing clinicians with the necessary knowledge and skills to work effectively with individuals from diverse linguistic and cultural backgrounds. By fostering cultural competence, professionals can better understand the unique needs and preferences of their clients, adapt interventions accordingly, and ensure that AAC practices are respectful, inclusive, and responsive to cultural diversity.

The findings highlight the pressing need for culturally sensitive and linguistically appropriate AAC practices for individuals from diverse backgrounds. Increased resources and support are essential to develop AAC systems that are linguistically and culturally relevant for multilingual clients. By actively involving individuals from multicultural communities, promoting cross-cultural competence among professionals, and tailoring interventions to specific linguistic and cultural contexts, the gap between current AAC practices and the diverse needs of individuals can be bridged, ensuring that everyone has equitable access to effective communication intervention and tools.

5.4 Recommendations for further studies

The findings presented in this study offer valuable insights that can serve as a foundation for future research aimed at enhancing AAC services and fostering inclusive communication for individuals with CCN from multilingual and/or non-English backgrounds. The research can be expanded on by targeting a larger sample size including an equal number of participants across all three tiers of the public healthcare system. It could also include more SLTs who have an African language as a first language. While this study focused on the perspectives of SLTs, it is highly recommended that future research expands to encompass the perspectives of multilingual and/or non-English-speaking clients, with a particular emphasis on family-centred care (Coburn et al., 2021). Some work has already been done by Tönsing et al. (2019) looking at the views of adults using AAC, and van Dalen (2019) who looked at the perceptions of parents on their language choices and practices for their children who use AAC. Future research could focus on co-design and participatory research where clients and their families co-shape intervention. This could further result in appropriate and meaningful intervention.

Building upon the current findings, future research can explore the efficacy of AAC interventions and systems that are co-designed with clients from non-English and multilingual backgrounds and their families to improve the communication outcomes of these clients and their communication partners. By examining the outcomes and experiences of clients, researchers can identify the most appropriate and most effective practices, resources, and interventions that promote successful communication for individuals with communication difficulties from multilingual and/or non-English backgrounds. These evidence-based recommendations will contribute to the continual improvement and refinement of AAC services, ensuring that individuals receive the most beneficial and relevant support.

In conclusion, future research should expand on the present findings by incorporating the perspectives of multilingual and/or non-English-speaking clients within a person-centred framework (McNaughton et al., 2019; Wofford et al., 2022). This research approach will offer a deeper understanding of how SLT services are currently perceived and provide invaluable insights into clients' beliefs about best practices. Such studies will pave the way for evidence-based recommendations and improvements in service delivery, ultimately promoting inclusive and effective AAC services for individuals with communication impairments from diverse linguistic and cultural backgrounds.

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Appendix A

UP Humanities ethics approval

Faculty of Humanities
Fakulteit Geesteswetenskappe
Lefapha la Bomotho

05 December 2022

Dear Mrs W Noorbhai

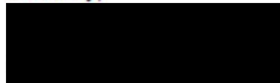
Project Title:	AAC services for multilingual and non-English clients: Perspectives of speech-languagetherapists in the public healthcare setting in Gauteng
Researcher:	Mrs W Noorbhai
Supervisor(s):	Prof KM Tönsing
Department:	Centre for Augmentative and Alternative CommunicationReference
number:	22959450 (HUM031/0822)
Degree:	Masters

I have pleasure in informing you that the above application was **approved** by the Research Ethics Committee on 05 December 2022. Please note that before research can commence all other approvals must have been received.

Please note that this approval is based on the assumption that the research will be carried out along the lines laid out in the proposal. Should the actual research depart significantly from the proposed research, it will be necessary to apply for a new research approval and ethical clearance.

We wish you success with the project.

Sincerely,



Prof Karen Harris

Chair: Research Ethics Committee Faculty of Humanities UNIVERSITY OF PRETORIA

e-mail: tracey.andrew@up.ac.za

Research Ethics Committee Members: Prof KL Harris (Chair); Mr A Bizos; Dr A-M de Beer; Dr A dos Santos; Dr P Gutura; Ms KT Govinder Andrew; Dr E Johnson; Dr D Krige; Prof D Maree; Mr A Mohamed; Dr I Noomé, Dr J Okeke; Dr C Puttergill; Prof D Reyburn; Prof M Soer; Prof E Taljard; Ms D Mokalapa

Room 7-27, Humanities Building, University of Pretoria, Private Bag X20, Hatfield 0028, South Africa
Tel +27 (0)12 420 4853 | Fax +27 (0)12 420 4501 | Email pghumanities@up.ac.za | www.up.ac.za/faculty-of-humanities

Appendix B

UP Health Sciences ethics approval

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences

Institution: The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federal wide Assurance.

