Embracing Diversity – Creating Equality:

Supporting the speech, language, and communication of culturally and linguistically diverse children

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Bachelor of Health Science (Speech Pathology) (Honours)

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Certificate of authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgment is made in the doctoral research. Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged.

I agree that this doctoral research be accessible for the purpose of study and research in accordance with the normal conditions established by the Executive Director, Library Services or nominee, for the care, loan and reproduction of theses.

Sarah Verdon

29\textsuperscript{th} October 2015
Dedication

This thesis is dedicated to the beautiful, strong women in my life.

For always encouraging me to know more, to do more, to say more,

and to be more.

I would not be here if it were not for you.
Acknowledgements

So many people and organisations have contributed to this doctoral research through their time, support, and funding. For all of these contributions I am immensely grateful. I would particularly like to thank the Research Institute for Professional Practice, Learning and Education (RIPPLE) and all of the Charles Sturt University community. As a young woman from humble small town beginnings I feel so proud to be a part of this wonderful rural organisation dedicated to supporting the education and empowerment of rural people. I would also like to thank all of the professionals, families, and children who participated in this research. I hope I have done justice to your generosity of time and wisdom.

To my wonderful supervisors, not only have you been inspiring mentors to me, but you have also been great friends. Firstly to Sharynne, it’s hard to believe this all started from showing you the sights of Ho Chi Minh City! The time has flown and I have continued to learn from you every day since then. Thank you for always believing that I could achieve anything, and for giving me the encouragement and support I needed to believe it for myself. You have taught me everything I know about the world of academia and no matter where the journey leads from here I will always be grounded in the strong foundation you have provided. To Sandie, you have taken my mind on a journey to new places and changed the way that I think about the world. I am so grateful that you have shared your time and wisdom with me, you are truly a person that has shaped my life for the better.

To my family, Dad, Mum, Angie, Loshie, and Buckley. You challenge and inspire me to rise above every obstacle, while at the same time keeping me grounded in faith and family. Thank you for letting me travel the world, for trying to learn how to use
Skype, and for listening to all of my stories. I promise I won’t make you read this whole thesis!

To my very best friends Liana, Anthea, Nikki, Sarah, and Laura. You know everything about me and still love me unconditionally. You support me every day and keep me laughing through good times and bad. I feel so blessed to have you in my life.

To my beautiful husband-to-be Dennis. You have been my most devoted fan since the moment we first met. You have always been so proud of my work and have supported me to follow my dreams even when it means putting them before yours, with many trips away and time apart from each other. Your unfailing faith in me is just one of a million reasons why I can’t wait to have you by my side for every new adventure that comes our way.

I thank God for every challenge and triumph that has led me to this path and for the abundant blessings I have received to reach this important milestone. I have been surrounded by love and unfailing support from so many people, without which I could not have made it to this point.
Abstract

Effective communication is essential for social engagement, educational attainment, and workforce participation. Australia, like many other English-dominant nations is becoming increasingly culturally and linguistically diverse. Therefore an understanding of this diversity is essential for planning services to support all Australian children to become competent and effective communicators in ways that are responsive to their cultural and linguistic background. Yet, little is known about Australian children’s linguistic diversity and how their multilingual speech, language, and communication development can be supported. This study contributes to the literature by describing the linguistic diversity of Australian children and investigating approaches to practice that can facilitate positive outcomes for culturally and linguistically diverse children with speech, language, and communication needs across the world.

This doctoral thesis describes the findings of a mixed methods study conducted in two parts and presented as a series of nine publications drawn together through an exegesis. Part 1 (Papers 1 – 4) examines cultural and linguistic diversity and language maintenance among Australian children, as well as the speech-language pathology services available to support them. Drawing on longitudinal quantitative data from the 5,107 children included in the nationally representative Longitudinal Study of Australian Children (LSAC) and 580 children from the Longitudinal Study of Indigenous Children (LSIC), the findings of Part 1 indicated that approximately 15.3% of Australian children did not speak English at the age of formal school commencement, in a context where English is the language of instruction in schools. Additionally, 19.3% of Australian Aboriginal and Torres Strait Islander children spoke an Indigenous language and 43.1% were reported to speak Aboriginal Australian
English. Australian children are linguistically diverse with some children learning up to 6 languages. Among children who spoke a language other than English, 86.6% maintained their home language across the first five years of life. Among children who spoke an Indigenous language 76.3% maintained an Indigenous language across early childhood. Factors associated with home language maintenance among young Australian multilingual children included parental use of the language at home, the number of generations since migration, type of childcare, and the level of support and understanding from teachers and educational environments. Using geographical mapping analysis, a mismatch was identified between the languages spoken by a subset of 4,386 Australian children from LSAC, and the languages and locations in which support for children’s speech, language, and communication were offered by 2,849 Australian speech-language pathology services.

Part 2 (Papers 5 – 9) of this research identifies ways that speech-language pathologists (SLPs) can support culturally and linguistically diverse children’s speech, language, and communication development throughout the world. First, aspirations and recommendations for supporting children’s speech, language, and communication needs were identified by drawing upon international expert opinion. Second, the actualisation (or otherwise) of these aspirations and recommendations in the reality of international practice was examined through the Embracing Diversity – Creating Equality Study. This study involved ethnographic observation of professional practice in 14 international sites in Brazil, Canada, Hong Kong, Italy, and the US, that were identified as working with culturally and linguistically diverse populations. The data from Part 2 were analysed using Cultural-Historical Activity Theory (CHAT, Engeström, 1987), a heuristic framework that made visible the reality and complexities of professional practice. From these analyses six overarching principles for guiding practice with
culturally and linguistically diverse children were identified: (1) identification of culturally appropriate and mutually motivating therapy goals, (2) knowledge of languages and culture, (3) use of culturally appropriate resources, (4) consideration of the cultural, social and political context, (5) consultation with families and communities, and (6) collaboration with other professionals.

The findings of this research emphasise the importance of professionals’ collaboration with families and communities to promote culturally appropriate, high quality, and equitable services that embrace diversity and support speech, language, and communication development. The findings also identify opportunities for professionals to enhance the cultural competence of their own practice and become advocates for change to practice with culturally and linguistically diverse children.
Publications and conference papers arising from this research

Journal articles (in order they appear in this thesis)


**Conference papers**


Impact of the research

This thesis contributes to the literature by providing previously unknown information about the cultural and linguistic diversity of Australian children. The findings of this thesis explore Australian children’s maintenance of their home language in an English-dominant context, the personal and environmental factors associated with their language maintenance, and the speech-language pathology services available to support culturally and linguistically diverse children. Additionally, this thesis applies a holistic theoretical framework to expert knowledge and current international practice with culturally and linguistically diverse children to identify overarching principles to guide culturally appropriate practices that support children’s speech, language, and communication development.

Papers from the current thesis were cited in the final report of the 2014 Australian Government Senate Inquiry into the prevalence of different types of speech, language, and communication disorders and speech pathology services in Australia in reference to

- Indigenous children with speech, language, and communication needs:
  “A 2014 study by Professor Sharynne McLeod and Ms Sarah Verdon of Charles Sturt University found that there is a similar prevalence of speech, language, and communication need for Indigenous and non-Indigenous Australians.” The Senate Community Affairs Reference Committee, 2014, p. 27

- Culturally and linguistically diverse Australian children:
  “The committee received a second submission from Ms Sarah Verdon and Professor McLeod which concluded that ‘there is a mismatch between the languages and locations in which speech pathology services are offered in Australia and the languages spoken by Australian children. Therefore, there is an inequity in the services available...”
for Australian children who speak languages other than English” The Senate Community Affairs Reference Committee, 2014, p. 28

The findings from this Doctoral research have been cited in 27 media outlets both in Australia and Fiji. The impact of this Doctoral research also has been recognised by the Australian Government through the awarding of an Endeavour Post-Doctoral Research Fellowship (2015) to support the continuation of this research.
Statements from co-authors

Confirming the Authorship Contribution of the Doctoral Candidate

Paper One

As co-authors of the paper entitled "Linguistic diversity among Australian children in the first five years of life", we confirm that Sarah Verdon has made the following contributions:

• Conceptualisation of the paper
• Review and interpretation of the literature
• Identification of key variables for analysis from large scale data set
• Analysis of data
• Writing, editing, and revision of the manuscript

Furthermore, we agree to the inclusion of the paper in this doctoral research submitted for examination.

Sarah Verdon

15/12/2014

Sharynne MoLeod

15 December 2014

Adam Winsler

12/15/14
Paper Two

As co-authors of the paper entitled "Language diversity, use, maintenance, and loss in a population study of young Australian children", we confirm that Sarah Verdon has made the following contributions:

- Conceptualisation of the paper
- Review and interpretation of the literature
- Identification of key variables for analysis from large scale data set
- Assisting in analysis of data
- Interpretation of findings
- Writing, editing, and revision of the manuscript

Furthermore, we agree to the inclusion of the paper in this doctoral research submitted for examination.

Sarah Verdon

15/12/14

Date

Sharynne McLeod

15 December 2013

Date

Adam Winsler

12/15/14

Date
Paper 3

As co-authors of the paper entitled “Indigenous language learning and maintenance among young Australian Aboriginal and Torres Strait Islander children”, we confirm that Sarah Verdon has made the following contributions:

- Conceptualisation of the paper
- Review and interpretation of the literature
- Identification of key variables for analysis from large-scale data set
- Analysis of data
- Interpretation of findings
- Writing, editing, and revision of the manuscript

Furthermore, we agree to the inclusion of the paper in this doctoral research submitted for examination.

Sarah Verdon
1st December 2014

Sharynne McLeod
15th December 2014
Paper 4

As co-authors of the paper entitled “A geographical analysis of speech-language pathology services to support multilingual children”, we confirm that Sarah Verdon has made the following contributions:

• Conceptualisation of the paper
• Review and interpretation of the literature
• Analysis of data from multiple datasets
• Mapping of findings under the direction of Simon McDonald
• Writing, editing, and revision of the manuscript

Furthermore, we agree to the inclusion of the paper in this doctoral research submitted for examination.

Sarah Verdon

Date

Sharynne McLeod

Date

Simon McDonald

Date
Paper 5

As co-authors of the paper entitled “Reconceptualising practice with multilingual children with speech sound disorders: People, practicalities and policy”, we confirm that Sarah Verdon has made the following contributions:

• Conceptualisation of the paper
• Review and interpretation of the literature
• Application of theoretical framework with the support of Dr Sandie Wong
• Qualitative analysis of data
• Interpretation of findings
• Writing, editing, and revision of the manuscript

Furthermore, we agree to the inclusion of the paper in this doctoral research submitted for examination.

15th December 2014

Sarah Verdon

Date

15th December 2014

Sharynne McLeod

Date

15th December, 2014

Sandie Wong

Date
Paper 6

As author of the paper entitled “Understanding the world through ethnography: The experience of speech-language pathology practice in culturally and linguistically diverse settings”, I confirm that I made the following contributions:

• Conceptualisation of the paper
• Review and interpretation of the literature
• Collection of data
• Writing, editing, and revision of the manuscript

Furthermore, I agree to the inclusion of the paper in this doctoral research submitted for examination.

Sarah Verdon

1st December 2014

Date
Paper 7

As co-authors of the paper entitled “Supporting the speech, language, and communication of culturally and linguistically diverse children: Overarching principles, individual approaches”, we confirm that Sarah Verdon has made the following contributions:

• Conceptualisation of the paper
• Review and interpretation of the literature
• Study design and method
• Collection of data
• Qualitative analysis of data and application of theoretical framework
• Interpretation of findings
• Writing, editing, and revision of the manuscript

Furthermore, we agree to the inclusion of the paper in this doctoral research submitted for examination.

Sarah Verdon

Sharynne McLeod

Sandie Wong

15th December 2014
Date
Paper 8

As co-authors of the paper entitled “Shared knowledge and mutual respect: Enhancing culturally competent practice through collaboration with families and communities”, we confirm that Sarah Verdon has made the following contributions:

- Conceptualisation of the paper
- Review and interpretation of the literature
- Study design and method
- Collection of data
- Qualitative analysis of data and application of theoretical framework
- Interpretation of findings
- Writing, editing, and revision of the manuscript

Furthermore, we agree to the inclusion of the paper in this doctoral research submitted for examination.

4th March 2015
Sarah Verdon
Date

4th March 2015
Sandie Wong
Date

4th March 2015
Sharynne McLeod
Date
Paper 9

As author of the paper entitled “Enhancing practice with culturally and linguistically diverse families: Six key principles from the field”, I confirm that I made the following contributions:

• Conceptualisation of the paper
• Review and interpretation of the literature
• Collection of data
• Analysis of data
• Interpretation of practical application of findings
• Writing, editing, and revision of the manuscript

Furthermore, I agree to the inclusion of the paper in this doctoral research submitted for examination.

15th December 2014

Sarah Verdon

Date
General Introduction

The United Nations Convention on the Rights of the Child (United Nations, 1989) states that all children have the right to an education that lays a foundation for the rest of their lives, maximises their ability, and respects their family, their languages and their cultural and other identities. An essential component of children’s development is supporting their speech, language, and communication development in order to facilitate participation in their social and academic environments. Indeed, the development of speech and language skills is “intimately related to all aspects of educational and social development” (Law, Boyle, Harris, Harkness, & Nye, 1998, p. 2). Difficulties in speech, language, and communication during early childhood can have lifelong impacts upon children’s personal, social, academic, and occupational outcomes (Felsenfeld, Broen & McGue, 1994; McCormack, McLeod, McAllister & Harrison, 2009).

Supporting children’s speech, language, and communication development

Supporting children’s speech, language, and communication development is particularly important for children from culturally and linguistically diverse backgrounds who may not be of the dominant language or culture of the country in which they live. The development of children’s competency in their home languages in addition to the dominant language of a society plays an important role in developing their cultural identity, wellbeing, and sense of self (De Houwer, 2013; Puig, 2010). Additionally, there are many known social and academic benefits to speaking multiple languages. These include enhanced cognitive ability (e.g., executive functioning and working memory), the ability to form relationships with speakers of the home language (such as grandparents), and the ability to participate in community activities where home languages are spoken (Adesope, Lavin, Thompson, & Ungerleider, 2010;
Bialystok, 2011; Park & Sarkar, 2007). However, in many English-dominant countries (such as Australia), even as the cultural and linguistic diversity of the population continues to increase, the majority of health and education services continue to be delivered in models based on western cultural practices with English as the language of instruction.

**Challenges to supporting culturally and linguistically diverse children**

In the fields of speech-language pathology and education, much has been documented about the challenges of providing health and education services to children from culturally and linguistically diverse backgrounds (see Caesar & Kohler, 2007; Garcia, 1995; Guiberson & Atkins, 2012; Jones Diaz, 2014; Jordaan, 2008; Kritikos, 2003; Roseberry-McKibbin, Brice & O’Hanlon, 2005; Stow & Dodd, 2003; 2005; Williams & McLeod, 2012; Winter, 1999; 2001). Contrary to the common misconception in many English-dominant countries that multilingualism among children is a minority phenomenon, it has been found that in fact the majority of the world’s children speak more than one language (Tucker, 1998).

While many children become competent communicators regardless of the number of languages they speak, some children will require additional support to develop their speech, language, and communication skills. Some differences occur in the ways that monolingual and multilingual children acquire speech and language (Holm 1998; Holm & Dodd, 2001, Nicholls, Eadie & Reilly, 2011; Paradis, Genesee & Crago, 2011), and this difference can often falsely be assumed to mean that multilingual children’s speech and language is disordered. If a speech and/or language difficulty is present, it will appear in all languages of a multilingual speaker; if difficulties occur in only one language this is often described as a language difference (Gutiérrez-Clellen & Simon-Cereijido, 2009). Therefore, when working with children from culturally and
linguistically diverse backgrounds, there is a need to accurately differentiate between children who are genuinely in need of support from a speech-language pathologist (SLP), and children who may exhibit language differences as a result of multiple linguistic influences or cultural differences in approaches to communication and who do not require the support of an SLP (American Speech-Language-Hearing Association, 2004; Holm, Dodd, Stow, & Pert, 1999).

In order to accurately identify the presence of a communication difficulty, there is a need to recognise and understand that children come from many different backgrounds and that their cultural and linguistic influences shape the way they communicate and interact with others. This recognition needs to be made from the first contact between families and services (Robinson & Crowe, 1998). Yet, previous research has shown that services can overlook the cultural and linguistic background of children and fail to recognise the need to consider children’s diversity. For example, a study of a speech-language pathology service in the United Kingdom found that 55% of multilingual children referred to the service did not have the languages they spoke recorded correctly on referral (Stow & Dodd, 2005). Without this knowledge, it is impossible to accurately identify whether a communication difficulty is present and, if so, how to provide culturally and linguistically appropriate services for children and their families. Moreover, it has been found that when families are identified as being from a language background other than English, many services do not use interpreters to ensure that parents and families are able to provide relevant information and are fully informed about their children’s health and wellbeing (Caesar & Kohler, 2007; Jordaan, 2008; Kritikos, 2003, Williams & McLeod, 2012).

In addition, previous research has indicated that children from culturally and linguistically diverse backgrounds are at risk of over- and under-diagnosis of speech,
language, and communication difficulties, both of which have potentially detrimental impacts on children’s outcomes (Bedore & Peña, 2008; Stow & Dodd, 2005; Thordardottir, Rothenberg, Rivard, & Naves, 2006). For example, if children’s needs are not accurately identified, their access to support services is restricted, which may lead to children experiencing additional difficulties both academically and socially. On the other hand, if children are identified as needing services when only a language difference is present, this can cause an unnecessary burden on caseloads, costs to family and unnecessary interruption to children’s lives. Moreover, the identification of a difference as a disorder can devalue children’s cultural diversity and use of their home languages (McLeod, Verdon, Bowen & and the International Expert Panel on Multilingual Children’s Speech, 2013). The potential risks of over- and under-diagnosis are further compounded by the fact that families from culturally and linguistically diverse background are less likely to access services, meaning that the chances of early identification are reduced and potential long term impacts of communication difficulties are increased. Reasons for culturally and linguistically diverse families not accessing services may include cultural and language barriers, a lack of knowledge regarding the benefits of speech-language pathology and the services that are available, and cultural notions of guilt and shame associated with disability (Bowers & Oakenfull, 1996; Stow & Dodd, 2003; 2005).