- FWA 00002567, Approved dd 18 March 2022 and Expires 18 March 2027.
- IORG #: IORG0001762 OMB No. 0990-0278 Approved for use through August 31, 2023.

Faculty of Health Sciences **Research Ethics Committee**

24 November 2022

Endorsement Notice

Dear Mrs W Noorbhai

Ethics Reference No: HUM031/0822
Title: AAC services for multilingual and non-English clients: Perspectives of speech-language therapists in the public healthcare setting in Gauteng

The **New Application** as supported by documents received between 2022-10-26 and 2022-11-23 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on 2022-11-23 as resolved by its quorate meeting.

Please note the following about your ethics approval:

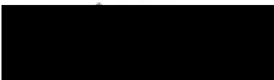
- Ethics Approval is valid for 1 year and needs to be renewed annually by 2023-11-24.
- Please remember to use your protocol number (HUM031/0822) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, monitor the conduct of your research, or suspend or withdraw ethics approval.

Ethics approval is subject to the following:

- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely



On behalf of the FHS REC, Professor Werdie (CW) Van Staden
MBChB, MMed(Psych), MD, FCPsych(SA), FTCL, UPLM
Chairperson: *Faculty of Health Sciences Research Ethics Committee*

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health).

Research Ethics Committee
Room 4-60, Level 4, Tswelopele Building
University of Pretoria, Private Bag x323
Gezina 0031, South Africa

Fakulteit Gesondheidswetenskappe
Lefapha la Disaense tša Maphelo

Appendix C

Head of SLT department letter and consent form

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YUNIBESITHI YA PRETORIA

Faculty of Humanities
Fakulteit Geesteswetenskappe
Lefapha la Bomotho
Centre for Augmentative and
Alternative Communication

Humanities 100.
Since 1919

INFORMATION LETTER TO CEO or HOD AND PERMISSION FORM

Date: _______________

(name)
(CEO/HoD)
(Institution)

Dear _____________

RE: Permission to conduct interviews with speech-language therapists working at the institution

My name is Wasifah Noorbhai, and I am currently enrolled for a Master's degree in augmentative and alternative communication (AAC) at the University of Pretoria. As part of my studies, I am completing a small-scale research project. I would like to conduct online interviews with speech-language therapists (SLTs) with experience in providing AAC services to persons from multilingual and/or non-English backgrounds, as part of the requirements for my degree. The title of my study is:
"AAC services for multilingual and non-English clients: Perspectives of speech-language therapists (SLTs) in the public healthcare setting in Gauteng."

I would like to request your permission to recruit participants for this study from your institution/department. I have obtained approval for the study from the Gauteng Department of Health (DOH) (please see attached).

I have been granted approval by the ethics review board of the Faculty of Humanities, University of Pretoria to conduct this study.

Rationale for the study
Understanding the perspectives of SLTs working in the public health system in Gauteng regarding the provision of AAC services to multilingual and non-English populations can assist in obtaining an impression of current practices, beliefs and opinions about these practices and about factors that influence practices. SLTs' perceived needs regarding service provision for clients in need of AAC from multilingual and non-English backgrounds can also be established. As SLT perspectives are of the essence, this study aims to explore SLT perspectives on (a) current assessment and intervention practices, (b) challenges and enablers in practice, (c) beliefs about best practice and (d) practitioner needs. This information can assist in informing an agenda for AAC system development for the South African context as well as relevant training opportunities for SLTs.

What will be expected of your institution/department?
I want to request for heads of department to share my online information letter and consent form with SLTs within the institution. If the SLTs would like to participant, they may fill out the online consent form and also provide their contact details via this form. I will contact them to set up and online interview. This interview will take place at a time convenient to the participants and will not interfere with their duties.

Centre for Augmentative and Alternative Communication
Communication Pathology Building
Lynwood Road, Hatfield
University of Pretoria, Private Bag X20
Hatfield 0028, South Africa
Tel +27 (0)12 420 2001 | Fax +27 086 510 0841
Email: saak@up.ac.za | Web address: www.caac.up.ac.za

What will be expected of the participants during the study?
Should the SLTS consent to take part in the study, I would kindly ask that they provide me with their contact details on the online consent form. I will then contact them to schedule an online interview with them and will also request that they complete an online biographical questionnaire. This should take about 10 minutes.
The interview will be scheduled in a manner and at a time convenient to them. Zoom conferencing will be used for the interviews. Participants will be provided an option to be compensated for any data they use during the interview. The interview itself will take approximately 30-45 minutes of their time. Once we confirm an appropriate meeting time, I will be sending an invitation to their email address via Zoom conferencing. The invitation will provide a link to directly join the meeting without the need to download the software. All interviews will be recorded utilizing Zoom's built-in recording function. As a participant they will be provided with an opportunity to choose between video and audio or audio-only recordings.

An initial report will be drafted once the data has been analyzed and an easy-read summary of themes and subthemes will be emailed to the participants for checking. Participants will be asked to check the accuracy of the data analysis and to ensure that the themes they stated are truthfully captured.

The following ethical principles will be upheld within this study:
- Written consent from all participants will be obtained prior to conducting the study. All participants will be made aware of their right to withdraw from the study at any point in time without any negative consequences to themselves.
- The speech sample recordings collected during the study will be assessed only by the researcher, research assistant and research supervisor.
- All identifying information pertaining to individuals and the institutions will be kept confidential from those external to the study. Any identifying information will be removed from the transcription and replaced by numerical codes (e.g. names of people and places will not be transcribed). No individual or institution names will be mentioned in any published data.

Who will have access to the results of the study?
All personal information obtained in the study will be treated as confidential and all identifying information will be removed form the data (e.g., transcriptions) at the earliest stage possible. The recordings will be transcribed by myself and a research assistant, removing all identifying information. Names will be replaced with pseudonyms. De-identified transcripts may be shared with other students/collaborators affiliated to myself and/or my supervisor. The research study data will be secured and safely stored for 15 years in both hard copy and electronic format at the Center for AAC in University of Pretoria. The data obtained from the research will be used for writing a research report (a Master's mini- dissertation), writing scientific papers as well as for educational and research purposes or conference presentations. The results will not be linked to specific participants. The institution and participants' identities, as well as personal information, will not be disclosed. A summary of the results will be made available for any interested participants.

What are the risks and the benefits?
The participants at your institution will not be put at risk during the study. The participants will not miss any working hours through participating in this research.

Participation is voluntary at all times and participants may withdraw at any time without negative consequences.

Potential benefits of this study include extending research within the field of AAC by assisting in informing an agenda for AAC system development for the South African context as well as relevant training opportunities for SLTs.

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I would appreciate it if you could complete the attached form to indicate whether you give permission to include participants at your school in the study.

Please feel free to contact me, my supervisors or Faculty of Health Sciences Research Ethics Committee if you have any questions about this study.

I look forward to your response.

Kind regards,

______________________ ______________
Student name: Wasifah Noorbhai Date
Email: Wasifah.noorbhai@gmail.com
Tel number: 0764264688

______________________ ______________
Supervisor name: Prof Kerstin Tonsing Date
Centre for Augmentative and Alternative Communication
Email: kerstin.tonsing@up.ac.za.
Tel number: 012 420 4729

Faculty of Health Sciences Research Ethics Committee
Room 4-59, Level 4, Tswelopele Building,
Tel +27 (0)12 356 3085

UNIVERSITEIT VAN PRETORIA
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Faculty of Humanities
Fakulteit Geesteswetenskappe
Lefapha la Bomotho

Centre for Augmentative and
Alternative Communication

PERMISSION FORM (CEO and/or HoD)

CEO/HOD name: ___________________________________

Institution name: ___________________________________

Title of study: "AAC services for multilingual and non-English clients: Perspectives of speech-language therapists (SLTs) in the public healthcare setting in Gauteng."