Yet even when services are provided to culturally and linguistically diverse families, a number of other barriers to culturally appropriate practice remain. These barriers include: assessment and intervention being provided in the language of the SLP rather than the language of the child (Caesar & Kohler, 2007; Jordaan, 2008); the use of standardised assessments based on English norms that are not applicable to multilingual children (McLeod & Baker, 2014); a lack of appropriate assessments and normative
data for multilingual children to enable accurate diagnoses (Guiberson & Atkins, 2012; Pascoe & Norman, 2011; Stow & Dodd, 2003); cultural difference between SLPs and families which may impede treatment (Williams & McLeod, 2012); and a lack of training regarding working with families from diverse backgrounds potentially resulting in culturally inappropriate practices (Kritikos, 2003; Roseberry-McKibbin, Brice, & O’Hanlon, 2005).

**Cultural competence**

To overcome the many barriers identified to supporting culturally and linguistically diverse children and their families, professionals providing services (such as SLPs) require a level of cultural competence. Cultural competence is defined as practice that “acknowledges and incorporates—at all levels—the importance of culture, assessment of cross-cultural relations, vigilance toward the dynamics that result from cultural differences, expansion of cultural knowledge, and adaptation of services to meet culturally unique needs” (Betancourt, Green, Carrillo, & Ananeh-Firempong, 2003, p. 294). However, many SLPs report a lack of cultural competence and confidence when working with culturally and linguistically diverse families (Kritikos, 2003).

While much has been written regarding the challenges of engaging in practice with culturally and linguistically diverse populations, less has been documented regarding pathways for achieving culturally competent practice. Without such direction, SLPs may continue to take approaches to practice based on their own culture that do not meet the needs and best interests of the families they serve. Therefore, research is needed to both challenge what Clyne refers to as the “monolingual mindset” (2008, p.1), that is the privileging of the dominant language and culture over minority cultures, and to promote culturally competent practice to ensure that every child is provided with
the opportunity to reach their full potential regardless of their cultural background or the
languages they speak.

**Purpose**

The purpose of this thesis is (1) to describe the cultural and linguistic diversity
and language maintenance patterns of Australian children, and (2) to identify ways that
SLPs can support culturally and linguistically diverse children’s speech, language, and
communication development in different contexts throughout the world.

**Research questions**

The papers within this thesis are designed to address the following research questions:

1. What is the linguistic diversity of Australian children aged between 0-5 years?
   (Papers 1 and 3)
2. What patterns of home language maintenance and loss are occurring among both
   Indigenous and non-Indigenous Australian children? (Papers 2 and 3)
3. What personal and environmental factors are associated with home language
   maintenance among Australian children in early childhood? (Papers 2 and 3)
4. What speech-language pathology services are available to support culturally and
   linguistically diverse children in Australia? (Paper 4)
5. What are international experts’ aspirations and recommendations for practice
   with culturally and linguistically diverse children and their families? (Paper 5)
6. How can SLPs’ current practices be re-considered to support more effective
   engagement with culturally and linguistically diverse children and their
   families? (Paper 6)
7. What current practices are occurring to support culturally and linguistically
   diverse children with speech, language, and communication needs? (Paper 7)
8. How do SLPs collaborate with families and communities to support culturally and linguistically diverse children with speech, language, and communication needs and what are the realities, benefits, and tensions of collaborative practice? (Paper 8)

9. How can SLPs demonstrate cultural competence and enhance their practice to facilitate positive outcomes for culturally and linguistically diverse children with speech, language, and communication needs? (Paper 9)

The individual aims and the methods used in each of the nine papers to answer each of these research questions are detailed in Table 1.
Table 1. Aims and methods of inquiry used in publications within this thesis

<table>
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<tr>
<th>Paper title</th>
<th>Research question(s) addressed</th>
<th>Aims/ research question of individual papers</th>
<th>Participants</th>
<th>Methods</th>
</tr>
</thead>
</table>
| 1. Linguistic diversity among Australian children in the first five years of life. | 1. What is the linguistic diversity of Australian children aged between 0-5 years? | 1. What are the main languages spoken in the homes of Australian children?  
2. What proportion of Australian children is exposed to and/or speaks languages other than English?  
3. What are the main languages other than English that are spoken and/or understood by Australian children?  
4. What are the demographics of Australian children who use languages other than English and what personal and environmental factors are associated with exposure to language other than English in early childhood? | 5,107 children from LSAC¹   | Secondary data analysis using SPSS²                     |
| 2. Language maintenance and loss in a population study of young Australian children. | 2. What patterns of home language maintenance and loss are occurring among both Indigenous and non-Indigenous Australian children? | 1. What patterns of language use, maintenance, and loss are occurring within multilingual children and among the most common language-minority communities in Australia during early childhood?  
2. What personal and environmental factors are associated with patterns of language use, maintenance, and loss in Australian multilingual children? | 4,252 children from LSAC   | Secondary data analysis with SPSS using Chi square, t tests, ANOVA³ and multiple logistic regression |

¹ LSAC: The Longitudinal Study of Australian Children  
² SPSS: Statistical Package for Social Sciences (Version 20, IBM Corporation, 2011)  
³ ANOVA: One-way analysis of variance
<table>
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<th>3. Indigenous language learning and maintenance among young Australian Aboriginal and Torres Strait Islander children.</th>
<th>3. What personal and environmental factors are associated with home language maintenance among Australian children in early childhood?</th>
<th>1. What is the linguistic diversity of Aboriginal and Torres Strait Islander children in the baby (B) cohort of LSIC? 2. What patterns of language maintenance are occurring among Aboriginal and Torres Strait Islander children in LSIC across early childhood? 3. What personal and environmental factors influence the maintenance of languages among Aboriginal and Torres Strait Islander children in LSIC?</th>
<th>580 children from LSIC&lt;sup&gt;4&lt;/sup&gt;</th>
<th>Secondary data analysis with SPSS using Chi square and ANOVA</th>
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<td>4. A geographical analysis of speech-language pathology services to support multilingual children.</td>
<td>4. What speech-language pathology services are available to support culturally and linguistically diverse children in Australia?</td>
<td>1. What is the linguistic diversity of practicing Speech Pathology Australia members who offer services in Australia in a language other than English? 2. What is the geographical distribution of multilingual Speech Pathology Australia members? 3. What languages other than English are spoken by preschool children in Australia? 4. What is the geographical distribution of multilingual preschool children in Australia? 5. How do the languages and locations in which paediatric services are offered by Speech Pathology Australia members compare with the location of, and languages spoken by, Australian preschool children?</td>
<td>2,849 services provided by Speech Pathology Australia 4,386 children from LSAC</td>
<td>Spatial analysis using ArcGIS mapping software</td>
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<sup>4</sup> LSIC: The Longitudinal Study of Indigenous Children
5. Reconceptualising practice with multilingual children with speech sound disorders: People, practicalities and policy.

5. What are international experts’ aspirations and recommendations for practice with culturally and linguistically diverse children and their families?

1. To propose aspirations for SLPs’ practice with multilingual children with speech sound disorders
2. To identify recommendations for working appropriately and effectively with multilingual children with speech sound disorders To make visible the reality and complexities of SLPs’ practice with multilingual children with speech sound disorders

14 members of the International Expert Panel on Multilingual Children’s Speech

· Focus group discussions
· Analysis of discussion transcripts informed by CHAT

6. Understanding the world through ethnography: The experience of speech-language pathology practice in culturally and linguistically diverse settings.

6. How can SLPs’ current practices be re-considered to support more effective engagement with culturally and linguistically diverse children and their families?

To describe the methodology of the Embracing Diversity – Creating Equality study and highlight the opportunities for practitioners to use qualitative methods to investigate and enhance practice with culturally and linguistically diverse families in their own practice.

Ethnographic observation
· Semi-structured interviews
· Artefact collection
· CHAT analysis

7. Supporting culturally and linguistically diverse children with speech, language, and communication needs: Overarching principles, individual approaches.

7. What current practices are occurring to support culturally and linguistically diverse children with speech, language, and communication needs?

1. How do SLPs working in multicultural and multilingual practice facilitate positive outcomes for culturally and linguistically diverse children with communication needs?
2. How do SLPs in multicultural and multilingual practice develop, maintain, and demonstrate cultural competence in their practice with culturally and linguistically diverse families?

14 international speech-language pathology sites

· Ethnographic observation
· Semi-structured interviews
· Artefact collection
· CHAT analysis

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5 CHAT: Cultural-Historical Activity Theory
| 8. Shared knowledge and mutual respect: Enhancing culturally competent practice through collaboration with families and communities. | 8. How do SLPs collaborate with families and communities to support culturally and linguistically diverse children with speech, language, and communication needs and what are the realities, benefits, and tensions of collaborative practice? | 1. What are the benefits of collaboration with families and communities in the practice of speech and language therapy with culturally and linguistically diverse children and their families?  
2. What tensions exist to effective collaboration with families and communities?  
3. How can SLTs’ enhance the cultural competence of their practice through engagement with families and communities? | 14 international speech-language pathology sites · Ethnographic observation · Semi-structured interviews · Artefact collection · CHAT analysis |

| 9. Enhancing practice with culturally and linguistically diverse families: Six key principles from the field. | 9. How can SLPs demonstrate cultural competence and enhance their practice to facilitate positive outcomes for culturally and linguistically diverse children with speech, language, and communication needs? | To translate the application of the findings of the Embracing Diversity – Creating Equality Study to everyday practice | 14 international speech-language pathology sites A summary of the content from papers 7 and 8 |
Orientation to the Thesis

Synopsis

This thesis presents a mixed methods doctoral research project which aims to describe the cultural and linguistic diversity and language maintenance patterns of Australian children, and to identify ways to support culturally and linguistically diverse children’s speech, language, and communication development. This is not a traditional thesis, but rather the findings are presented as a series of nine papers, organised in two parts, and drawn together by an exegesis. Each of the two parts has brief introductory and concluding remarks that link each of the papers and tells the meta-story of the thesis. The thesis uses a “just in time” approach by providing relevant contextual information just prior to the papers that contain this information. In particular, as is common in quantitative theses presented as a series of publications, Part 1 does not contain a methodology section, but rather the methods used are described within each of the papers included in Part 1. Conversely, Part 2 includes a description of the methodology (ethnography) used in the qualitative Embracing Diversity – Creating Equality study as this is not fully expounded within the papers included in Part 2.

Part 1 presents four quantitative papers while Part 2 presents five qualitative papers. A mixed methods research design was selected to enable the current research to draw on the strengths of both quantitative and qualitative approaches to answer the nine research questions identified in this thesis. Such an approach allows for consideration of both large-scale statistical evidence regarding cultural and linguistic diversity among children, as well as the richer context in which SLPs’ practice with culturally and linguistically diverse children is experienced. A short outline of each of the papers is presented below.

Part 1 of this thesis includes four papers and sets up the “problem” of the thesis by identifying the extent of Australian children’s cultural and linguistic diversity and the
need for culturally appropriate services to support their speech, language, and communication development. Part 1 is underpinned by the International Classification of Functioning, Disability and Health: Child and Youth Version (ICF-CY, WHO, 2007) and draws upon secondary data analysis collected by other sources (including publicly available longitudinal data sets and data from Speech Pathology Australia).

Paper 1 draws upon data from the Longitudinal Study of Australian Children (LSAC), a nationally representative study of 5,107 Australian children to describe their cultural and linguistic diversity in the first five years of life over three waves of data. Paper 2 draws on a subset of 4,252 children from the same study to consider the longitudinal maintenance of languages other than English and factors associated with language maintenance across early childhood in an English-dominant context. Paper 3 draws on data from the Longitudinal Study of Indigenous Children (LSIC) to consider Indigenous language use and factors associated with language maintenance across early childhood among 580 Australian Aboriginal and Torres Strait Islander children. Lastly, in Paper 4 spatial analysis software is used to map the location of Australia’s culturally and linguistically diverse children (from LSAC) against the locations of currently available speech-language pathology services for multilingual children in Australia (from the Speech Pathology Australia membership database) to identify whether adequate services are available to support these children’s speech, language, and communication development.

Part 2 uses qualitative methods of inquiry, underpinned by the theoretical framework of Cultural-Historical Activity Theory (CHAT, further explained in Part 2) to address the gap in understanding about, and provide guidance for, culturally appropriate practices with culturally and linguistically diverse children identified in Part 1. Paper 5 draws upon data from a focus group with members of the International
Expert Panel on Multilingual Children’s Speech to identify aspirations and recommendations for practice with culturally and linguistically diverse children and their families. Professional transcriptions of the focus group conversations were analysed using CHAT as a heuristic framework to guide holistic consideration of all aspects of practice and to identify the complexities associated with enacting recommendations for practice.

The remaining four papers contained within Part 2 are based on the Embracing Diversity – Creating Equality study which involved ethnographic observation of SLPs’ practice with multilingual and multicultural children and their families from 14 international sites on four continents in five countries (Brazil, Canada, Hong Kong, Italy, and the US). The aim of the study was to collect data about the approaches to practice used around the world to support the speech, language, and communication of children from culturally and linguistically diverse backgrounds. Paper 6 describes the methodology of the Embracing Diversity – Creating Equality study and the use of ethnographic inquiry in the field of speech-language pathology. Paper 7 uses CHAT to undertake an holistic analysis of SLPs’ practice with culturally and linguistically diverse children and their families as observed in the 14 international sites. This paper draws upon multiple forms of data collected in the Embracing Diversity – Creating Equality study, including semi-structured interviews, photographs, videos, field notes, narrative reflections, and artefacts collected from the sites. The findings of Paper 7 are used to provide a series of overarching principles to guide SLPs practice with diverse populations. Paper 8 then draws upon narrative reflections and interviews with SLPs to describe the realities, benefits, and tensions of collaboration with families and communities as observed during the Embracing Diversity – Creating Equality study. Paper 9 concludes the thesis by summarising the findings of the Embracing Diversity –
Creating Equality study in practitioner-friendly terms to allow for the translation of theory into SLPs’ daily practice with culturally and linguistically diverse children.

In order to disperse the message and findings of the thesis broadly, these nine papers have been written for a diverse range of journals located within different countries (i.e., US, UK, Australia and internationally), within different professions (i.e., education and speech-language pathology) and with different objectives (i.e., qualitative and quantitative journals and practitioner journals as well as academic journals).

Throughout the papers in this thesis, the terminology used varies depending on the intended audience of the journal to which the paper has been submitted. For example, in papers 5 and 8, written for UK-based journals, speech-language pathologists (SLPs) are referred to as speech and language therapists (SLTs) and the profession of speech-language pathology is referred to as speech and language therapy as is appropriate for a UK audience. Additionally, the exegesis is written using Australian spelling and grammar as the thesis is submitted through an Australian university. However, the spelling, grammar and referencing style used vary throughout the papers in this thesis between Australian, UK, and US English conventions depending on the location and specifications of the journal in which the papers have been published. Furthermore, the meaning and applied use of different terms and phrases can differ between contexts. Therefore, at the end of this section a definition of key terms is provided to explain the meaning of these terms as they are applied in this thesis. Given the qualitative component of this thesis, and thus the interpretive role played by the researcher, the following section situates the researcher by providing a background to her cultural lens and the experiences that led to the undertaking of this research.
Situating the researcher

Since the foregrounding of postmodernism in the late 20th century, the objectivity of the researcher has been challenged (Denzin & Lincoln, 2011). In this thesis I recognise that my research is subjective and interpretative. I acknowledge that it is written from my perspective and influenced by my worldview and life experiences. Rather than trying to deny this subjectivity, I embrace it and below provide an explanation of my personal and professional history, how I came to undertake my research in the way I did, and how my findings have been influenced by my approaches.

I am a 27-year-old monolingual English-speaking SLP and doctoral researcher. I grew up in a monocultural environment in rural Australia, in a town with a population of around 800 people. I undertook all of my studies – school, undergraduate, and postgraduate – in rural and regional Australia, in towns and cities that have a low population of people from culturally and linguistically diverse backgrounds. I received little exposure to people from cultural, religious, racial, and language backgrounds other than my own; however, I did have a desire to travel the world and understand other cultures. It could be said that I am the embodiment of the monocultural, monolingual SLP that is so often described in the literature. It was with this lens that I started this journey.

My career as an SLP started in 2010 as a new graduate in Melbourne, one of Australia’s most multicultural cities. I worked in a clinic and school specialising in supporting children with autism. Looking back, nearly all of the children I worked with were from cultural and linguistic backgrounds that were different from my own. The range of cultural backgrounds of the children varied, with children from Asia, Africa, the Middle East, Europe, and Australia. Not once during my first year as an SLP performing assessments and intervention did I think to provide any form of evaluation
or services in a language other than English. It did not occur to me, it was never suggested, nor did I ever see any of my colleagues incorporate other languages into their practice.

After completing my year as a new graduate, I moved to Vietnam to volunteer for 3 months in Ho Chi Minh City with the Trinh Foundation whose mission was to set up the first speech therapy training course in Vietnam. In this role I assisted in both administration and clinical education. As part of my administrative work I was required to adapt Australian measures of student competency for the Vietnamese context, accounting for the social and cultural differences between the two countries. In my role as a clinical educator I was required to supervise and assist students in central Vietnam in their work with children with autism. It was in this role that I really began to understand the importance of cultural understanding, cultural competence and most importantly cultural humility.

Being in Vietnam was the first time in my life that I had ever experienced being the minority. My language, my appearance, my ways of knowing and doing were all strikingly different to everyone around me. For the first time, it wasn’t other people who were “foreign”, it was me. All of the things that I had taken for granted as “truth” were challenged. I thought the role of clinical educator would be easy, it was the same profession, working with children with the same needs as those I had worked with at home. But it wasn’t easy, it was as though a wall existed between the students and myself and only through many miscommunications, failed attempts, and trialling new approaches did I realise it wasn’t the students who had a problem with learning, it was me who had a problem with teaching. Once I began to understand the Vietnamese way of learning and doing I became so much more effective in my teaching and my students became brilliant clinicians… but it was me who needed to adjust, not them.
The mothers we worked with in Vietnam thought I was a magician. Some had children who were 9 nine years old (whom I could immediately see had severe autism) and the mothers had never heard of the word autism (as this wasn’t a label used in this part of Vietnam) or received any support for their children’s communication. One mother cried as I conducted what I thought was a run-of-the-mill session with her son. When I asked the students to translate what she was saying they told me that it was the first time her son had ever sat on a chair and completed a task with someone. I realised that maybe, with the skills we have as SLPs, we are magicians. We have the power to change children’s lives, one family at a time, and every family deserves that chance.

After completing my volunteer work in Vietnam I decided to move to London to see more of the world and practice in a different country. By fate or destiny, the only job that was available when I arrived was in Essex, North East of London. It took me two and a half hours each way, every day, to get to work in the furthest reaches of London’s east side. The area was inhabited primarily by new migrants and the majority of children on my caseload were from a non-English speaking background. My job was to travel to community centres to assess children who had been on waiting lists for some time. Again, I was not provided with information about how to contact or book interpreters, I never saw colleagues using interpreters, and all of the assessments were conducted using standardised assessments in English.

Many of the children came to see me with their mothers, most of whom had limited English. Upon assessment, the vast majority were found to be on the autism spectrum. My heartbreaking job was to try to find the words to tell a mother, in a simplified way, in their second language, that their child had a lifelong disability, and watch as they came to the realisation that their child may never talk, find a job, live independently, or any of the other dreams that a mother has for their child. I watched as
the mothers left my office confused, worried, and uncertain for their child’s future. My job was only to assess the children, so I never knew what kind of follow up support they received. It was from this experience that I knew something had to change in our profession. I could see children from culturally and linguistically diverse families slipping through the cracks of services, not just in my own country, but from my experiences around the world. I wanted to undertake research that could make a difference in the lives of these families so that no parent would have to feel so confused and unsupported again, and so that every child had the chance to fulfil their potential as a valued and worthwhile human being.
Definition of key terms in this thesis

As discussed earlier, the meaning and applied use of terms can differ between contexts. Therefore, a definition of key terms and their application in this thesis are provided in this section.

Multilingualism

For the purpose of this thesis, multilingualism is defined as the ability to “comprehend and/or produce two or more languages in oral, manual, or written form with at least a basic level of functional proficiency or use, regardless of the age at which the languages were learned” (International Expert Panel on Multilingual Children’s Speech 2012, p. 1). The terms multilingualism and bilingualism are often used interchangeably (Crystal, 2003); however, in this thesis, multilingualism has been selected to parallel with the term multiculturalism recognising the breadth of cultural and linguistic influences within society.

Culturally and linguistically diverse

In this thesis the term culturally and linguistically diverse is used to refer to children and families with multiple linguistic and cultural influences who are not of the dominant language and cultural background of the broader social context in which they reside.

Home language

The term home language is used in reference to a language that is spoken in the home or ethnolinguistic community. It is usually a child’s first language and may not be the dominant language of the broader society in which they live.

Speech, language, and communication needs

The term speech, language, and communication needs refers to any difficulty or delay that affects a person’s ability to communicate. This includes any difficulty in a
person’s “ability to receive, send, process, and comprehend concepts or verbal, nonverbal and graphic symbol systems” (American Speech-Language-Hearing Association, 1993, p. 1). Difficulties may range in severity from mild to profound and can be either developmental or acquired. Communication difficulties can occur in a person’s speech (articulation or phonology), language (semantics, morphology, syntax, discourse), fluency (stuttering), voice, or social communication (pragmatics) (American Speech-Language-Hearing Association, 1993).

**Language or dialectal difference**

A language or dialectal difference is a variation in language use or production impacted by regional, social, or cultural/ethnic factors. Many people from culturally and linguistically diverse backgrounds have a language or dialectal difference but have typical speech, language, and communication abilities. Therefore, a language or dialectal difference should not be considered a disorder of speech or language.

**Speech-language pathologist (SLP)**

An SLP is a professional who specialises in the evaluation and treatment of communication (as outlined in the definition of speech, language, and communication needs above) and swallowing disorders. The term equates to speech pathologist (Australia) and speech and language therapist (UK).

**People who work with children with speech, language, and communication needs**

While SLPs are the focus of this study, it is acknowledged that there are a number of people who work to support children with speech, language, and communication needs. These include early childhood educators, childcare workers, teachers, parents, extended family, community elders, interpreters, bicultural support workers, community nurses, health workers, and SLPs.
Inter-professional practice

*Inter-professional practice* occurs when multiple workers “from different professional backgrounds work together with patients, families, carers and communities to deliver the highest quality care” (WHO, 2010, p. 7). The aim of inter-professional practice is to pool the collective skills and knowledge of different professionals involved in supporting a child’s development to achieve the best possible outcomes for the children and families involved (Press, Sumsion & Wong, 2010).

Australia

Australia is an English-dominant, developed country built on a history of migration from all parts of the world. Australia is a highly culturally and linguistically diverse nation, with 27.6% of its population born overseas and 23.2% speaking a primary language other than English at home (Australian Bureau of Statistics, 2012). Australia does not have a dominant second language but rather is composed of a number of minority ethnolingusitic communities that as a whole make up around one quarter of the population. As a result, Australia provides a useful setting for the study of multilingualism and supporting culturally and linguistically diverse children in an English-dominant country. The Australian context is further described in the introduction to Part 1.

Indigenous

The term *Indigenous* is used to refer to the original inhabitants of a nation prior to colonisation or migration from other nations. In Australia, the Indigenous inhabitants and custodians of the land are the Aboriginal and Torres Strait Islander people who originate from 250 different language groups, speaking over 600 dialects (Marmion, Obata & Troy, 2014).
References


Part 1:

The cultural and linguistic diversity of Australian children and the services available to support their speech, language, and communication
Introduction to Part 1: Australia as a microcosm of linguistic diversity

The vision of the Council of Australian Governments is that “all children have the best start in life to create a better future for themselves and for the nation” (Council of Australian Governments, 2009, p. 4). To make this vision a reality, Australian children need opportunities to be supported in their development and to access services that can facilitate pathways for participation in society. According to the most recent Australian census in 2011, 23.2% of Australians speak a language other than English at home (Australian Bureau of Statistics, 2012a). Therefore, in order to achieve the vision of giving every child the best possible start to life, it is essential that Australian health and education services recognise, respect, and support cultural and linguistic diversity of children and their families.

Providing culturally appropriate services to all Australian children is a complex task for governments and services, given the extent of the diversity that exists in Australia. Unlike many other English-dominant countries (e.g., the US – Spanish, and Canada – French), Australia does not have a dominant second language, but rather is comprised of people from a vast range of backgrounds speaking over 300 different languages (Australian Bureau of Statistics, 2012b). The most common languages other than English spoken by the Australian population in the 2011 census included: Mandarin (1.6%), Italian (1.4%), Arabic (1.3%), Cantonese (1.2%), and Greek (1.2%) (Australian Bureau of Statistics, 2012a). As the percentages suggest Australia presents a rich tapestry of cultures and languages that co-exist in small numbers, but as a whole, make up a large proportion of the Australian population. The languages spoken are a reflection of Australia’s historical context and the many waves of migration that have occurred in the short history of the nation (see Table 2).
<table>
<thead>
<tr>
<th>Year</th>
<th>Migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre – 1788</td>
<td>Australia inhabited by ~400,000 Aboriginal and Torres Strait Islander people speaking ~250 languages and 600 dialects.</td>
</tr>
<tr>
<td>1788 – 1830</td>
<td>English colonisation, built on convicts from Britain and Ireland.</td>
</tr>
<tr>
<td>1830 – 1840</td>
<td>Commencement of voluntary migration from Britain and Ireland.</td>
</tr>
<tr>
<td>1851</td>
<td>Gold discovered in Australia resulting in the “Gold Rush”. Arrival of 600,000 migrants from England, Ireland, continental Europe, China, US, New Zealand, and the Pacific Islands.</td>
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<tr>
<td>1901</td>
<td>Federation of Australia as a nation. Introduction of the “White Australia Policy”.</td>
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<tr>
<td>1914 – 1918</td>
<td>World War I (WWI) - Temporary cessation of Australian migration.</td>
</tr>
<tr>
<td>1919 – 1922</td>
<td>Post WWI</td>
</tr>
<tr>
<td>1929</td>
<td>Stock market crash and Great Depression ended assisted passage schemes to Australia.</td>
</tr>
<tr>
<td>1930s</td>
<td>Jewish refugees escaping the Nazi regime migrated to Australia sponsored by Australian Jewish communities.</td>
</tr>
<tr>
<td>1939 – 1945</td>
<td>World War II (WWII) – Migrants from “enemy” countries (Japan, Germany, Italy) were classified as “enemy aliens” and interned or kept under police surveillance.</td>
</tr>
<tr>
<td>1945</td>
<td>Post WWII</td>
</tr>
<tr>
<td>1951 – 1954</td>
<td>Migration agreement made with US and European countries.</td>
</tr>
<tr>
<td>1972</td>
<td>Migration selection shifted from country of origin to personal skills and attributes.</td>
</tr>
<tr>
<td>1973</td>
<td>Australia declared a “multicultural society” by Al Grassby, Minister for Immigration. Australian Citizenship Act declares equal treatment for all migrants and an end of racial and ethnic discrimination.</td>
</tr>
<tr>
<td>1975 – Present</td>
<td>The first “boat people” arrive. These refugees initially came from East Timor, Vietnam, China and the Middle East and continue to arrive from Sudan, Afghanistan, and Iraq.</td>
</tr>
<tr>
<td>1988</td>
<td>Migration policy changes focus from “family reunion” to skilled and business migrants.</td>
</tr>
<tr>
<td>2015</td>
<td>Total population 23,715, 548 with 23.2% who speak a language other than English at home.</td>
</tr>
</tbody>
</table>
The statistics reported in the census data consider only Australians who are aged over five years. Therefore, little is currently known about the linguistic diversity of Australian children across early childhood. In order to plan for and provide services to support children’s speech, language, and communication that are appropriate for the population, data are needed to describe the linguistic diversity of Australian children. Paper 1 addresses this need by drawing on cross-sectional data regarding the linguistic diversity of 5,107 Australian children across the first five years of their life from the nationally representative Longitudinal Study of Australian Children (LSAC). Paper 2 continues to explore Australian children’s linguistic diversity by drawing on a longitudinal subset of 4,252 children from LSAC to investigate children’s maintenance of languages other than English across early childhood, and the personal and environment factors that support language maintenance.

Of particular significance in the Australian context is that little is known about the linguistic diversity of young Indigenous Australians. Only relatively small numbers of Indigenous children were included in LSAC making it difficult to use this data set to obtain an accurate representation of language diversity and maintenance among Australian Indigenous children. Therefore, an alternative data set, Longitudinal Study of Indigenous Children (LSIC), was used to address this question.

**Indigenous Australians: The Aboriginal and Torres Strait Islander People**

The Indigenous inhabitants of Australia, the Aboriginal and Torres Strait Islander people, are the longest continuous civilization in human history. It is estimated that they have inhabited the continent of Australia for 50,000 years, or over 2,000 generations (Broome, 1994). Prior to European settlement there were over 600 Aboriginal and Torres Strait Islander groups speaking an estimated 250 languages and 600 dialects (Australian Institute of Aboriginal and Torres Strait Islander Studies, AIATSIS 2005;
Walsh 1993). Currently around 120 Indigenous Australian languages are still spoken (Marmion, Obata, & Troy, 2014). More recently the emergence of new Indigenous Australian languages as a result of children and young people being exposed to multiple linguistic influences is being documented. For example, the young people (aged under 30 years) in one Aboriginal community the Northern Territory of Australia have been found to speak a new language known as Warlpiri Light which has evolved through the combination of exposure to Warlpiri (the traditional Indigenous language spoken in the area), Kriol (an English-based Creole) and Aboriginal Australian English (O’Shannessy, 2005). From the earliest times, the Aboriginal and Torres Strait Islander people were multilingual, that is, they spoke and understood more than one language. In fact, Aboriginal and Torres Strait Islander people have been labelled “the leading contenders for being the most multilingual people in the world” (Laycock, 1979, p. 82). Multilingualism arose from the need to communicate with neighbouring groups using languages that were mutually intelligible (Rumsey, 1993). Personal accounts and research by anthropological linguists have reported that almost all Aboriginal and Torres Strait Islander people spoke at least two languages, with many speaking four or five languages and in some groups people spoke up to 10 languages (Creative Spirits, 2013; Rumsey, 1993). However, limited data have been published regarding the use of Indigenous languages by Australian Aboriginal and Torres Strait Islander children in the present day. As is the case with many Indigenous people across the world, including the First Nations people of Canada, the Maori people of New Zealand and Native American people in the US, a number of initiatives are currently being implemented to re-voice, re-practise, and revitalise Aboriginal and Torres Strait Islander languages and culture.
(Williams, 2013). Paper 3 aims to support revitalisation of Indigenous languages by drawing upon the largest longitudinal dataset of Indigenous children in the world, the LSIC. Paper 3 describes Aboriginal and Torres Strait Islander children’s Indigenous language use and maintenance across early childhood, and identifies personal and environmental factors that support Indigenous language maintenance.

**Speech-language pathology services to support Australian children**

In addition to the languages spoken by Australian children, little is also known about the location of multilingual children residing in Australia, nor the speech-language pathology services available to support their speech, language, and communication. This lack of knowledge makes it difficult to plan for adequate and equitable speech-language pathology service provision for culturally and linguistically diverse children. Paper 4 contributes to the literature by using a series of maps to describe the linguistic diversity and location of both Australia’s multilingual children and Australia’s multilingual speech-language pathology workforce, and identifies a mismatch between both the location of, and languages spoken in Australian speech-language pathology services and by Australian children.

**Theoretical Orientation of Part 1**

**The International Classification of Functioning, Disability and Health: Children and Youth version (ICF-CY)**

Part 1 of this thesis is theoretically underpinned by the International Classification of Functioning, Disability and Health: Children and Youth version (ICF-CY) (WHO, 2007), a conceptual framework grounded in both the medical and social models of health. Known as a biopsychosocial model of health and wellness, the ICF-CY has been used by researchers to understand health and wellness in children and youth (McLeod & Threats, 2008). With the child as the focus, the framework investigates health and
contextual factors including body functions and structures, activities and participation, as well as environmental and personal Factors that are barriers or facilitators to full participation in society (see Figure 1).

**Figure 1.** The International Classification of Functioning, Disability and Health: Children and Youth Version (WHO, 2007, p. 17)

The ICF-CY has been recommended as a conceptual framework for use in speech-language pathology (McLeod & Threats, 2008), and has been endorsed by many professional bodies around the world including the American Speech-Language-Hearing Association (2007), the Canadian Association of Speech-Language Pathologists and Audiologists (2010), Royal College of Speech and Language Therapists (2006), and Speech Pathology Australia (2011). In the field of speech-language pathology the ICF-CY has been specifically applied to children with speech sound disorders (McLeod & Bleile, 2004; McLeod & McCormack, 2007), language impairment (Washington, 2007), communication disorders (Simeonsson, Björck-Äkesson, & Lollar, 2012) and stuttering (Yaruss & Quesal, 2004). Recent attention has been paid to the application of the ICF-CY to culturally and linguistically diverse children (McLeod, 2012; McLeod, Verdon, Bowen & International Expert Panel on Multilingual Children’s Speech, 2013).
The ICF-CY provides a useful lens for the current study as it provides common terminology for discussing children’s functioning and contextual factors that can be used across disciplines and countries (WHO, 2007). In this research, the ICF-CY provides a framework that facilities holistic understanding of how environmental and personal factors act as facilitators or barriers to language use and maintenance, which impacts the activities and participation of children from culturally and linguistically diverse backgrounds.

**Methodology used in Part 1**

Part 1 draws upon data collected in three data sets (1) LSAC (2) LSIC and (3) the 2012 Speech Pathology Australia membership database. The use of these existing datasets has a number of benefits including access to data from a diverse range of participants and the statistical power of drawing upon large-scale, and in the case of LSAC nationally representative, datasets to explore and describe the diversity of Australia’s children and the services available to support their speech, language and communication. The statistical methods used to analyse the data in part 1 included frequency, Chi Square, t tests, ANOVA and multiple logistic regression.

The use of secondary data also comes with a number of limitations as the researcher has no control over the questions that are asked and the way in which they are asked. In many instances the aim of large scale datasets is to be broad, rather than deep in their data collection. For example, the wording of questions regarding children’s language learning in LSAC had a number of implications for the reporting and interpretation of data. When children were aged between 0 and 1 year parents were asked “Does the study child use a language other than English at home? If more than one, record the main language” and in later waves from age 2 onwards parents were asked “Is the child regularly spoken to in a language other than English by anyone? If
yes, what is the main other language that the child understands and/or speaks?”. The phrasing of these questions did not consider factors that are central to understanding the nature of children’s bilingualism including how many languages children spoke in total, the age of acquisition of languages (i.e. whether languages were learned simultaneously or sequentially), the amount of exposure to each language that the children was learning /spoke, children’s proficiency in each language, children’s dominant language, children’s preferred language, the contexts in which children were learning their languages, and who the children spoke with in each language. These data are essential for developing a comprehensive language profile of multilingual children. To address this issue the findings of part one are presented in keeping with the exact wording of the questions used to elicit the response so has not to make assumptions or draw incorrect conclusions from the data.
Overarching Aims of Part 1

In summary, the aim of Part 1 is to answer research questions one to four of this thesis by describing:

1. The linguistic diversity of Australian children aged between 0-5 years (Paper 1)
2. The patterns of home language maintenance and loss occurring among both non-Indigenous Australian and Indigenous children (Papers 2 and 3)
3. The personal and environmental factors associated with home language maintenance among Australian children in early childhood (Papers 2 and 3)
4. The speech-language pathology services available to support culturally and linguistically diverse children in Australia (Paper 4)

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Linguistic diversity among Australian children in the first five years of life.

*Speech, Language, and Hearing* 17(4), 196-203

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Abstract

Like many English-dominant nations, Australia has a rich history of cultural and linguistic diversity. This diversity is the result of a melting pot of languages including languages spoken by Australia’s Indigenous people and languages added by European settlement and subsequent waves of migration from various parts of the world. Despite this rich history of linguistic diversity, little has been documented on the languages spoken by Australian children. The first three waves of data from 5,107 children in the nationally representative Longitudinal Study of Australian Children (LSAC) were analyzed to consider language diversity among Australian children in the first 5 years of life. Data were collected from birth at two-year intervals. At 0 to 1 years of age, 10.8% of children were reported to have a language other than English used as the main language in their home. When children were 2- to 3-years-old, 16.7% were spoken to and/or used a language other than English, and 15.3% were spoken to and/or used a language other than English at 4 to 5 years of age. The most common languages spoken by Australian children at age 4 to 5 years after English were Arabic, Italian, Greek, Spanish, and Vietnamese. Personal and environmental factors significantly associated with use of a language other than English at 4 to 5 years were parental use of a language other than English, and being a first- or second-generation migrant.