Researcher: Wasifah Noorbhai
Master's Student
Centre for AAC
University of Pretoria
Cell: 076 426 4688
Wasifah.noorbhai@gmail.com

Supervisor: Kerstin Tönsing
Associate Professor
Centre for AAC
University of Pretoria
Cell: 082 661 6007
kerstin.tonsing@up.ac.za

Faculty of Health Sciences Research Ethics Committee
Room 4-59, Level 4, Tswelopele Building,
Tel +27 (0)12 356 3085

I, ___________________________________ (Name and surname) (please tick box that applies)

☐ give permission to the researcher to recruit SLTs from the institution/department named above for possible participation in the study entitled: "AAC services for multilingual and non-English clients: Perspectives of speech-language therapists (SLTs) in the public healthcare setting in Gauteng" conducted by Wasifah Noorbhai, under the supervision of Kerstin Tönsing. This permission is voluntary and I understand that I may withdraw at any time. I understand that participants will be audio-recorded on an online platform. I understand that the data will be stored for 15 years at the CAAC and that all data will be treated confidentially. I understand that the data may be used for a scientific article, research reports or presentations. I understand that, should parents give permission, the audio recordings will be made available to other researchers for research purposes.

OR

☐ do not give permission to Wasifah Noorbhai to recruit SLTs from the institution/department named above for possible participation in the study entitled "AAC services for multilingual and non-English clients: Perspectives of speech-language therapists (SLTs) in the public healthcare setting in Gauteng."

____

CEO/HOD Signature

____
Date

Centre for Augmentative and Alternative Communication
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Lynwood Road, Hatfield
University of Pretoria, Private Bag X20
Hatfield 0028, South Africa
Tel +27 (0)12 420 2001 | Fax +27 086 510 0841
Email: saak@up.ac.za | Web address: www.caac.up.ac.za

Appendix D

Participant information letter

UNIVERSITEIT VAN PRETORIA
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Faculty of Humanities
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Lefapha la Bomotho
Centre for Augmentative and
Alternative Communication

Humanities 100.
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(Date)

Dear Colleague

Re: Participation in a qualitative interview study

My name is Wasifah Noorbhai, and I am currently enrolled for a Master's degree in augmentative and alternative communication (AAC) at the University of Pretoria. I would like to invite you, as a speech-language therapist (SLT) with experience in providing AAC services to persons from multilingual and/or non-English backgrounds, to participate in a research project as part of the requirements for my degree. The title of my study is:
"The perspectives of speech-language therapists (SLTs) on the provision of Augmentative and Alternative Communication services for clients from multilingual backgrounds in the public healthcare setting in Gauteng."

The aim of the study is to explore the perspective of South African SLTs working in public healthcare on the provision of AAC to clients form multilingual backgrounds.

I have been granted approval by the Research Ethics Committee of Humanities to conduct this study.

Is this study for me?
The study is aimed at practitioners who:

- are registered with the HPCSA as an SLT or SLT/A and
- are currently working in the public health system in South Africa
- have a minimum of 1 year of experience providing AAC services to clients from multilingual or non-English backgrounds

Rationale for the study
In this study, I aim to understand your experiences and perspectives around assessing and providing intervention to clients who require AAC who come from multilingual and non-English backgrounds. This understanding can help to summarise helpful practices that practitioners are already applying, but also some of the barriers experienced. This in turn can direct the agendas for further AAC training and AAC system development, as well as further research in the field.

What will be expected of me should I participate?
Should you consent to take part in the study, I would kindly ask that you provide me with your contact details on the online consent form (see link at the end of this letter). I will then contact you to schedule an online interview with you. The interview will be scheduled in a manner and at a time convenient to you. Zoom conferencing will be used for the interviews. Participants will be provided an option to be compensated for any data they use during the interview. The interview itself will take approximately 30- 45 minutes of your time. Once we confirm an appropriate meeting time, I will be sending you an invitation to your email address via Zoom conferencing. The invitation will provide a link to directly join the meeting without the need to download the software. All interviews will be recorded utilizing Zoom's built-in recording function. As a participant you will be provided with an opportunity to choose between video and audio or audio-only recordings.

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Tel +27 (0)12 420 2001 | Fax +27 086 510 0841
Email: saak@up.ac.za | Web address: www.caac.up.ac.za

An initial report will be drafted once the data has been analyzed and an easy-read summary of themes and subthemes will be emailed to you for checking. Participants will be asked to check the accuracy of the data analysis and to ensure that the themes identified truthfully capture their contributions. Prior to the interview, you will be requested to complete an online biographical questionnaire (see link provided at the end of this letter). This should take about 10 minutes.

What are my rights as a participant?
Participation in the study is voluntary. If you choose not to take part, there will be no negative consequences to you. You may withdraw from the study at any point in time and all data you have contributed will be immediately destroyed. You need not give an explanation as to why you wish to withdraw. All data will be reported in a way that your identity will be kept confidential. Participants will be provided with a summary and description of the themes to check for accuracy and completeness thereby enhancing credibility. Should you wish, a copy of the recording of the interview will be made accessible to you. You will also receive a copy of the research report upon request.

What will happen to the information I provide during the study?
Your personal information will be treated as confidential and all data identifying you will be removed from the records at the earliest possible stage of analysis. A research assistant and I will transcribe everything said during the interviews, but will remove any personal information. Pseudonyms will replace any names. We will analyze the transcriptions to understand the perspectives of therapists on AAC service provision to clients from multilingual backgrounds. The results of the analysis will be used for writing a Master's dissertation and may be used for writing a scientific article and for giving conference presentations. Additional analyses of the transcriptions (with personal data removed) may be conducted at a later stage by myself/my supervisor and/or students and collaborators affiliated with us. However, no personal data will be shared with other students or other collaborators.

The results of the analysis will also be made available on the University's research database.

The video/audio-recording, biographical questionnaires and transcriptions of the recording will be placed onto a password-protected USB stick and stored in a locked cabinet at the University of Pretoria, Centre for AAC for a minimum of 15 years. Only project team members will have access to any personal data (video/audio recordings and biographical questionnaires).

The thesis and any other publications emanating from the study will be made available to any participating clinician who expresses an interest.

What are the risks and benefits?
Kindly note that neither the online questionnaire nor the interview contains any personal or potentially sensitive questions. The study is not aimed at testing your knowledge. Questions are purely based on your perspectives. The study does not pose any threat or potential harm to you. This study will help catalog, explore, and improve that body of knowledge for the betterment of AAC services for current and future persons from multilingual backgrounds.
I would appreciate your consideration of this request. Should you be willing to participate in the study, please complete the online consent form by clicking here: (link to be inserted)

Kindly also complete the online biographical questionnaire by clicking on this link: (link to be inserted).

Please feel free to contact me, my supervisors or Faculty of Health Sciences Research Ethics Committee if you have any questions about this study.

Kind regards,

Student name: Wasifah Noorbhai
Date
Email: Wasifah.noorbhai@gmail.com
Tel number: 0764264688

Supervisor name: Prof Kerstin Tonsing
Date
Centre for Augmentative and Alternative Communication
Email: kerstin.tonsing@up.ac.za.
Tel number: 012 420 4729

Faculty of Health Sciences Research Ethics Committee
Room 4-59, Level 4, Tswelopele Building,
Tel +27 (0)12 356 3085

Participant Informed Consent Reply (this form will be provided via Google forms)

Project title: The perspectives of speech-language therapists (SLTs) on the provision of Augmentative and Alternative Communication services for clients from multilingual backgrounds in the public healthcare setting in Gauteng

Researcher:
Name: Wasifah Noorbhai
Master's Student
Centre for AAC, University of Pretoria
Tel: 0764264688
Email: Wasifah.noorbhai@gmail.com

Supervisor:
Name: Kirsten Tonsing
Job title: Professor
Centre for AAC, University of Pretoria
Tel:
Email: kerstin.tonsing@up.ac.za.

Faculty of Health Sciences Research Ethics Committee
Room 4-59, Level 4, Tswelopele Building,
Tel +27 (0)12 356 3085

Please state your name and surname: ________________________________

I confirm that I have read the information letter in connection with this study.
- ☐ Yes
- ☐ No

I confirm that I am eligible to participate in the study and that I fit the inclusion criteria.
- ☐ Yes
- ☐ No

Please tick one of the following options:

- ☐ I consent to participate in the study; "The perspectives of speech-language therapists (SLTs) on the provision of Augmentative and Alternative Communication services for clients from multilingual backgrounds in the public healthcare setting in Gauteng."
  This consent is voluntary and I understand that I may withdraw from the study at any time. I understand that the data will be stored for 15 years at the CAAC and that all data will be treated confidentially. I understand that the data may be re-used for analysis. I understand that the data may be used for a scientific article and for conference presentations. I understand that all information used and obtained in this study will be treated as confidential.

OR
- ☐ I do not give consent to participate in the abovementioned study.