Keywords: CHILDREN, LANGUAGE, DIVERSITY, BILINGUAL
Acknowledgements

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**Linguistic Diversity Among Australian Children in the First Five Years of Life**

Increased international migration has given rise to a vast increase in cultural and linguistic diversity within English-dominant nations (Hugo, 2004; Ottaviano & Peri, 2006). However, in a number of English-dominant nations including the U.S. and Australia, data regarding the language use of children under 5 years are not reported in the national census (Australian Bureau of Statistics, 2012a; US Census Bureau, 2012). Therefore, little is known about the cultural and linguistic diversity of young children living in these contexts.

Like many other English-dominant nations, Australia embodies a rich tapestry of linguistic diversity. This diversity has long been documented, from the languages spoken by the original Indigenous custodians of the land, through British colonisation and various waves of economic, post-war migration that have ensued since. Australia, along with other English-dominant nations such as Canada, the United States and New Zealand, has been defined as a ‘traditional immigration nation’ (Hugo, 2004: p.1), meaning that it has a long history of policies supporting immigration, albeit, at times, selective and exclusive (Lake, 2005). Australia’s cultural and linguistic diversity comprises over 400 different languages (Australian Bureau of Statistics, 2011) and over one quarter of the population was born overseas (Australian Bureau of Statistics, 2013). Australia has been linguistically diverse from its earliest days with over 250 languages spoken by its Indigenous inhabitants prior to European settlement (Marmion, Obata, & Troy, 2014). Colonisation of Australia under British rule in the 1700-1800s saw English become the dominant language used in Australian society, but the rich diversity of languages spoken by its people remained.
Australia is unique from other English-dominant countries (such as the U.S. and Canada) in that it does not have one dominant second language. Rather, Australia’s linguistic landscape is made up of many languages from around the globe that co-exist in small numbers and communities within Australian society. These small language communities amount to a large number in terms of their collective proportion of the Australian population, with the 2011 census revealing that almost one in four (23.2%) Australians speak a main language other than English at home (Australian Bureau of Statistics, 2012). According to this census, the most common languages other than English that were spoken by Australian adults were Mandarin (1.6%), Italian (1.4%), Arabic (1.3%), Cantonese (1.2%), and Greek (1.2%) (Australian Bureau of Statistics, 2012). Interestingly, when comparing these findings to previous census results it can be seen that the languages spoken by Australians are not static, but are changing in accordance with new waves of migration influencing the composition of the Australian population. For example, in contrast to the most recent census finding, the common languages other than English spoken by Australian adults in the 2001 census were: Italian (1.9%), Greek (1.4%), Cantonese (1.2%), Arabic (1.1%), and Vietnamese (0.9%) (Department of Immigration and Citizenship, 2008). Additionally, the number of Australians speaking a main language other than English at home increased from 20.9% to 23.2% in the 10 year period from the 2001 census to the 2011 census (Australian Bureau of Statistics, 2012; Department of Immigration and Citizenship, 2008).

As previously highlighted, the Australian census does not report data regarding the language use of Australian children under 5 years of age. Therefore, national statistics are not necessarily representative of the languages spoken by young Australian children, as demonstrated by McLeod (2011). McLeod examined the languages spoken by the kindergarten (K) cohort of the nationally representative Longitudinal Study of
Among children in the K cohort at wave 1 (ages 4 to 5 years), 86.0% used English as their primary language. A further 35 languages were primarily spoken by children, the most common being Arabic (1.6%), Cantonese (1.3%), Vietnamese (1.0%), Greek (0.8%), and Mandarin (0.8%). The languages and proportion of children speaking languages other than English in the McLeod study differed from the census results regarding Australian residents aged over 5 years in 2006, emphasizing the need to consider child-specific data.

The current paper aims to add to the data provided by McLeod (2011) who studied the K cohort at age 4 to 5 years by examining data from the birth (B) cohort of the nationally representative LSAC to describe a different group of young Australian children’s exposure to, and knowledge of languages other than English longitudinally from birth (0 to 1 years of age) to school entry age (4 to 5 years), and to extend this information by examining personal and environmental factors related to language use among children.

**Context of the Current Study**

Growing up in Australia: The Longitudinal Study of Australian Children (LSAC) is a nationally representative study commissioned by the Australian government to describe the lives of Australian children in five key areas: core measures (e.g., sociodemographics, child development and functioning), family functioning (e.g., relationships, parenting practices), health (e.g., gestation, birth, and development), child care (e.g., use of non-parental care, quality of care) and education (e.g., schooling environments, direct cognitive assessment) (Soloff et al., 2003). Commencing in 2004, the study is ongoing, with new waves of data being collected at two-year intervals. Data are collected from two cohorts, which each began with approximately 5,000 children:
the birth (B) cohort (who were studied from birth) and the kindergarten (K) cohort (who were studied from kindergarten, aged 4 to 5 years).

Preliminary data regarding primary languages spoken by the B cohort were presented in the LSAC 2010 statistical report (Maguire, 2011). The current study expands on these initial findings by examining the cultural and linguistic diversity of Australian children, their exposure to languages other than English in the home, their use of languages other than English in early childhood, and personal and environment factors related to the use of languages other than English at age 4 to 5 years. In addition to the cross-sectional demographic data presented in the current study, longitudinal data about the languages spoken by Australian children in the B cohort and factors influencing home language maintenance are explored in Verdon, McLeod and Winsler (2014).

**Aims of the Current Study**

The aim of this paper is to identify the cultural and linguistic composition of Australian children by examining data obtained during the first three waves of data collection (at ages 0 to 1, 2 to 3, and 4 to 5 years) from the LSAC B cohort.

The following research questions were addressed:

5. What are the main languages spoken in the homes of Australian children?

6. What proportion of Australian children is exposed to and/or speak languages other than English?

7. What are the main languages other than English that are spoken and/or understood by Australian children?

8. What are the demographics of Australian children who use languages other than English and what personal and environmental factors are associated with exposure
to language other than English in early childhood (e.g., sex, generations since migration, parental language use, and socioeconomic status)?

Method

The Longitudinal Study of Australian Children

Participants.

Participants within LSAC were recruited using a two-stage clustered design sampling children from the Medicare Australia enrolment database, the most comprehensive database of the Australian population (AIFS, 2008). Stage one involved the random selection of 311 Australian postcodes for inclusion in the study. In stage two, individual children were randomly selected from these postcodes (AIFS, 2011). To ensure a nationally representative sample, children selected for inclusion on the B cohort matched the Australian population of families with a 0- to 1-year-old child on key characteristics including ethnicity, country of birth, whether a language other than English was spoken at home, postcode, month of birth, education, and income (Gray & Sanson, 2005). Once selected, children’s parents were invited to participate in the study. ‘Very remote’ postcodes, as defined by the Accessibility/Remoteness Index of Australia (Australian Population and Migration Research Centre, 2013) were not included in sampling procedures due to the high cost of undertaking longitudinal research in remote areas (AIFS, 2011).

Data collection.

Data collection for LSAC is ongoing with new waves of data collected every two years. During wave 1, a face-to-face interview with parent 1, defined as the parent deemed to be the primary caregiver for each child (AIFS, 2007), was conducted in addition to the completion of a comprehensive questionnaire about their child and their family situation. Additional face-to-face interviews with parent 1, teachers, and the
children themselves are undertaken at each wave. To date, six waves of data have been
collected. During wave 1, interviews were undertaken by a data collection team from a
social marketing research agency, contracted to collect data on behalf of the study
developers (Soloff et al., 2003). From wave 2 onwards, data collection and management
were handled by the Australian Bureau of Statistics (Australian Institute of Family
Studies, 2008). Interpreters were used during interviews with some non-English
speaking parents during wave 1 (n = 145, 2.8%), wave 2 (n = 55, 1.1%), and wave 3 (n
= 45, 0.9%). Full information about LSAC data collection and management is available
from the Australian Institute of Family Studies (2007).

The Current Study

The current study was undertaken by the current authors analysing data collected
by the LSAC team.

Participants in the current study.

Participants in this study were the 5,107 children and their parents/caregivers
from wave 1 of the B cohort of LSAC and those who were retained in the study at
waves 2 and 3. Overall retention rates were high with 91.2% of participants retained
from wave 1 to wave 2 (n = 4,606), and 88.2% retained from wave 2 to wave 3 (n =
4,386) (Edwards 2012). The B cohort consisted of 51.1% (n = 2,610) males and 48.9%
(n = 2,497) females. The socioeconomic position variable was applied to the data set to
determine the level of advantage/disadvantage experienced at the family level.
Socioeconomic position is a derived variable which combines information from LSAC
regarding parental education, family income, and occupational prestige (Blakemore et
al., 2006). Socioeconomic position is a continuous variable with a negative score
indicating a higher probability of family disadvantage. Children in the study scored
between -4.28 and 3.08, with mean score of 0.00.
Children in the B cohort were born between March 2003 and February 2004. The vast majority of children in the sample were born in Australia \((n = 5,088, 99.6\%)\). Of the 19 children born outside of Australia, 11 \((0.2\%)\) arrived in 2003 and 8 \((0.1\%)\) arrived in 2004. The majority of study children’s parents were also born in Australia. For parent 1, that is, the parent deemed to be the primary caregiver for each child (Australian Institute of Family Studies, 2011), 46 different countries of birth were listed, with the most common place of birth being Australia \((n = 3,996, 78.2\%)\). Other places of birth for parent 1 included United Kingdom \((n = 202, 4.0\%)\), New Zealand \((n = 159, 3.1\%)\), Vietnam \((n = 65, 1.3\%)\), Philippines \((n = 56, 1.1\%)\), China \((n = 42, 0.8\%)\), and India \((n = 42, 0.8\%)\). Data were present for 4,630 \((90.7\%)\) adults considered ‘parent 2.’ Analyses regarding parent 2 were undertaken on this reduced sample. For parent 2, 43 different countries of birth were listed. Again, the majority were born in Australia \((n = 3,519, 68.9\%)\) and other most common places of birth were United Kingdom \((n = 273, 5.3\%)\), New Zealand \((n = 155, 3.0\%)\), Vietnam \((n = 65, 1.3\%)\), Lebanon \((n = 39, 0.8\%)\), and India \((n = 42, 0.8\%)\).

The Indigenous status of participants in the sample was also recorded. Of the original 5,107 children in the sample 192 \((3.8\%)\) children were Aboriginal, 2 \((0.4\%)\) were of Torres Strait Islander descent, and 18 \((0.4\%)\) children were identified as both Aboriginal and Torres Strait Islander. This is a slightly higher proportion than the latest census statistics which state that 2.5\% of the Australian population is from an Aboriginal and/or Torres Strait Islander background (Australian Bureau of Statistics, 2012b). A small number of children’s parents (parent 1: \(n = 164, 3.2\%\); parent 2: \(n = 97, 1.9\%) also identified as being Aboriginal, Torres Strait Islander, or both.

**Procedure.**

Data presented in this paper were collected from three time points: wave 1 (when
children were aged 0- to 1-year-old), wave 2 (when children were aged 2- to 3-years-old) and wave 3 (when children were aged 4- to 5-years-old). Variables in the data set which pertained to the research questions of this study were extracted by the current authors. Data analyses were undertaken using descriptive statistics as well as Chi square and ANOVAs in the IBM Statistical Package for Social Sciences (SPSS) Statistics for Windows, Version 20.0 (IBM Corporation, 2011).

At wave 1, the question regarding languages spoken enquired as to the main language spoken in the home. By waves 2 and 3, when children had typically begun using oral language, a new question was used in data collection which asked about the main language spoken and/or used by the child. As such, the results for these two questions have been presented separately to reflect the different wording of the questions.

Results

Languages spoken in the homes of Australian children

When the study children were aged 0 to 1 years (wave 1, n = 5,107), parents were asked to report the main language spoken in the home. In the majority of cases, the main language used at home was English (89.2%, n = 4,555). A further 29 languages were identified as the main language used in the homes of children in the study. The most commonly identified languages other than English were Arabic (n = 77, 1.5%), Vietnamese (n = 49, 1.0%), Italian (n = 28, 0.5%), Spanish (n = 27, 0.5%), and Cantonese (n = 25, 0.5%) (see Table 1). Specific information about languages was not available for responses coded as “other” (n = 14, 0.3%), “don’t know” (n = 3, 0.1%) or confidentialised data (n = 86, 1.7%). Confidentialised data were grouped together by LSAC to avoid the identification of individual participants. For example, languages
spoken by less than five participants were not listed in order to protect confidentiality (Misson, 2007).

Table 1

**Main language spoken at home during wave 1 (age 0 to 1 years) and main languages children spoke/understood at wave 2 (aged 2 to 3 years) and wave 3 (aged 4 to 5 years)**

<table>
<thead>
<tr>
<th>Language</th>
<th>0 to 1 years (n = 5,107)</th>
<th>2 to 3 years (n = 4,606)</th>
<th>4 to 5 years (n = 4,385)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rank</td>
<td>Freq.</td>
<td>%</td>
</tr>
<tr>
<td>English</td>
<td>1</td>
<td>4,555</td>
<td>89.2</td>
</tr>
<tr>
<td>Arabic</td>
<td>2</td>
<td>77</td>
<td>1.5</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>3</td>
<td>49</td>
<td>1.0</td>
</tr>
<tr>
<td>Italian</td>
<td>4</td>
<td>28</td>
<td>0.5</td>
</tr>
<tr>
<td>Spanish</td>
<td>5</td>
<td>27</td>
<td>0.5</td>
</tr>
<tr>
<td>Cantonese</td>
<td>6</td>
<td>25</td>
<td>0.5</td>
</tr>
<tr>
<td>Mandarin</td>
<td>7</td>
<td>23</td>
<td>0.5</td>
</tr>
<tr>
<td>German</td>
<td>8</td>
<td>22</td>
<td>0.4</td>
</tr>
<tr>
<td>Greek</td>
<td>9</td>
<td>21</td>
<td>0.4</td>
</tr>
<tr>
<td>Tagalog</td>
<td>10</td>
<td>20</td>
<td>0.4</td>
</tr>
<tr>
<td>Turkish</td>
<td>11</td>
<td>15</td>
<td>0.3</td>
</tr>
<tr>
<td>Hindi</td>
<td>11</td>
<td>15</td>
<td>0.3</td>
</tr>
<tr>
<td>Samoan</td>
<td>12</td>
<td>13</td>
<td>0.3</td>
</tr>
<tr>
<td>Serbian</td>
<td>13</td>
<td>12</td>
<td>0.2</td>
</tr>
<tr>
<td>Japanese</td>
<td>14</td>
<td>9</td>
<td>0.2</td>
</tr>
<tr>
<td>Macedonian</td>
<td>15</td>
<td>8</td>
<td>0.2</td>
</tr>
<tr>
<td>Assyrian</td>
<td>15</td>
<td>8</td>
<td>0.2</td>
</tr>
<tr>
<td>Dari</td>
<td>15</td>
<td>8</td>
<td>0.2</td>
</tr>
<tr>
<td>Urdu</td>
<td>15</td>
<td>8</td>
<td>0.2</td>
</tr>
<tr>
<td>Indonesian</td>
<td>16</td>
<td>7</td>
<td>0.1</td>
</tr>
<tr>
<td>Portuguese</td>
<td>17</td>
<td>6</td>
<td>0.1</td>
</tr>
<tr>
<td>Tamil</td>
<td>17</td>
<td>6</td>
<td>0.1</td>
</tr>
<tr>
<td>Punjabi</td>
<td>17</td>
<td>6</td>
<td>0.1</td>
</tr>
<tr>
<td>Maori¹</td>
<td>17</td>
<td>6</td>
<td>0.1</td>
</tr>
<tr>
<td>Tongan</td>
<td>18</td>
<td>5</td>
<td>0.1</td>
</tr>
<tr>
<td>French</td>
<td>18</td>
<td>5</td>
<td>0.1</td>
</tr>
<tr>
<td>Bengali</td>
<td>18</td>
<td>5</td>
<td>0.1</td>
</tr>
<tr>
<td>Khmer</td>
<td>18</td>
<td>5</td>
<td>0.1</td>
</tr>
<tr>
<td>Russian</td>
<td>18</td>
<td>5</td>
<td>0.1</td>
</tr>
<tr>
<td>Polish</td>
<td>18</td>
<td>5</td>
<td>0.1</td>
</tr>
<tr>
<td>Maltese</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Croatian</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Maori²</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dutch</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hebrew</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Malay</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Filipino</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Exposure to and use of languages other than English among Australian children

During waves 2 and 3 of data collection, when the study children were aged 2 to 3 years \((n = 4,606)\) and 4 to 5 years \((n = 4,386)\) respectively, parents were asked “Is the child regularly spoken to in a language other than English by anyone?” At wave 2, 16.7% of children were regularly spoken to in a language other than English. At wave 3, 15.3% of were regularly spoken to in a language other than English.

Main languages other than English spoken and/or understood by Australian children

Parents who answered “yes” to the previous question regarding exposure to languages other than English were also asked “What is the main other language that the child understands and/or speaks?” At wave 2, a total of 33 languages other than English were recorded as being understood and/or spoken by children in the study, not including data that were confidentialised \((n = 119, 2.6\%)\). The five most common languages other than English were Arabic \((n = 76, 1.7\%)\), Italian \((n = 66, 1.4\%)\), Greek \((n = 53, 1.2\%)\), Spanish \((n = 51, 1.1\%)\), and Vietnamese \((n = 41, 0.9\%)\) (see Table 1). At wave 3, a range of 36 languages was recorded as the main language spoken and/or understood by children in the study, not including confidentialised data \((n = 87, 2.0\%)\). Again, the five most commonly used languages other than English were Arabic \((n = 65, 1.5\%)\), Italian \((n = 54, 1.2\%)\), Greek \((n = 41, 0.9\%)\), Spanish \((n = 40, 0.9\%)\), and Vietnamese \((n = 38, 0.9\%)\) (see Table 1). During wave 3 of data collection, parents of children who were
identified as speaking a language other than English were also asked to identify additional languages spoken and/or understood by the child. Five children (0.1%) were identified as having French as an additional language other than English (i.e., a third language), a further 24 (0.5%) children were also identified as having an additional language other than English; however, these data were confidentialised by LSAC due the small number of children who spoke individual languages. Just one child in the study was identified as speaking three languages other than English (i.e., four languages), the languages spoken by this child were confidentialised.

**The demography of Australian children who use languages other than English**

The demography of the 770 children who were identified as being exposed to a language other than English at wave 2 (age 2 to 3 years) was examined. The following section provides a cross-sectional analysis of four personal and environmental factors (sex, generations since migration, parental language use and socioeconomic position) and their relationship to use of languages other than English by Australian children.

**Sex.**

Among children who were identified as speaking and/or understanding a language other than English at wave 2, there was an even distribution between boys ($n = 380, 49.4\%$) and girls ($n = 390, 50.6\%$). A Chi square analysis found no significant relationship found between sex and exposure to languages other than English ($\chi^2 (1) = 1.032, p = .31$).

**Generations since migration.**

Generations since migration was significantly related to language exposure with 100% of children who spoke and/or understood a language other than English at wave 2 being either first- or second-generation migrants to Australia. This means that the child, their parent 1 or their parent 2 were born overseas.
Parent language use.

An examination of parental language input in languages other than English was also undertaken. At wave 2, parent 1 spoke a language other than English in 69.5% \((n = 535)\) of cases and parent 2 spoke a language other than English in 66.2% \((n = 510)\) of cases. Both parents were reported to speak a language other than English in 57.9% \((n = 446)\) of cases. A significant relationship was found between having both parents who spoke a language other than English and children’s use of a language other than English at 2 to 3 years \((\chi^2 (1) = 2150.96, p < .00)\).

Socioeconomic status.

Socioeconomic status was considered using socioeconomic position. Children’s socioeconomic position scores ranged between -4.29 and 2.89 \((M = -0.475, SD = 1.07)\). An independent samples \(t\) test revealed that family socioeconomic position was not significantly different between children who did \((M = -0.05, SD = 1.07)\) or did not \((M = .01, SD = .99)\) speak and/or understand a language other than English at wave 2 \((t(4,600) = -1.44, p = .15)\).

Discussion

The present sample of over 5,000 Australian children studied longitudinally over the first five years of life quantifies the cultural and linguistic diversity of Australia’s children. Approximately one in seven (15.3%) Australian children in the study were speaking a language other than English at the age of school entry (4 to 5 years). This is comparatively lower than the 23.2% of the Australian population aged over 5 years speaking a first language other than English as recorded in the 2011 census (Australian Bureau of Statistics, 2012). The lower rate of speaking languages other than English among Australian children, in comparison with the population as a whole could be related to the fact that the children in the B cohort were studied from near the time of...
their birth, meaning that most were born in Australia, whereas 24.6% of Australian in
the population as a whole were born overseas (Australian Bureau of Statistics, 2012c)
and therefore are more likely to speak a language other than English given the
relationship between generations since migration and home language maintenance
(Portes & Hao, 1998; Veltman, 1983). These data emphasise the importance of
demographic data that specifically describe the language use of children, rather than
census data that describe the population as a whole. Similar to the broader Australian
population, no majority second language was identified among the sample. Rather,
children spoke a diverse range of languages from all over the globe in small
proportions.

Cross sectional comparisons between the cultural and linguistic diversity of
Australian 4- to-5-year-old children in the K cohort (2004) and B cohort (2008) of
LSAC similarly reflect the findings of the national census data from 2006 to 2011, as
they demonstrate that the linguistic diversity of Australia is steadily increasing and the
languages that comprise this diversity are in constant transition. A comparison of the
two cohorts at age 4 to 5 years reveals that 14.0% of children in the K cohort spoke a
language other than English (McLeod, 2011) compared to 15.3% of the children in the
B cohort who spoke and/or understood a language other than English. The most
common languages spoken by the children also changed substantially between cohorts
with the two Chinese languages, Cantonese and Mandarin, no longer being ranked in
the top five languages other than English, but rather two European languages (Italian
and Spanish) being reported as more commonly spoken in the B cohort. Additionally,
Vietnamese went from being the second most common language used by Australian 4-
to-5-year-old children to the fifth most common in the period of four years.
The acquisition of languages is dependent upon a number of factors including exposure, use, and attitudes toward languages in children’s everyday lives (Patterson & Pearson, 2004). In keeping with previous research, both parental use of languages other than English (De Houwer, 2007; Duursma et al., 2007) and generation since migration were significantly related to Australian children’s language use throughout the first five years of life. Frequent and rich exposure to languages facilitates the acquisition of these languages by children in early childhood (Hammer, Lawrence, Rodriguez, Davison, & Miccio, 2011). Additionally, positive attitudes toward the intergenerational exchange of languages can facilitate use of home languages by children from migrant families (Park & Sarkar, 2007). Languages are more likely to be maintained by recent migrants to maintain cultural identity, and relationships with extended family (Portes & Hao, 1998; Verltman, 1983). While findings regarding the influence of gender upon home language use have varied (Tannenbaum & Howie 2002; Winter & Pauwels 2005), in this study, gender was not found to be an influencing factor.

Interestingly, socioeconomic position was not found to be significantly related to children speaking a language other than English. This finding is in contrast to studies from other English-dominant countries where socioeconomic status is highly correlated with being from a non-English dominant background. For example, of the 37.6 million Spanish speakers in the US, 25.3% live below the poverty line (U.S. Census Bureau, 2013a) in comparison with 15.0% of the population as a whole (U.S. Census Bureau, 2013b). The distribution of non-English speaking families across different socioeconomic levels makes Australia a unique and interesting context for the investigation of factors influencing language use during early childhood without results being confounded by the bias in socioeconomic status that exists in other non-English speaking populations. For example, the study by Verdon et al. (2014) investigated
patterns of home language maintenance and loss among children in the B cohort of LSAC. This study found that socioeconomic position also was not associated with language maintenance among children who spoke a language other than English, rather, significant factors included generations since migration, type of childcare setting and parents perceived level of support from their child’s early education setting.

The availability of a rich dataset such as the Longitudinal Study of Australian children combined with the applicability of the Australian context to other English-dominant countries provide the opportunity for examination and understanding of patterns of language use and maintenance among children from linguistically diverse backgrounds. Such research is useful to professionals and organisations (such as those in health care and education) in understanding and supporting the language development of all Australian children.

**Limitations**

These results are a conservative summary of Australia’s cultural and linguistic diversity. While LSAC was designed as a nationally representative study of Australian children, it is important to note that percentages of multilingual children translate to small numbers in terms of participants and therefore conclusions about trends and patterns must be drawn with caution when considering generalisability to the entire population. It is possible, due to small numbers of children speaking some languages, that the absence of these languages from later waves of data may be explained by attrition of children who spoke those languages from the study and may not necessarily represent language loss among those language groups. Furthermore, the data confidentialised by LSAC for languages spoken by fewer than five children means that not all languages spoken in Australia have been explicitly named in these results.

Additionally it is important to acknowledge that Indigenous children living in
remote areas of Australia may be underrepresented in this sample due to the sample selection procedure which excluded very remote postcodes. Therefore, the children in this study who speak Indigenous languages may not accurately represent the Indigenous population nationwide. A separate longitudinal study has also been commissioned by the Australian government to specifically investigate the experiences of Indigenous Australian children. This study is called Footprints in Time: the Longitudinal Study of Indigenous Children (LSIC) (Department of Families Housing Community Services and Indigenous Affairs 2012). Findings of the LSIC study regarding languages spoken by Australia’s Indigenous children are reported elsewhere (McLeod, Verdon, & Bennetts Kneebone 2014; Verdon & McLeod, 2014).

Conclusion

The current paper provides a distinctive offering in both the age of its participants and the linguistic context in which they are situated. It draws upon longitudinal data from a nationally representative sample of Australian children to report on linguistic diversity in the first 5 years of life as well as personal and environmental factors associated with the exposure to, and use of, languages other than English. The linguistic context of Australia is relevant to many countries with increasingly diverse populations, that is, a highly culturally and linguistically diverse, yet English-dominant, developed nation without a majority second language. These findings provide an important foundation of evidence upon which planning and funding can be built to support the needs of Australia’s culturally and linguistically diverse children.
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Abstract

Information about children’s cultural and linguistic diversity and language acquisition patterns is important for the development of sustainable educational practices. While there is some knowledge about language maintenance and loss in adults and older children, there is limited information about young children. The first three waves of data from the Longitudinal Study of Australian Children (LSAC), involving 4,252 young children, were considered longitudinally over the first 5 years of life to identify patterns of language, maintenance and loss among those who speak languages other than English. The most common languages other than English spoken by the children were Arabic, Vietnamese, Italian, Spanish, and Greek and 9.1% of all children were reported to use a language other than English at wave 1, 15.7% at wave 2, and 15.2% at wave 3. Overall, 91.5% of children maintained speaking a language other than English between wave 1 and wave 2, yet 86.6% did so between wave 1 and wave 3. Children’s patterns of language acquisition and loss over the first five years of life varied within and between language groups. For example, Arabic-speaking children tended to maintain Arabic throughout early childhood, whereas Italian-speaking children’s use of Italian decreased over the first five years of life while use of English steadily increased. Environmental and personal factors such as parental language use, presence of a grandparent in the home, type of early childhood care, first- and second-generation immigrant status, and parental perception of support from the educational environment were related to language maintenance among non-English speaking children.

Keywords: multilingual, bilingual, speech, language, communication, longitudinal
Language maintenance and loss in young Australian children

Children’s early years are a time of rapid language acquisition whether they are learning one, two, or multiple languages. To date, limited large-scale data have been presented to examine patterns of language acquisition, maintenance, and loss among multilingual children in English-dominant countries. The current paper explores the patterns of language learning (in home languages and in English) occurring both within individual children and various language groups. The influence of personal factors as well as the home and educational environments upon multilingual children’s acquisition, maintenance, and loss of languages are also considered and discussed. The terms multilingualism and bilingualism are often used interchangeably (Crystal, 2003); however, in this paper, multilingualism is used synonymously with bilingualism and encompasses those who speak two or more languages. Multilingualism is parallel with the term multiculturalism recognizing the breadth of cultural and linguistic influences within society.

Benefits of Multilingualism

There are many known benefits to multilingualism, both cognitively and socially. A meta-analysis of the relationship between multilingualism and cognitive outcomes, undertaken by Adesope, Lavin, Thompson, and Ungerleider (2010), found that multilingualism was associated with cognitive benefits including: increased abstract and symbolic representation skills, attention, working memory, and metalinguistic awareness. A number of other studies have found that multilingual children exhibit higher performance on executive functioning tasks (Bialystok, 2011; Gathercole, Thomas, Jones, Guasch, Young, & Hughes, 2010), mathematical thinking (McLeod, Walker, Whiteford, & Harrison, 2014), and generally have greater metacognitive and metalinguistic capabilities. While multilingual children may acquire speech differently
from monolingual children (Paradis, Genesee, & Crago, 2011), there is no evidence that being multilingual, per se, has a negative impact upon speech acquisition (Hambly, Wren, McLeod, & Roulstone, 2013), particularly when the language input the child receives in each language is rich and frequent (Hammer, Lawrence, Rodriguez, Davison, & Miccio, 2011). Multilingualism also has a number of social benefits as it enables children to communicate with members of their home community who may not speak the dominant language of the broader social environment (such as grandparents) and facilitates increased cohesion among immigrant families (Tannenbaum & Howie, 2002) and communities (Ward & Hewstone, 1985).

**Multilingual Language Acquisition**

There are a number of circumstances in which children may be, or become, multilingual. These circumstances, as defined by Paradis et al. (2011), may involve two types of settings: a majority ethnolinguistic community (where the language being learned by the child is the dominant language of the community) and a minority ethnolinguistic community (in which a child belongs to a language-minority group within the larger community). In each of these communities, two different types of language acquisition patterns may occur: simultaneous or sequential language acquisition. Additionally, the phenomenon of subtractive multilingualism may be occurring in each of these settings. These patterns of language acquisition and loss are detailed below.

**Simultaneous multilingualism.** To be considered a simultaneous language learner, children would be exposed to two or more languages regularly from birth or soon after birth. Some authors (De Houwer, 1995; Paradis et al., 2011) have suggested that for a language to be considered a first language, children should have begun learning it before they are 3-years-old. By this age, children have developed a
foundation for the grammatical and syntactic structure of a language, as well as an increasingly expansive vocabulary (Saville-Troike, 2006). There is also evidence to suggest a difference in the cognitive skills of simultaneous multilinguals that does not appear to be present when an additional language is acquired after 3 years of age (Paradis et al., 2011). An example of a simultaneous multilingual would be a child living in the United States whose mother spoke English and father spoke Arabic, who learned both languages from birth and was supported in the development of each of these languages within both an English majority ethnolinguistic community (e.g., the school environment) and an Arabic minority ethnolinguistic community (e.g., home and/or religious environment).

**Sequential multilingualism.** Sequential multilinguals are children who form solid foundations in the acquisition of a first language (also known as the home language) before learning additional languages. This often occurs when children are raised in a minority ethnolinguistic community where the home language is spoken to the children until the commencement of schooling, where subsequently the dominant language of the community is used. Children are generally accepted as being sequential multilinguals if the additional language learning commences after the first language has been established (Tabors, 1997). An example of a sequential multilingual would be a child living in Australia whose mother and father spoke Vietnamese and lived within an Australian-Vietnamese ethnolinguistic minority community (with limited exposure to English), who then acquired English upon commencing formal schooling at 5 years of age. As can be seen from these examples, it is often the case that simultaneous multilinguals acquire their languages in the home, whereas sequential multilinguals acquire their additional languages in an educational or community setting.
**Subtractive multilingualism.** Subtractive multilingualism refers to the loss of language(s) (usually the home language) as other language(s) (usually the dominant language of the community or educational setting) become more developed (Roberts, 1995). This subtraction can be due to a number of factors including greater exposure to the other language(s), opportunities to use other language(s), parents’ and educators’ attitudes/beliefs about languages (e.g., language status), and personal preference of the child or family. An example of subtractive multilingualism would be a child whose family migrated to a different country and upon being immersed in the dominant language of their new environment, ceased or significantly reduced speaking the home language.

**Language Acquisition, Maintenance, and Loss**

Theories of multilingualism in early childhood generally fall into two categories; psycholinguistic theories, which focus on individual skills, motivation, and strategies for language learning, and sociolinguistic theories, which focus on language use in social contexts (Díaz & Harvey, 2002). The current paper has adopted a sociolinguistic approach to consider the influence of, social, and environmental factors that impact language use, maintenance, and loss in young multilingual children. Sociolinguistic theories draw upon sociocultural perspectives of language and learning such as those developed by Vygotsky (1986) to provide “a motivated account of the way language is used in a community, and of the choices people make when they use language” (Holmes, 1992, p.16). This perspective views language acquisition as a function of children’s interactions in social spheres with different interlocutors in the home and broader community. Within this sociocultural interactionist perspective of language acquisition, the amount of linguistic input, interaction style, context of language exposure, and conversational partners that children engage with will determine their
acquisition of language(s) (Chapman, 2000). These factors and their impact upon language acquisition, maintenance, and loss among children living in an English-dominant context have been explored in relation to the literature below.

In English-speaking countries, children from multilingual families are often exposed to a number of languages. Languages used with children may be different between home, social, and educational environments. Children may be exposed to and acquire all languages in the home simultaneously. Alternatively, they may acquire a new language upon commencing school if the language of instruction in their educational environment is different from the language(s) used at home. Upon learning a new language, children may maintain using their home language, resulting in them becoming multilingual, or they may experience a language shift to the dominant language and cease speaking the home language, resulting in language loss. The factors influencing each of these patterns as well as the social and educational consequences are discussed below.

**Language acquisition.** In order to become multilingual, children must receive sufficient exposure to, and support for, all of the languages they are learning (Patterson & Pearson, 2004). The home environment plays an important role in providing children’s early models of language (Lyon, 1996; Weigel, Martin, & Bennett, 2006). The languages that children are exposed to and acquire in the home will depend on the family language policy. The family language policy is defined as explicit and overt planning in relation to language use within the home among family members (Schiffman 1996; Shohamy, 2006). Multilingual children are a highly heterogeneous population, therefore the choices made by parents regarding family language policy and the factors impacting upon language acquisition will vary based on differences in parenting behaviors, beliefs, and values as a result of diversity in country of origin,
generations since migration, and cultural and linguistic background (De Feyter & Winsler, 2009 Yamamoto, 2008). These factors will ultimately lead to maintenance or loss of home language(s) in the presence of English language acquisition.

**Language maintenance.** Parents may choose to support the acquisition and maintenance of multiple languages throughout childhood by employing strategies such as using multiple languages in the home environment (King & Fogle, 2006). Parents’ positive attitudes toward multilingualism can benefit home language maintenance as children begin to learn additional languages (Li, 1999; Park & Sarkar, 2007) and parental language input is one of the most influential determining factors of home language maintenance (Crowe, McKinnon, McLeod & Ching, 2013; De Houwer, 2007; Lyon, 1996; Yamamoto, 2001). Additionally, parental support in the home literacy environment has been associated with home language maintenance among multilingual children (Duursma et al., 2007; Scheele, Leseman & Mayo, 2010).Parents may choose to maintain the use of the home language alongside the acquisition of English to develop children’s cultural identity, maintain cultural and intergenerational links with family members and their community, and provide better future economic opportunities (King & Fogle, 2006; Park & Sarkar, 2007; Puig, 2010). Parents may choose to maintain speaking the home language to enable children to form relationships with members of their family who do not speak English. In the case of migrant families, multilingual children can play an important role as language brokers for family members who may not have acquired the dominant language of their new home (Morales, 2005). In many cases children’s ability to access to both the home and dominant languages can be a vital asset for facilitating cross-cultural communication between the family and their new society (Morales, 2005). Additionally, parents may choose to speak their home language with their children if their level of proficiency in
the dominant language of the community is limited (Lambert & Taylor, 1996; Saravanan, 2001).