Please indicate whether or not you consent to being recorded during the interview

- ☐ I consent to being video and audio-recorded during the interview.
- ☐ I consent to being audio-recorded only during the interview.
- ☐ I do not consent to being recorded during the interview.

(Contact information will only be asked if participants consent to participate in the study)

Email address: ________________________

Cell phone number: ____________________

Appendix E

Biographical questionnaire

Biographical questionnaire

1. What is your age?

____

2. Please list your professional qualifications:

____

3. What is your home language?

____

4. What languages can you provide services in?

____

5. For how long have you been providing AAC services?

____

6. For how long have you been providing AAC services to multilingual/non-English clients?

____

7. Please indicate in which setting you work:

	Tertiary hospital
	Regional hospital
	District hospital/clinic

8. Please indicate the type of AAC service provided *(tick those that apply)*:

	Assessment
	Training clients to use unaided systems and strategies
	Training clients to use aided systems and strategies
	Making/customizing low-tech systems
	Customizing/programming high-tech systems
	Training partners
	Other *(please specify):*

9. Estimate of the number of clients in need of AAC seen per year:

____

10. Which percentage of your clients in need of AAC are

	adults
	children

11. Which percentage of your clients in need of AAC use the following forms of communication:

	Facial expression/body language
	Gestures/sign language
	Low-tech communication systems
	Hi-tech communication devices

12. Please estimate what percentage of your clients in need of AAC are from multilingual/non-English speaking backgrounds:

____

13. Which languages are your clients in need of AAC exposed to?

____

14. Estimate the percentage of your clients who could benefit from expression via AAC in a language other than or additional to English:

____

15. Estimate the percentage of your clients who could benefit from expression via AAC in multiple languages:

____

16. Which languages (other than English) would your clients need access to?

____

Appendix F

Interview schedule

Interview schedule

Sub-aim	Questions	Literature base
Introduction and definition	I appreciate your willingness to participate in this study. In this interview, I will ask about your perspectives on the provision of Augmentative and Alternative Communication services for clients from multilingual backgrounds. We often have different conceptions of AAC and for this study, I defined it as follows: AAC can be described as various communication strategies, tools and methods that can compensate or substitute for the communication impairments, activity limitations and participation restrictions of individuals with complex communication needs. AAC strategies may include unaided strategies (such as gestures and body language), while aided strategies may include low-tech (such as communication boards or books) and high-tech aids (such as speech-generating devices, dedicated AAC devices and non-dedicated devices with AAC software applications) and partner-supported strategies. I am interested in your AAC practices regarding your clients from multilingual and/or non-English backgrounds, and your perceptions of these practices. There are no right or wrong answers to these questions, as your perspectives are unique. You are welcome to ask me any questions or clarification when I am not expressing myself clearly. I would also like to record our interview for later transcription. I will keep these recordings and transcriptions confidential, and your name or other identifying information will not be publicised. You are welcome to choose between video and audio or audio-only recordings. Do you consent to participate in this study? (Await answer)	

Sub-aim	Questions	Literature base
	May I audio/video-record the interview? (Await answer) Do you have any questions before we start? (Await answer)	
Current assessment practices	**1. Tell me about your AAC assessment for clients from multilingual and/or non-English populations.** (Probes/follow-up) - What assessment processes do you use when assessing clients from multilingual and/or non-English backgrounds? - Do you use any formal assessment measures? If yes, how appropriate do you feel these measures are? If not, are there reasons why not? - How do you become aware of parent/client language preferences? - How do you respond to it? - What role does it play in the choices you make moving forward with the client? - Are there any strategies/skills/resources that you are using to aid your assessment?	SLTs may struggle to conduct appropriate assessments, to appropriately support language development for children, to make decisions about prioritizing one or more languages in intervention, and to appropriately counsel families (Soto & Yu, 2014). This question aimed to gain more information into how multilingual clients are being assessed by SLTs given the struggle mentioned above.
Current intervention practices	**2. Tell me about your AAC intervention for clients from multilingual and/or non-English populations.** (Probes/follow-up) - What languages do you incorporate in intervention? For example, the home language, language of education/the workplace, language of the community, language of the clinician etc. How do you incorporate these languages? (e.g., in the therapy session, in home programmes) - If you provide aided AAC systems, in which languages are these systems provided? How do you go about designing or programming these systems?	Concerning clients with complex communication needs (CCN) who need AAC intervention, SLTs may experience challenges related to AAC system selection and customization (Soto & Yu, 2014). This question aimed to gain more information into how multilingual clients are being managed by SLTs given the struggle mentioned above.