Social and educational environments also play an important role in the maintenance, of home languages (Kondo, 1998; Pease-Alvarez & Winsler, 1994; Winsler, Díaz, Espinoza & Rodríguez, 1999; Wong Fillmore, 1991). Differences between early childhood education and care environments can influence the development children’s languages. Family-based care is particularly influential in supporting home language development as home languages are inherited predominantly through intergenerational transmission within families (Pauwels, 2005; Tannenbaum & Howie, 2002). For example, a home language may be developed as a result of being cared for by grandparents or members of their family. Additionally, home languages may be developed by attending a family day care setting facilitated by someone in the child’s linguistic community, or by attending a multilingual preschool. It is also possible for language maintenance to be supported in formal care settings through bilingual programs and staff. Support of home languages in educational settings can provide children with continuity of language use between home and school settings, and plays an important role in language maintenance (Wong Fillmore, 1991; Puig, 2010).

Multilingualism often occurs as a result of migration. Consequently, patterns of language use, maintenance, and loss can vary between speakers depending on where they migrate to (i.e., to an ethnolinguistic minority or an ethnolinguistic majority community) and the type of migration that they undertake (e.g., permanent or circular migration) (Hugo, 2009). Circular migration is the voluntary movement of people between countries, including temporary or more permanent movement, and is driven by the labor needs of both the countries of origin and destination (Newland & Agunias, 2007). Circular migrants are known to maintain strong links to their home country
(Newland, 2009) and, therefore, the language policy among migrant families is more likely to be one of home language maintenance during the period of migration to countries where their language is not the dominant language spoken by the community. This phenomenon is relevant to the current context, as circular migration is a common activity undertaken by many people who migrate to Australia (Hugo, 2009).

**Language loss.** Language loss is the replacement of a home language with the dominant language of the context (Wong Fillmore, 2000), which in the Australian context is English. Language loss commonly occurs as immigrant groups assimilate into dominant ethnolinguistic communities and is often referred to as language shift (Veltman, 1983). The extent to which language shift occurs varies among different ethnolinguistic minority communities (Portes & Hao, 1998). The loss of home language may occur for a number of reasons including the level of support for and understanding of multilingual language development, and also the attitudes of teachers, families, and the children themselves. Previous case study research has documented that home language maintenance is essential for the “curriculum of the home” (Wong Fillmore, 2000, p. 206) and the loss of this important tool can have negative impacts upon familial relationships. The language barrier between generations creates a divide between parents’ and grandparents’ ability to communicate with, effectively discipline, and form close relationships with their children and grandchildren (Wong Fillmore, 2000; Portes & Hao, 1998). Early research in this field documented that shift to the dominant language of a community and loss of the home language typically occurred two generations after migration took place (Fishman, 1966). However, more recent studies suggest that language shift is occurring more rapidly, often in just one generation (Hurtado & Vega, 2004). Additionally, age at the time of migration has
been linked with language loss, with younger migrant children being more likely to adopt the language of their new context (Portes & Hao, 1998; Veltman, 1988).

Children may begin acquiring English as they enter their first English-dominant setting, such as a mainstream preschool or child care centre, and parents may focus on primarily using English with the child to prepare them for an English-based education system (Jordaan, 2008). The choice to focus on the child’s acquisition of the dominant language of the community is often based on the (mis)conception that this will lead to future educational success (Wong Fillmore, 1991). Parents may also choose to cease speaking a home language with the children if that language is of a low social status (Dixon, Wu, & Daraghmeh, 2012). If a child displays speech and/or language difficulties, parents may cease multiple language input and use one language as they may believe that children have a limited capacity to develop a high level of proficiency in multiple languages (Baker, 2006) or that multilingualism is the cause of these difficulties (King & Fogle, 2006). However, these views are not supported by evidence analyzed within systematic reviews (Crowe & McLeod, 2013; Hambly et al., 2013).

Additionally, the role of the child in language choice is important to consider when discussing influential factors for home language maintenance and loss. In many cases, despite efforts from the home and/or education environment to facilitate multilingualism, children may choose to be monolingual in the language of the dominant culture, thus losing their ability to communicate in their home language. Previous research has found that language choice by the child is influenced by the presence of influential interlocutors such as older siblings, with whom children may prefer to speak the dominant language of the community rather than communicate using the home language (Wong Fillmore, 1991; Taft & Bodi, 1980). Additionally, social pressures may influence children in their choice to become monolingual, as the
dominant language is the means of social communication with same-aged peers. To avoid appearing different, children may use only the dominant language in all contexts, regardless of their interlocutors (Wong Fillmore, 2000).

The Australian Context: A Microcosm of Minority Ethnolinguistic Communities

Australia represents a microcosm of the world. It is a culturally diverse nation comprising people speaking over 300 different languages (Department of Immigration and Citizenship, 2008) with 57 different countries of birth being represented by 10,000 or more Australian residents (Hugo, 2004). Unlike many other English-speaking western countries, Australia does not have one dominant second language. In the United States, for instance, 62% of people who speak a language other than English speak Spanish (Shin & Kominski, 2010). Similarly in Canada, French, the most common language other than English, is spoken by 22.7% of the population, and it is also recognized as an official language of Canada (Statistics Canada, 2001). In contrast, Australia’s cultural and linguistic diversity presents a rich tapestry of cultures and languages that co-exist in small numbers, but as a whole, make up a large proportion of Australian society. Included in this multilingual diversity are Indigenous languages that existed prior to, and have been maintained since, European settlement (Clyne, 1991). Also included are the plethora of languages that have been added to the Australian linguistic landscape during various waves of migration influenced by changing Australian migration policies toward and against multiculturalism and resulting from financial opportunities, war, and religious and political oppression, primarily from Europe, Asia, and more recently Africa (Clyne, 1991; Hugo, 2004). In the 2011 Australian census, 23.2% of people aged over five years spoke a language other than English at home. The main languages other than English spoken, in order, were Mandarin (1.6%), Italian (1.4%), Arabic (1.3%), Cantonese (1.2%), and Greek (1.2%)
These findings differed from the 2006 census, which found that 21.5% of Australians spoke a language other than English at home and the main languages other than English spoken were Italian (1.6%), Greek (1.3%), Arabic (1.2%), Cantonese (1.2%), and Mandarin (1.1%) (Department of Immigration and Citizenship, 2008). These differences show that in a period of just five years, Australia’s linguistic landscape has not only increased in diversity but the languages spoken by Australians also have changed.

The current paper aims to add to what is known about the cultural and linguistic diversity of Australian children by investigating the language use, maintenance, and loss of Australian children in the birth (B) cohort of the Longitudinal Study of Australian Children, as explained below. This paper provides a distinctive offering in both the age of its participants and the linguistic context in which they are situated. It draws upon longitudinal data from a population-based sample of Australian children to report on the linguistic diversity, patterns of language use, maintenance, and loss occurring in the first five years of life, and personal and environmental factors that influence these patterns. The linguistic context of Australia provides a unique lens that may be applicable to many countries with increasingly diverse populations, that is, a highly culturally and linguistically diverse, yet English-dominant, developed nation without a majority second language.

**Context of the Current Study**

Growing up in Australia: The Longitudinal Study of Australian Children (LSAC) is a nationally representative study supported by the Australian government. The study commenced data collection in 2004 and is ongoing, with new waves of data being collected at two-year intervals. Data are collected from two cohorts, the birth (B) cohort (who were studied from birth) and the kindergarten (K) cohort (who were studied from
kindergarten, aged 4- to 5-years) each containing approximately 5,000 children.

Preliminary data regarding primary languages spoken by the K cohort were presented by McLeod (2011) and languages spoken by the B cohort were presented in the Longitudinal Study of Australian Children 2010 statistical report (Maguire, 2011). The current study expands on these initial findings by examining the patterns of language acquisition, maintenance, and loss that are occurring as a whole and within individual language groups, and the personal and environmental factors that impact upon language maintenance.

Aims of the Current Study

The aim of this paper is to identify patterns of language acquisition, maintenance, and loss that are occurring among Australian children during early childhood. The following research questions are addressed:

9. What patterns of language use, maintenance, and loss are occurring within multilingual children and among the most common language-minority communities in Australia during early childhood?

10. What personal and environmental factors (including gender, languages spoken by parents, presence of a grandparent or older sibling in the home, being a first- or second-generation immigrant, type of childcare and support for languages other than English in the learning environment) are associated with patterns of language use, maintenance, and loss in Australian multilingual children?

Method

Recruitment of Participants

Participants within LSAC were recruited through the Australian national Medicare database (AIFS, 2007). The recruitment process ensured that the children comprised a nationally representative sample matching the Australian population of
families with a 0- to 1-year-old child on key characteristics including ethnicity, country of birth, whether a language other than English was spoken at home, postcode, month of birth, education, and income (Gray & Sanson, 2005). The children in the B cohort were randomly selected from 311 postcodes across Australia (AIFS, 2011). This means that a maximum of 15 to 20 children were recruited per postcode. Postcodes in Australia vary in size and population with some covering vast geographical regions and populations up to 100,000 people. Therefore, given the sampling design, the nesting of children within educational or care environments was not a consideration in this study due to the unlikelihood of more than one to two children attending the same setting. While Indigenous children were included in the sample, it is important to note that the LSAC did not include children from extremely remote areas and therefore the children in this study who speak Indigenous languages may not accurately represent the Indigenous population nation wide. For this reason, the Longitudinal Study of Indigenous Children (LSIC) was undertaken (Department of Family, Community Services and Indigenous Affairs, 2012). Findings of the LSIC study regarding languages spoken by Australia’s Indigenous children are reported elsewhere (McLeod, Verdon, & Bennetts Kneebone, 2013; Verdon & McLeod, 2013).

**Participants**

**The B cohort.** Participants were 4,252 children and their parents/caregivers in the birth (B) cohort of LSAC who were present for the first three waves of data collection. At wave 1, children were aged 0 to 1 years, at wave 2 children were aged 2 to 3 years and at wave 3, children were aged 4 to 5 years. Consistent with current recommendations not to impute critical categorical predictor and outcome variables, for longitudinal analyses concerning language maintenance and loss over time, only those
with complete data at all waves were considered. Children who were missing from any of these three waves of data collection were excluded from the study.

The sample consisted of 51.2% \((n = 2,177)\) males and 48.8% \((n = 2,075)\) females. The Socio-Economic Index for Areas (SEIFA) Scale of Advantage/Disadvantage was applied to the data set to determine the level of financial disadvantage experienced by the children at the community level. Possible scores on the SEIFA Advantage/Disadvantage scale range from 500 to 1,300 with the average score being 1,000 and larger numbers indicating more resources. Children in the study scored between 700 and 1270, with mean score of 1005.72. The socioeconomic position (SEP) (Blakemore, Gibbings, & Strazdins, 2006) of families was also described for children in the sample. SEP is a variable derived using LSAC data combining information on family’s socio-economic position based on: parental education, family income, and occupational prestige. The continuous measure of relative SEP derived by Blakemore et al. (2006) shows associations with other indicators of disadvantage. SEP is a continuous variable with lower SEP score indicating a higher probability of the family experiencing disadvantage. Children in the study scored between -4.28 and 3.08, with mean score of .09.

Some children in the study were reported by their parents to have speech problems (wave 2 \(n = 120, 2.8\%\), wave 3 \(n = 269, 6.3\%\)) or learning difficulties (wave 2 \(n = 32, 0.8\%\), wave 3 \(n = 81, 1.9\%\)). Parental concern regarding language capabilities at wave 3 were also obtained using the Parent’s Evaluation of Developmental Status (PEDS, Glascoe, 2000) with 24.6% \((n = 1,046)\) reporting a concern about their child’s expressive language and 6.4% \((n = 274)\) reporting concerns about their child’s receptive language skills. This represented a similar level of concern to children in the K cohort of LSAC (McLeod & Harrison, 2009).
Children in the study were born between March 2003 and February 2004. The vast majority of children were born in Australia \((n = 4,237, 99.6\%)\). Of the 15 children born outside of Australia, nine \((0.2\%)\) arrived in 2003 and six \((0.1\%)\) arrived in 2004. The majority of study children’s parents were also born in Australia. For parent 1, that is, the parent deemed to be the primary caregiver for each child (AIFS, 2007), 46 different countries of birth were listed, with the most common place of birth being Australia \((n = 3,394, 79.8\%)\). Other common places of birth for parent 1 included United Kingdom \((n = 170, 4.0\%)\), New Zealand \((n = 121, 2.8\%)\), India \((n = 40, 0.9\%)\), Philippines \((n = 38, 0.9\%)\), and Vietnam \((n = 34, 0.8\%)\). Data were present for 3,943 \((92.7\%)\) adults considered parent 2. Analyses regarding parent 2 were undertaken on this reduced sample. For parent 2, 43 different countries of birth were listed. Again, the majority were born in Australia \((n = 3,069, 72.2\%)\) and other most common places of birth were United Kingdom \((n = 239, 5.6\%)\), New Zealand \((n = 129, 3.0\%)\), India \((n = 40, 0.9\%)\), Lebanon \((n = 29, 0.7\%)\), and Vietnam \((n = 28, 0.7\%)\).

The Indigenous status of participants in the sample was also recorded. There were 122 \((2.9\%)\) children who were identified as Aboriginal, 10 \((0.2\%)\) were of Torres Strait Islander decent, and 8 \((0.2\%)\) children were identified as both Aboriginal and Torres Strait Islander. This is a slightly higher proportion than the latest census statistics which state that 2.5\% of the Australian population is from an Aboriginal and/or Torres Strait Islander background (Australian Bureau of Statistics, 2012b). A small number of children’s parents (parent 1: \(n = 944, 2.2\%\); parent 2: \(n = 61, 1.5\%)\) also identified as being Aboriginal, Torres Strait Islander, or both.

There were 5,107 children in the wave 1 of the B cohort, and 4,252 children present in all 3 waves of data collection representing 83.3\% of the original, full sample. Given that the original sample was recruited to be nationally representative of
Australian children, the demographics of children excluded from the current sample (i.e., children who were not present for all 3 waves of data collection) were examined to determine if the children who did not continue in the study were different from those who had complete data. These analyses were undertaken for gender, SEIFA Advantage/Disadvantage, maternal education, parent 1 migration status, and language background other than English. No significant difference between the groups was found by gender. Children who were missing from the sample were slightly more disadvantaged on the SEIFA Advantage/Disadvantage scale ($M = 993.65, SD = 77.25$), than those present in all three waves ($M = 1005.70, SD = 78.74$), $t(5105) = 4.09, p < .001$ with a Cohen’s $d$ effect size of 0.15. The mothers of children with missing data also had slightly lower levels of education on a 5-point scale where a lower score indicates a higher level of education ($M = 3.93, SD = 1.31$) than those present in all 3 waves ($M = 3.56, SD = 1.36$), $t(3478) = -5.59, p < .001$, $d = 0.28$. Children missing from the sample were more likely to have parent 1 born outside of Australia (29.5%) than those present (20.2%) ($\chi^2 (1) = 36.22, p < .001$). Children missing from the sample were also more likely to speak a language other than English at wave 1 (18.7%) as compared to those present at all three waves (9.1%) ($\chi^2 (1) = 68.16, p < .001$).

**Procedure**

During wave 1 of LSAC data collection for the B cohort (when children were aged 0- to 1-year-old), parent 1 took part in a face-to-face interview with a member of the LSAC data collection team. During wave 1, the data collection team were members of a social marketing research agency, contracted to collect data on behalf of the study developers (Soloff, Millward, Sanson, & The LSAC Consortium Advisory Group, & Sampling Design Team, 2003). From wave 2 onwards, data collection and management were handled by the Australian Bureau of Statistics. Data collection involved the
completion of a comprehensive questionnaire about their child and their family situation. Areas of enquiry included: core measures (e.g., socio-demographics, child development and functioning), family functioning (e.g. relationships, parenting practices), health (e.g., gestation, birth, and development), child care (e.g., use of non-parental care, quality of care) and education (e.g., schooling environments, direct cognitive assessment) (Soloff et al., 2003). During waves 2 and 3 (when children were aged 2- to 3-years-old and 4- to 5-years-old, respectively), additional face-to-face interviews with parent 1 were conducted by the LSAC data collection team. Interpreters were used during interviews with some non-English speaking parents during wave 1 (n = 131, 2.3%), wave 2 (n = 45, 1.1%), and wave 3 (n = 40, 0.9%). Interpreters used in data collection included LSAC employees, professional interpreters, and family members or friends of the study child.

All relevant questions are reported verbatim in the results section. A question regarding the languages used by participants was asked in all waves of data collection. However, it is important to note that the question asked at wave 1 differed somewhat from the questions about language asked at waves 2 and 3. When children were aged 0 to 1 years, Parents were asked “Does the study child use a language other than English at home? If more than one, record the main language”. However, at this age, children are not typically speaking, so this item is most likely reflective of the main language spoken in the home with the child. The item used in wave 2 and 3 was recorded in two parts. “Is the child regularly spoken to in a language other than English by anyone?” If the answer was yes, the interviewer then asked “What is the main other language that the child understands and/or speaks?” The acquisition of languages is dependent upon the interaction of exposure, use, attitudes, and proficiency (Patterson & Pearson, 2004). We acknowledge that the wording of these items combines/conflates several important
elements of language acquisition (i.e., exposure, use, and proficiency) and this should be considered in the interpretation of results. Full information about the interviews and questionnaire content is available from AIFS (2007). Data analyses were undertaken using the IBM Statistical Package for Social Sciences (SPSS) Statistics for Windows, Version 20.0 (IBM Corporation, 2011).

**Results**

**Patterns of Language Acquisition, Maintenance, and Loss during Early Childhood within Children who Speak a Language other than English**

Analyses were undertaken to identify patterns of language acquisition, maintenance, and loss for multilingual children in the study over the first five years of life. In the interpretation of these findings it is important to remember that the wording of the question asked at wave 1 to obtain the following figures differed from the questions asked at wave 2 and 3 (as described in the method). There were 9.1% \((n = 388)\) of children who were reported to use a language other than English at wave 1, 15.7% \((n = 666)\) spoke a language other than English at wave 2, and 15.2% \((n = 645)\) spoke a language other than English at wave 3. The most common languages other than English spoken by the children in the sample by wave 3 were Arabic \((n = 57, 1.3\%)\), Vietnamese \((n = 27, 0.6\%)\), Italian \((n = 25, 0.6\%)\), Spanish \((n = 22, 0.5\%)\), and Greek \((n = 20, 0.5\%)\).

Two methods of considering language maintenance and loss were employed. The first was to consider language change from wave 1 through waves 2 and 3. Of the children who spoke a language other than English at wave 1 \((n = 388)\), 91.5% \((n = 355)\) of the children continued to speak a language other than English at wave 2, and only 86.6% \((n = 336)\) maintained speaking a language other than English into wave 3 (compared with wave 1) (see Figure 1a).
A second method to consider language change was employed by looking from wave 2 (when the children were aged 2 to 3 years) to wave 3 (4 to 5 years). This second method was adopted for a number of reasons. Firstly, the wording of the questions was identical at Waves 2 and 3. This allowed for a more accurate interpretation of longitudinal findings as parents were being asked questions about children’s language exposure and use, not simply the main language spoken at home. Also, this period is particularly interesting because at 2 to 3 years of age children have begun speaking and more children in the dataset were reported to speak languages other than English from wave 2 onwards. Of the children who spoke a language other than English at wave 2 ($n = 666$), only 77.8% ($n = 519$) maintained speaking a language other than English at wave 3. The remaining children experienced home language loss and began speaking English (see Figure 1b).

Figure 1a). Language maintenance of children who spoke a language other than English (LOTE) compared with wave 1 (0 to 1 years) ($n = 388$)
Variations between ethnolinguistic minority groups. Analyses of language maintenance and loss occurring within select individual ethnolinguistic minority communities in the sample were undertaken to identify whether these patterns varied depending on the language children spoke. The following are group case studies of children who spoke Arabic and Italian within LSAC. These two languages were considered individually as they were among the largest language groups other than English spoken by children in the study and because each shows a unique pattern of language maintenance and loss.

Arabic. Among children who were present at all three waves (n = 4,252), 1.3% (n = 57) spoke Arabic at wave 1, 1.6% (n = 68) spoke Arabic at wave 2 and 1.5% (n = 64) spoke Arabic at wave 3. Of the children who spoke Arabic at wave 1 (n = 57), 86.0% (n = 49) of the children continued to speak Arabic at wave 2, and 86.0% (n = 49) maintained speaking Arabic into wave 3 (see Figure 2a). Of the children who spoke Arabic at wave 2 (n = 68), 88.2% (n = 60) maintained speaking Arabic at wave 3 (see...
Figure 2b). Interestingly, among the children who experienced language loss in Arabic, the main languages they began speaking did not only include English but also other languages including, Assyrian, Italian, and Mandarin.

Figure 2a). Language maintenance of children who spoke Arabic compared with wave 1 (0 to 1 years) (n = 57)

Figure 2b). Language maintenance of children who spoke Arabic compared with wave 2 (2 to 3 years) (n = 68)
Italian. Among children present at all three waves \((n = 4,252)\), 0.6\% \((n = 25)\) spoke Italian at wave 1, 1.5\% \((n = 62)\) spoke Italian at wave 2 and 1.3\% \((n = 54)\) spoke Italian at wave 3. Of the children who spoke Italian at wave 1 \((n = 25)\), only 60.0\% \((n = 15)\) continued to speak Italian at wave 2, and only 52.0\% \((n = 13)\) maintained speaking Italian into wave 3 (see Figure 3a). Of the children who spoke Italian at wave 2 \((n = 62)\), 48.4\% \((n = 30)\) maintained Italian at wave 3 (see Figure 3b). All children who experienced language loss in Italian began speaking English, apart from two, one of whom began to speak Spanish and the other stared speaking Croatian.

Figure 3a). Language maintenance of children who spoke Italian compared with wave 1 (0 to 1 years) \((n = 25)\)
Environmental Factors Influencing Language Maintenance in Early Childhood

A range of personal and environmental variables was examined to determine their relationship with language maintenance in early childhood. These variables included: gender, language spoken by parent 1, whether both parents spoke the same language in the home, presence of grandparent and siblings in the home, socioeconomic status, generations since migration, type of childcare, and support of languages other than English in the learning environment. Variables were considered in three ways. First, a descriptive analysis of each variable within the group of children who spoke a language other than English at wave 1 (n = 388) and wave 2 (n = 666) is given. Second, the relationship between these variables and the children who maintained speaking a language other than English from wave 1 to wave 3 (n = 336) and from wave 2 to wave 3 (n = 519) was examined using chi square and ANOVA. Finally, all variables were entered into a logistic multiple regression model to look at the combined and unique
contribution of each predictor variable. The influence of each of these factors upon language maintenance is outlined in Table 1.

Table 1

*Personal and environmental factors bivariately related to language maintenance*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Wave 1 to Wave 3</th>
<th></th>
<th>Wave 2 to Wave 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maintained</td>
<td>Not-maintained</td>
<td>Maintained</td>
<td>Not-maintained</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>87.0%</td>
<td>13.0%</td>
<td>79.0%</td>
<td>21.0%</td>
</tr>
<tr>
<td>Female</td>
<td>86.2%</td>
<td>13.8%</td>
<td>76.9%</td>
<td>23.1%</td>
</tr>
<tr>
<td><strong>Home environment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent 1 spoke a language other than English</td>
<td>90.3%*</td>
<td>9.7%</td>
<td>89.5%*</td>
<td>10.5%</td>
</tr>
<tr>
<td>Parent 1 did not speak language other than English</td>
<td>41.4%*</td>
<td>58.6%</td>
<td>53.1%*</td>
<td>46.9%</td>
</tr>
<tr>
<td>Both parents spoke same language</td>
<td>91.4%*</td>
<td>8.6%</td>
<td>80.1%</td>
<td>19.9%</td>
</tr>
<tr>
<td>Grandparent present in the home</td>
<td>88.7%</td>
<td>11.3%</td>
<td>87.5%*</td>
<td>12.5%</td>
</tr>
<tr>
<td>No grandparent present in the home</td>
<td>86.3%</td>
<td>13.7%</td>
<td>76.6%*</td>
<td>23.4%</td>
</tr>
<tr>
<td>Older sibling in the home</td>
<td>88.5%</td>
<td>11.5%</td>
<td>79.4%</td>
<td>20.6%</td>
</tr>
<tr>
<td>No older sibling in the home</td>
<td>83.9%</td>
<td>16.1%</td>
<td>76.1%</td>
<td>23.9%</td>
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<tr>
<td><strong>Migrant status</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>First/second generation migrant</td>
<td>91.1%*</td>
<td>8.9%</td>
<td>89.4%*</td>
<td>10.6%</td>
</tr>
<tr>
<td>Not a first/second generation migrant</td>
<td>74.5%*</td>
<td>25.5%</td>
<td>62.1%*</td>
<td>37.9%</td>
</tr>
<tr>
<td><strong>Type of childcare</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Center-based</td>
<td>78.5%*</td>
<td>21.5%</td>
<td>73.0%*</td>
<td>27.0%</td>
</tr>
<tr>
<td>Family-based</td>
<td>88.3%*</td>
<td>21.7%</td>
<td>78.8%*</td>
<td>21.2%</td>
</tr>
<tr>
<td>No care</td>
<td>92.1%*</td>
<td>7.9%</td>
<td>82.6%*</td>
<td>17.4%</td>
</tr>
</tbody>
</table>

*Key: * = p < .05*
Gender. The influence of gender upon use and maintenance of a language other than English was examined. A chi square analysis was undertaken to determine whether a relationship existed between gender and language maintenance from wave 1 to wave 3 \((n = 336)\) or from wave 2 to wave 3 \((n = 519)\). When the child was female, 86.2% maintained speaking a language other than English from wave 1 to wave 3, compared with 87.0% of males who maintained another language from wave 1 to wave 3 \((\chi^2 (1) = 0.07, p = .80)\). From wave 2 to wave 3, when female, 76.9% maintained the other language compared with 79.0% of males \((\chi^2 (1) = 0.43, p = .51)\). These gender differences in language maintenance were not statistically significant.

Parental language use. The main language spoken by parent 1 at wave one was examined as an environmental factor to determine its relationship between children’s use and maintenance of a language other than English. In the group of children who spoke a language other than English at wave 1 \((n = 388)\), 92.5% \((n = 359)\) had a parent 1 who spoke a language other than English. Among children who spoke a language other than English at wave 2 \((n = 666)\), 68.8% \((n = 455)\) had a parent 1 who spoke a language other than English.

A chi square analysis was undertaken to determine whether a relationship existed between children who maintained speaking a language other than English from wave 1 to wave 3 \((n = 336)\) or from wave 2 to wave 3 \((n = 519)\) and whether or not their parent 1 spoke a language other than English. As expected, this relationship was found to be significant for both time points. When parent 1 spoke a language other than English at wave 1, 90.3% of the children maintained speaking a language other than English from wave 1 to wave 3, compared with only 41.4% of children maintaining another language from wave 1 to wave 3 when parent 1 did not speak a language other than English at wave 1 \((\chi^2 (1) = 55.22, p < .001)\). Similarly, among children who maintained speaking a
language other than English at wave 2, 89.5% maintained the other language through wave 3 if their parent 1 spoke a language other than English at wave 1, as compared with 53.1% of children maintaining the language when their parent did not speak a language other than English at wave 1 (χ² (1) = 110.86, p < .001).

Further analyses were conducted to determine if maintenance of home language was impacted by whether or not parent 1 and parent 2 spoke the same main language at home. When both parents spoke the same main language at home at wave 1, 94.1% of children maintained speaking a language other than English from wave 1 to wave 3. In comparison, only 65.2% of children maintained another language from wave 1 to wave 3 when parent 1 and parent 2 spoke different languages at wave 1. This finding was significant (χ² (1) = 50.40, p < .001). However, the difference was not found to be significant among children who maintained speaking a language other than English from wave 2 to wave 3, with 80.1% maintaining the other language if both parents spoke the same language at wave 1, and 73.7% of children maintaining the language when parent 1 and parent 2 spoke different languages (χ² (1) = 2.79, p =.095).

**Presence of grandparent in the home.** The presence of a grandparent in the home was examined to identify its influence upon home upon language use and maintenance. This variable was derived by combining children who were identified as having a grandmother or grandfather in the home at either wave 2 or wave 3. A grandparent was present in the home for 13.7% (n = 53) of children who spoke a language other than English at wave 1 and 12.0% (n = 80) of children who spoke a language other than English at wave 2.

A chi square analysis was undertaken to determine whether a relationship existed between maintaining speaking a language other than English from wave 1 to wave 3 (n = 336) or from wave 2 to wave 3 (n = 519) and the presence of a grandparent in the
home. When a grandparent was present in the home, 88.7% of children maintained speaking a language other than English from wave 1 to wave 3, when a grandparent was not present in the home 86.3% of children maintained speaking a language other than English form wave 1 to wave 3. This relationship was not found to be significant ($\chi^2 (1) = 0.23, p = .63$). For children who spoke a language other than English at wave 2, 87.5% maintained the other language through wave 3 when a grandparent was present the home, as compared with 76.6% of children maintaining the language when a grandparent was not present, and this was found to be significant ($\chi^2 (1) = 4.84, p < .05$).

**Presence of an older sibling in the home.** The presence of an older sibling in the home was also examined in reference to language use and maintenance. This variable was selected on the basis of having an older sibling in the home at wave 3. An older sibling was present in the home for 58.5% ($n = 227$) of children who spoke a language other than English at wave 1 and 55.4% ($n = 369$) of children who spoke a language other than English at wave 2.

A chi square analysis was undertaken to determine whether a relationship existed between maintenance of speaking a language other than English from wave 1 to wave 3 ($n = 336$) or from wave 2 to wave 3 ($n = 519$) and the presence of an older sibling in the home. When an older sibling was present in the home, 88.5% of children maintained speaking a language other than English from wave 1 to wave 3, and when an older sibling was not present in the home, 83.9% of children maintained the non-English language. This relationship was not significant ($\chi^2 (1) = 1.79, p = .18$). For children who spoke a language other than English at wave 2, 79.4% maintained the other language through wave 3 when an older sibling was present the home, as compared with 76.1%
of children maintaining the language when an older sibling was not present. This relationship was not significant ($\chi^2 (1) = 1.04, p = .31$).

**Socioeconomic status.** Analyses were undertaken to determine whether community level socioeconomic advantage/disadvantage or family socioeconomic position significantly influenced language maintenance among children who spoke a language other than English. An independent samples t test found community level socioeconomic advantage/disadvantage, as determined by the SEIFA Advantage/Disadvantage index, was not significantly different between groups that did (M = 1026.9, SD = 82.5) or did not (M = 1016.9, SD = 70.0) maintain their home language from wave 1 to wave 3 ($t(386) = - .83, p = .41$). Similarly, no differences were found between groups who did (M = 1013.0, SD = 77.1) or did not (M = 1014.2, SD = 70.2) maintain their home language from wave 2 to wave 3 on socioeconomic status ($t(664) = -1.47, p = .14$). Additionally, family socioeconomic position was not significantly different between groups that did (M = -.02, SD = 1.1) or did not (M = .09, SD = .86) maintain their home language from wave 1 to wave 3 ($t(383) = .67, p = .50$) or groups that did (M = .00, SD = 1.1) or did not (M = .11, SD = .99) maintain their home language from wave 2 to wave 3 ($t(663) = 1.1, p = .28$).

**Generations since migration.** The influence of being a first- or second-generation migrant was examined in relation to language maintenance among children who spoke a language other than English. This variable was derived by combining children who were identified as first-generation migrants (that is the children were born outside of Australia) and children whose parent 1 was born outside of Australia. Of the children who spoke a language other than English at wave 1 (n = 388), 72.7% (n = 282) were first- or second-generation migrants and among the children who were reported to
speak a language other than English at wave 2 (n = 666), 58.0% (n = 386) were identified as first- or second-generation migrants.

A chi square analysis was undertaken to determine whether a relationship existed between being migrant status and maintenance of a language other than English from wave 1 to wave 3 (n = 336) or from wave 2 to wave 3 (n = 519). When identified as a first- or second-generation migrant, 91.1% of children maintained speaking a language other than English from wave 1 to wave 3, and when not a first- or second-generation migrant, 74.5% of children maintained speaking a language other than English from wave 1 to wave 3. This relationship was significant ($\chi^2 (1) = 18.31, p < .001$). For children who spoke a language other than English at wave 2, 89.4% maintained the other language through wave 3 when identified as a first- or second-generation migrant, as compared with 62.1% of children maintaining when not a first- or second-generation migrant. Again, this relationship was significant ($\chi^2 (1) = 69.98, p < .001$).

**Type of childcare.** The type of childcare attended by children at wave 2 (when children were aged 2 to 3 years old) was examined to determine if a relationship existed between childcare type and language maintenance. Childcare type was coded into three categories: centre-based care, family-based/other care (including relatives, nanny, friends etc.), and no external care. Children receiving no external care were those who were only cared for by their parents.

Of the children who spoke a language other than English at wave 1 (n = 388), 33.5% (n = 130) were in centre-based child care, 24.2% (n = 94) were in family-based care, and 42.3% (n = 164) received no external child care. For children who were spoke a language other than English at wave 2 (n = 666), 37.8% (n = 252) were in centre-based child care, 26.9% (n = 179) were in family-based care, and 35.3% (n = 235) received no external childcare.
A chi square analysis was undertaken to determine if there was a relationship between type of childcare and maintenance of a language other than English from wave 1 to wave 3 or from wave 2 to wave 3. When children attended centre-based care, 78.5% maintained speaking a language other than English from wave 1 to wave 3, when in family-based care, 88.3% maintained speaking a language other than English from wave 1 to wave 3, and when in no external childcare, 92.1% maintained from wave 1 to wave 3. This relationship was significant ($\chi^2 (2) = 11.89, p < .005$).

For children who spoke a language other than English at wave 2, 73.0% maintained the other language through wave 3 when attending centre-based care, as compared with 78.8% of children maintaining who were in family-based care, and 82.6% of children who received no external childcare. This relationship was significant ($\chi^2 (2) = 6.53, p < .05$).

Support of languages other than English in the learning environment.

Support of multilingual children in their early education environment was also considered. During wave 3 of data collection, parents were asked “How well does the child’s teacher, centre, or pre-school understand the needs of families from a non-English background or Indigenous background?” This analysis was only conducted on children who attended some type of non parental childcare at wave 3. Among the children who spoke a language other than English at wave 1 who were regularly cared for by others (n = 114), responses showed that 14.0% (n = 16) of parents believed that needs were understood “very well”, 21.9% (n = 25) said “well”, 15.8% (n = 18) said “just OK” and 22.8% (n = 26) said “not done at all”. Missing data or “don’t know” accounted for 25.4% (n = 29) of responses. Of the children who spoke a language other than English at wave 2 who were regularly cared for by others (n = 213), responses showed that 19.7% (n = 42) of parents believed that needs were understood “very well”,

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22.5% (n = 48) said “well”, 11.7% (n = 25) said “just OK,” and 20.2% (n = 43) said “not done at all”. Missing data or “don’t know” accounted for 25.8% (n = 55) of responses.

To examine the relationship between parents’ perceived level of support in the early learning environment and language maintenance for children who were regularly cared for by others, the ordinal parent perception variable (1= very well, 2 = well, 3 = just OK, 4 = not done at all) was treated as continuous, and ANOVAs were run comparing the groups who did and did not maintain speaking a language other than English from wave 1 to wave 3 and from wave 2 to wave 3. These ANOVAs revealed a significant relationship between parents’ perceived level understanding of the needs of families from a non-English background or Indigenous background by the child’s teacher, centre, or pre-school and those who maintained a language other than English both from wave 1 to wave three ($F(1) = 7.1, p = .009$) and from wave 2 to wave 3 ($F(1) = 6.674, p = .010$). Parents of children who maintained speaking a language other than English from wave 1 to wave 3 ($M = 2.6, SD = 1.1$) and from wave 2 to wave 3 ($M = 2.4, SD = 1.2$) perceived less support and understanding from the child’s educational environment, compared with those who did not maintain a language other than English from wave 1 to wave 3 ($M = 1.8, SD = 0.9$) or from wave 2 to wave 3 ($M = 1.9, SD = 1.2$).