Sub-aim	Questions	Literature base
	- Are there any strategies/skills/resources that you are using to aid your intervention?	
Decision-making and language choice	**3. What factors influence your decisions about the language or languages to be incorporated into AAC intervention and AAC systems?** - To what extent does the family's or client's preferences influence your decisions? - To what extent do South African language context and language policies (e.g. in education) influence your decisions? - To what extent do your own skills and knowledge influence your decisions? - To what extent does AAC technology (availability, appropriateness, affordability) influence your decisions? - To what extent do your client's needs influence your decisions? - To what extent do your client's abilities influence your decisions? - To what extent do organizational factors/health system factors influence your decisions? - To what extent does scientific evidence regarding intervention/assessment with multilingual clients influence your decisions?	Tönsing et al. (2018) conducted a study which showed factors that influence SLT decisions regarding AAC services with primarily private practitioners. This question aimed to build on that study by asking the question to public healthcare practitioners. This builds on the reasons why current practice is the way it was described in the above two questions.
Challenges to provision	**4. What are your experiences regarding challenges in AAC service delivery to multilingual/non-English clients and their families?** (Probes/follow-up) - Tell me about the challenges related to AAC systems/technology and how they are designed to function - Tell me about the challenges related to the clinician. - Tell me about the challenges related to the client's family.	The construction of the interview schedule was guided by the International Classification of Functioning, Disability, and Health (ICF; World Health Organization, 2001), which makes mention of environmental factors that can act as enablers and challenges. Mindel and John (2021) highlighted the challenges faced by SLTs in providing appropriate assessment and

Sub-aim	Questions	Literature base
	- Tell me about the challenges at the level of the organisation or the health system itself. - Tell me about the challenges at a policy level. - Tell me about the challenges at the level of scientific evidence for AAC interventions for multilingual and non-English populations.	intervention services for individuals from diverse linguistic backgrounds.
Enablers to provision	**5. What are your experiences regarding enablers in AAC service delivery to multilingual/non-English clients and their families?** (Probes/follow-up) - Tell me about the challenges related to AAC systems/technology and how they are designed to function - Tell me about the challenges related to the clinician. - Tell me about the challenges related to the client's family. - Tell me about the challenges at the level of the organisation or the health system itself. - Tell me about the challenges at a policy level. Tell me about the challenges at the level of scientific evidence for AAC interventions for multilingual and non-English populations.	The construction of the interview schedule was guided by the International Classification of Functioning, Disability, and Health (ICF; World Health Organization, 2001), which makes mention of environmental factors that can act as enablers and challenges. There is a tendency amongst AAC service providers to problematize multilingualism (Soto & Tönsing; 2020). This question was asked to query any changes to this opinion and question what SLTs think enables them to overcome the challenges mentioned above.
What is "best practice"?	**6. Can you describe what you feel would be "best practice" in AAC service delivery for clients from multilingual and/or non-English backgrounds?** (Probes/follow-up) - What languages do you feel your clients from multilingual and/or non-English backgrounds should have access to? - Why do you feel these languages would best serve your clients? - How should this access be provided? - What language should therapy be provided in?	Findings by Marinova-Todd et al. (2016) reflected a disconnection between practice and opinion. This question aimed to re-evaluate this statement and also highlight the issues preventing best practice.

Sub-aim	Questions	Literature base
Resources and support needed to ensure best practice	**7. What do you think needs to be put in place to ensure "best practice?"** (Probes/follow-up) - Please expand on factors related to the AAC system or the technology and how its functions are designed. - Please expand on factors related to the clinician. - Please expand on factors on an organisational or health systems level. - Please expand on factors on a policy level/hospital/departmental protocols and guidelines - Please expand on factors on the level of scientific evidence for AAC interventions for multilingual and non-English populations.	Boesch and Da Fonte (2014) discuss tailored assessment and intervention for multilingual clients as best practice. This aimed to highlight the needs of SLTs to provide tailored services therefore achieve "best practice."

Appendix G

Confidentiality agreement

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Confidentiality agreement: Research assistants

Based on the Confidentiality Agreement of St. Thomas University, retrieved from
https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKEwiNkeyg3ZnmAhWoTxUIHUgKBCIQFjAAegQIAhAC&url=https%3A%2F%2Fwww.stthomas.edu%2Fmedia%2Fgro%2Fdocx%2FUpdatedResearchAssistantConfidentialityAgreement.docx&usg=AOvVaw3Lv6af-HAQMpbZAu1FMltt

Background

When acting as a research assistant, you may have access to personal information of participants. This may include (but is not limited to) information such as:

- Name, date of birth, age, sex, address, and contact information;
- Race and ethnicity;
- Results from medical, educational or other assessments;
- Information on the outcomes of certain therapeutic, educational, or medical interventions;
- Beliefs, opinions and perceptions around various topics.

When participants agree to take part in a study, it is understood that none of their personal information will be shared with anyone outside of the research team (the principal investigator and research assistant(s). As a research assistant, it is therefore imperative that you agree to maintain this confidentiality. Kindly read through the attached form and complete it to indicate your agreement to abide by all the expectations regarding confidentiality.

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Agreement

I, _____________________________________, agree to act as research assistant in the study
(full name and surname)

entitled, "AAC services for multilingual and non-English clients: Perspectives of speech-language therapists (SLTs) in the public healthcare setting in Gauteng" conducted by Wasifah Noorbhai at the University of Pretoria, Centre for AAC.
To maintain confidentiality, I agree to:

1. Keep all personal information (pertaining to study participants and their families) that is shared with me in electronic or hard copy format confidential by not discussing or sharing this information verbally or in any format with anyone other than the principal investigator of this study;

2. Ensure that any personal information in my possession is secure. This may include:
• Keeping any electronic documents and files pertaining to the study on a password protected computer with password protected files;
• Storing any printed information pertaining to the study in a secure location such as a locked filing cabinet;
• When transcribing data, using closed headphones/a private location to prevent third party access to the audio recordings.

3. Not make copies of documents and/or data related to the research study unless specifically instructed to do so by the principal investigator;

4. Return all data to the principal investigator once my work is completed.

5. After clarifying it with the principal investigator, to erase or destroy all research information that cannot be returned to the principal investigator once my work is completed.

_______________________________   _______________

Signature of Research Assistant   Date

____
Print Name

Appendix H

Final codebook

Final Code Book

Themes and definitions	Sub-themes	Codes
Current practice in assessment and intervention (description of the present day SLT ways of assessment of intervention)	Language in assessment and intervention	Interpretation Predominantly English Language independent
	Approach	Informal assessment No difference to English client Multidisciplinary team (MDT) involvement
	Materials	Developed/translated material Provide low tech AAC
Factors that influence practice: (various conditions that are experienced by SLTs that influence how they assess and manage clients)	Factors related to the clinician	Clinician knowledge/skills/attitude Training
	Factors related to the client/family	Client/family language needs and preference Clients' language proficiency profile Family involvement Perception of/motivation to use AAC Multilingualism as an asset
	Factors related to AAC methods and systems	Access to appropriate AAC systems and technology Support for non-South African languages Inappropriate/limited systems
	Factors related to finance and the health system/organization	Budget/resource constraints Lack of official interpretation service
	Factors related to policy, ethical principles and research evidence	Lack of appropriate guidelines/protocols available or implementation thereof Assumed lack of research Guided by policy/guidelines/ethical principles
Best practice (Ideal or most accepted practice according to SLTs)	Beliefs about best practice	Home language and language of education Client centered approach
	Factors that could promote best practice	Guidelines/protocols/policy Practice based evidence and research, and increased AAC implementation Training Linguistically diverse colleagues Linguistically diverse professionals Access to client information, resources, and services

Appendix I

Declaration of the language editor

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15/09/2023

DECLARATION OF PROFESSIONAL EDIT

"AAC services for multilingual and non-English clients: Perspectives of speech-language therapists (SLTs) in the public healthcare setting in Gauteng"

by

Wasifah Noorbhai

I declare that I have edited this mini-dissertation. My involvement was restricted to language usage and spelling, completeness and consistency, reference style, and formatting of headings, captions and tables of contents. I did no structural rewriting of the content and did not influence the academic content in any way.

Mr Aré van Schalkwyk

BA (Languages)

Accredited service provider of the University of Pretoria, Stellenbosch University, the University of Johannesburg, Unisa and other institutions