**Multivariate Analysis.** Finally, given that the above analyses have all been bivariate, a logistic multiple regression analysis was conducted to examine the unique and combined contributions of each variable in the model and whether they still predict language maintenance when controlling for other variables in the model. Variables included in the model were gender, SEIFA Advantage/Disadvantage, socioeconomic position, presence of grandparent in the home, presence of an older sibling at home,
first- or second-generation migration status, type of childcare, and parents’ perceived level of teachers’ understanding of the child’s language needs. The correlation between SEIFA Advantage/Disadvantage and socioeconomic position was .41, indicating that collinearity was not a problem, so both SES variables were included in the model. These variables were analyzed in relation to maintenance of a language other than English from wave 2 to wave 3. These analyses, and the results reported in Table 2, were run on a reduced sample only including children who were in non-parental care at wave 3, so that the variable regarding parent perception of teacher understanding the needs of families from non-English background could be included in the model. We also performed the same analysis on the full sample of children who spoke a language other than English and the same variables were significantly related to language maintenance.

The overall chi square significance of the model was ($\chi^2 (9) = 33.52, p < .001$), and Cox and Snell $R^2 = 0.15$ indicating that approximately 15% of the variance was explained using the variables in the model. The variables that were significant when all variables were included and thus controlled, were first/second generation migrant status, family-based childcare as compared with centre-based childcare, and parent perception of teachers’ understanding of the family’s language needs. The odds of a child maintaining their home language were 5.2 times higher for first and second generation immigrant families than for child and parents born in Australia, controlling for the other variables in the model. Also, even after controlling for the other demographic variables, children who were in family-based child care had more than twice the odds (2.3) of maintaining their home language from wave 2 to wave 3 compared to children in centre-based care. Finally, children whose parents perceived a lower level of understanding of the needs of families from a non-English background or Indigenous
background by the child’s teacher, centre, or pre-school were 1.4 times more likely to maintain their language. Presence of a grandparent in the home was no longer significant in the regression model when immigrant status and other variables were included, suggesting that it is immigrant status, type of child care, and perceived level of understanding in the educational environment that are key. The complete findings of the logistic multiple regression analysis are outlined in Table 2.

Table 2

*Contribution of personal and environmental factors to language maintenance from the multiple logistic regression model*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Odds ratio</th>
<th>SE (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0.75</td>
<td>0.38</td>
</tr>
<tr>
<td>SEIFA Advantage/Disadvantage</td>
<td>1.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Socioeconomic position</td>
<td>1.10</td>
<td>0.20</td>
</tr>
<tr>
<td>Grandparent in home</td>
<td>1.79</td>
<td>0.58</td>
</tr>
<tr>
<td>Older sibling in home</td>
<td>0.37</td>
<td>0.93</td>
</tr>
<tr>
<td>First/second generation migrant</td>
<td>5.15**</td>
<td>0.42</td>
</tr>
<tr>
<td>Family-based / centre-based</td>
<td>2.25*</td>
<td>0.40</td>
</tr>
<tr>
<td>No external care / centre-based</td>
<td>2.13</td>
<td>0.63</td>
</tr>
<tr>
<td>Centre-based care/ no external care</td>
<td>0.47</td>
<td>0.63</td>
</tr>
<tr>
<td>Family-based care / no external care</td>
<td>1.06</td>
<td>0.67</td>
</tr>
<tr>
<td>Level of understanding by early learning</td>
<td>1.41*</td>
<td>0.17</td>
</tr>
</tbody>
</table>

*Key: SE(B) = Standard error of B, * = p < .05, ** = p < .01. All contrasts involving childcare type were run and included above by re-running the model and changing the reference group.*
Discussion

The present sample of 4,252 Australian children studied longitudinally at three time points from birth to school entry provides a description of patterns of language use, maintenance, and loss that occur within multilingual families in Australia, a microcosm of diverse ethnolinguistic minority communities within an English dominant environment. Using a sociolinguistic approach, the influence of social and environment factors upon language use, maintenance and loss among multilingual children during early childhood are discussed.

Longitudinal Understandings of Language Acquisition, Maintenance, and Loss

For multilingual children living in an English-dominant society, there are a number of patterns which may occur when developing their languages. Some children are simultaneous language learners who maintain their home language throughout early childhood and continue speaking this language for the rest of their lives. In Australia, the language of instruction in education systems is English, and therefore, if children are not simultaneous learners of their home language and English from birth, they must subsequently acquire English in order to attend and complete their schooling (i.e., be sequential language learners). In other cases, children may lose their home language in the pursuit of English attainment. This phenomenon of subtractive multilingualism may result from a number of factors including: decreased exposure to home languages, the educational emphasis placed on English learning and development, or as a result of personal choice by the child, despite their family’s desire to maintain multiple languages (Wong Fillmore, 1991; Pearson, 2007; Pease-Alvarez, 1993; Taft & Bodi, 1980). As seen in Figure 1a, many children in Australia do maintain their home language throughout early childhood. However, by the age of 4 to 5 years, a number of children begin speaking English as their main language instead of their home language.
For children that began speaking a language other than English at wave 2, the decline by wave three was much higher, with around a quarter of children ceasing home language use and speaking only English. Previous research seeking to explain the high amount of home language loss that occurs at this age has suggested that lack of input of home language (Pearson, 2007), attending English-dominant early childhood education settings (Wong Fillmore, 1991), and the language choice of siblings (Pease-Alvarez, 1993) could be influential factors for children adopting the dominant language of the society rather than persevering with home language use.

Patterns of language maintenance and loss in early childhood were not the same when comparing between speakers of different languages. As cases in point, the patterns of children who spoke Arabic and Italian varied. Most Arabic-speaking children maintained Arabic across all three waves, with few adopting English as their main language by wave 3. Italian-speaking children on the other hand had higher rates of language loss and adoption of English as a main language by wave 3, with more than half of the children identified as speaking Italian at wave 2 no longer speaking Italian at wave 3. This finding is in keeping with previous research in the United States, that found that the incidence of home language maintenance varied between different language groups (Portes & Hao, 1998). The findings of the current paper could be explained by the fact that migration to Australian from Arabic-speaking countries has generally occurred more recently (from the 1970s) (Clyne & Kipp, 1997) than migration from Italy, which peaked in the post-World War II era (Clyne, 1991). Therefore, a higher level of maintenance among Arabic-speaking children is consistent with the relationship found in the current study between generation since migration and language maintenance. These examples highlight that each ethnolinguistic community is unique and experiences different rates of language maintenance and loss. The patterns
exhibited are influenced by personal and environmental factors experienced by children in early childhood that either support or inhibit their language maintenance. These influences are discussed below.

**Environmental Factors Influencing Language Maintenance in Early Childhood**

Sociolinguistic theories of multilingual language acquisition propose that interactions with people and social environments, during early childhood will shape the language competencies that are developed by multilingual children. Exposure to multiple languages and cultural contexts requires a constant negotiation of social and cultural worlds and identities as children are in the process of developing their own personal, social and cultural identity (Díaz & Harvey, 2002). Exposure to languages and attitudes towards languages from influential interlocutors and social environments during this time can directly impact children’s language acquisition, maintenance, and loss as well as their attitudes towards language use (McNamara, 1997).

The literature suggests that the strongest predictor of home language maintenance is the use of these languages within the home environment (Luo & Wiseman, 2000; Pauwels, 2005). The language used with multilingual children at home can be influenced by a number of factors including parental beliefs about multilingualism (positive or negative) and the speaking partners that the child encounters in the home (for example, monolingual grandparents with whom the children must speak their home language). As previously discussed, if children are in families that engage in circular migration, a greater emphasis may be placed on maintaining their home language and culture in preparation for returning to the home country (Newland, 2009). Conversely, some parents may see it as important that children who are permanent migrants become fluent in the dominant language of the country to give them the best chance of success in education and later employment (Stow & Dodd, 2003). These notions are supported
by the results of the current study which found that parental use of a language other than English was highly correlated with children speaking languages other than English. The finding that language maintenance was significantly higher when both parent 1 and parent 2 spoke the same language is in keeping with previous research by Duursma et al. (2007) and De Houwer (2007) who found that children had more chance of being multilingual if both parents used the home language. Additionally, the presence of a grandparent living in the home throughout early childhood was significantly related to the maintenance of home languages in the current study. Previous studies have reported mixed results with regards to the relationship between the presence and order of siblings in the home and language maintenance (De Houwer, 2007; Pease-Alvarez, 1993). Language maintenance was not related to the presence of an older sibling in the home in the current study. In keeping with previous research by Portes and Hao (1998), socioeconomic status (at both the community and family level) was not found to be a significant factor influencing home language maintenance among children from non-English speaking backgrounds.

Another factor thought to influence the maintenance of a language other than English in children is the number of generations since migration. Immigrant status was associated with language maintenance in the current study with the majority of the children who maintained their home language throughout the early childhood years being either first- or second-generation migrants. Intergenerational exchange has been identified as a critical factor in ensuring the maintenance of languages in subsequent generations post migration from the home country (Fishman, 1991). This is often facilitated by communication with extended family such as grandparents or aunts and uncles who continue to speak the home language with the child (Pauwels, 2005). Indeed, once all predictors were included in the multiple regression model, it was
immigrant status that was most strongly related to language maintenance. This finding is consistent with previous literature identifying the relationship between time since migration and language maintenance (Portes & Hao, 1998; Veltman, 1983).

Additionally, early childhood education and care settings play a role in the languages that children are exposed to and, therefore, impact language use, maintenance, and loss. This is reflected in the findings of the current study in which the multiple regression analysis found that family-based care (which included a high proportion of grandparent care), as compared with centre-based care was significantly related to language maintenance when controlling for all other variables in the model. Family-based care provides opportunity for generational and community exchange of languages, which is a protective factor for language maintenance (Pauwels, 2005). In contrast, English is the language of instruction in the majority of early childhood centers in Australia and therefore this monolingual environment affords little opportunity for children’s development of home language.

By 4 to 5 years of age, most Australian children attend a formal preschool setting (Harrison et al., 2009). Formal early childhood education and care settings, where English-based language development and communication is the focus, may place home language maintenance at risk (Puig, 2010). However, if language-minority preschool children attend a high-quality, truly bilingual early childhood centre-based program that values and supports children’s home language use in addition to English, they can show language growth in both English and their home language (Winsler et al., 1999). Therefore, support of language development for all languages in multilingual children at this age is essential to enable language maintenance and strong future outcomes for children (Bialystok, 2011; Gathercole et al., 2010).
To our knowledge, this is the first study to show the association between children’s home language maintenance and parental perceptions of preschool teachers’ language and cultural/home language support. Interestingly however, teachers’ understanding and support for language-diverse families was reported as lower among families whose children maintained their home language over time, compared to those who exhibited home language loss. This suggests that families in Australia that are strongly interested in maintaining their non-English home language, and indeed are successful at doing so, do not feel optimally supported by their child’s educational environment. Thus, it does not appear to be the case that parents who are more serious about home language maintenance actively select (or have access to) child care settings that will help with this language goal. Perhaps the reason why families involving children who stopped using their language other than English during early childhood were more satisfied with their teachers’ language support is that the teachers were following the desires of the parents to emphasize only English in the childcare setting. Unfortunately, we do not have data on families’ specific language policies or goals, or teachers’ specific perspectives on cultural/home language support. It is clear from the literature, though, that many parents rely on educational settings to provide ongoing support for children’s home language development when choosing to maintain home language, and many parents of multilingual children would prefer their children attend an educational setting that supports multiple language development (Lao, 2004; Lee, 1999; Schwartz, 2013).

**Implications**

The findings of this study have important implications for understanding factors that affect the acquisition, maintenance, and loss of home languages among children from non-English speaking backgrounds. Sociolinguistic theories highlight the
important influence of children’s social contexts upon their language acquisition and maintenance. The findings of the current study support this theory by demonstrating the importance of language development and exposure in the home environment. To support children in maintaining home languages, it is crucial that children have opportunities to hear and speak home languages with parents and other influential interlocutors in the home environment. The current findings suggest that maintenance can be improved when both parents use their home language with multilingual children and also the presence of other family members (such as grandparents) in the home can promote home language maintenance.

Most children who speak a language other than English in Australia will learn to speak English, either as a first or an additional language, given that education is predominantly provided in English. This means that many of these children will be multilingual. Therefore, multilingual educational support is an approach that is needed to support children to develop competencies in all of the languages they speak. Previous studies have reported that parents support multilingual education for their children since it facilitates language development, the ability to communicate with members of their home community, positive self-image, and future career opportunities (Lao, 2004).

It is important that educational settings provide multilingual children with equitable opportunities to facilitate and support home language maintenance as well as English language learning (Commonwealth of Australia, 2009). Previous research has indicated that educators with little professional training or experience in working with languages other than English express negative or indifferent attitudes toward their role in supporting home language maintenance in the educational setting (Lee & Oxelson, 2006). Therefore, it is essential that staff who work with multilingual children receive adequate training to increase their understanding of the importance of multilingual
education and to engage in culturally appropriate practices and possess cultural competence (Betancourt, Green, Carrillo, & Ananeh-Firempong, 2003; McLeod, Verdon, Bowen, International Expert Panel on Multilingual Children’s Speech, 2013). This includes teachers, teacher’s aides, speech-language pathologists, and other support staff within educational settings.

The analysis of Arabic- and Italian-speaking children within the dataset highlights the fact that ethnolinguistic minority cultures existing within an English dominant society are individual and transmit (or do not transmit) the language of their community between generations in different ways. It also highlights the high rates of language loss that are occurring in some linguistic communities and with it, the need to support children in home language development in order to avoid language loss and the negative social and academic impacts this may have upon children in the future. Further research is needed to identify effective strategies for supporting home language maintenance in children in the critical years of language acquisition. Additionally, there is a need for greater parental education about the benefits of multilingualism and ongoing support for parents attempting to raise children multilingually.

Understanding the nature of a population’s cultural and linguistic diversity is essential for supporting multilingual children to prosper in an otherwise monolingual-dominant society. The availability of these data regarding Australia’s multilingual children provides a model for other nations who have a similar diversity in languages spoken by children. Using data such as those from a large population-based study to inform service planning, development, resourcing, staff training, and funding can assist in the provision of equitable and quality services that facilitate positive outcomes for all children, regardless of their ethnicity.
Limitations

Although the present study, with its large, nationally representative sample, longitudinal design, and focus on very young children are clear strengths, there are also important limitations of the current study to be acknowledged. Limitations mostly have to do with the archival, large-scale nature of the LSAC data collection which was understandably designed for breadth, to get at many aspects of child development, as opposed to depth in examining the quantitative and qualitative aspects of specifically children’s multilingual language environments and skills. It is a limitation that the current authors had no control over the way questions were asked and therefore the nature of the data that were collected relating to language use, maintenance, and loss. Importantly, the wording of questions regarding languages used by the child in the home changed between wave 1 and 2. It is possible that this wording change influenced the different findings between the group of children who maintained their home language between waves 1 and 3, the group who maintained between waves 2 and 3 when considering the influence of parents both speaking the same language and the presence of a grandparent at home. Additionally, since questions only asked for the main language spoken by children, these data do not enable a distinction to be made between simultaneous and sequential language learners within the sample. Future research concerning language acquisition, maintenance, and loss is needed to further investigate, in detail, individual aspects of language development in multilingual children. This includes explicitly asking about the number of language spoken by the child, proficiency in each language, the type of multilingual acquisition occurring (i.e. simultaneous or sequential), the languages the child is exposed to and the context of exposure, and attitudes surrounding multilingualism.

Conclusions and Future Directions
The data presented here provide valuable information regarding home language maintenance and loss in young children from ethnolinguistic minority communities. In summary, this study found that while many Australian children maintain speaking a language other than English throughout early childhood, many experience a language shift toward English by age five. The patterns of language use, maintenance, and loss varied between individual linguistic groups. For example, Arabic-speaking children were more likely to maintain speaking Arabic throughout early childhood, while a large number of Italian-speaking children began to speak English as their main language by wave 3. Future research could consider migration patterns (i.e. circular or permanent migration) among immigrants to determine what impact this has upon language maintenance in different immigrant populations.

These data also provide information about the patterns of language use, maintenance, and loss that are occurring within language groups in Australia and suggest potential protective and risk factors for the maintenance of home languages. Future longitudinal research should consider the multiple influences upon speech acquisition, maintenance and loss during early childhood (such as language exposure, language use and language environments) and questions should be designed investigate these important areas individually and consistently across waves of data collection to ensure stability in longitudinal analyses. In light of these findings, practical strategies for supporting language development in Australian multilingual children in both the home and educational environments are needed. To achieve this, further research is needed to equip both early childhood education and health (such as speech-language pathology) services to meet the needs of multilingual children. Research is also needed into preparing professionals with culturally appropriate practice approaches for working
within increasingly diverse early childhood populations to support language acquisition, use, and maintenance, and facilitate positive outcomes for all children.

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Abstract

Internationally, cultural renewal and language revitalisation is occurring among Indigenous people whose lands were colonised by foreign nations. In Australia, the Aboriginal and Torres Strait Islander people are striving for the re-voicing of their mother tongue and the re-practicing of their mother culture to achieve cultural renewal in the wake of over 250 years of colonisation (Williams, 2013). While 120 Indigenous Australian languages are still spoken in Australia today, little has been documented regarding the extent to which languages are learned and maintained by young Aboriginal and Torres Strait Islander children. The current paper offers a unique insight by drawing upon a large-scale dataset, Footprints in Time: the Longitudinal Study of Indigenous Children (LSIC), to describe patterns of language use and maintenance among young Aboriginal and Torres Strait Islander children. Of the 580 children followed longitudinally from the first wave of the baby cohort of LSIC (aged 0 to 1 years) until wave 4 (aged 3 to 5 years), approximately one in five (19.3%) were reported to speak an Indigenous language. Children in the study were learning up to six languages simultaneously, including English (both Standard Australian English and Aboriginal Australian English), Indigenous languages, creoles, foreign languages (other than English), and sign languages. Social and environmental factors such as primary caregivers’ use of an Indigenous language and level of relative isolation were found to be associated with higher rates of Indigenous language maintenance. These findings have important implications for identifying ways of supporting Aboriginal and Torres Strait Islander children to learn and maintain Indigenous languages during early childhood, especially for children who may not have the opportunity to learn an Indigenous language in the home environment and for children living in urban areas.
Key words: Indigenous languages, children, multilingual, language maintenance, longitudinal, culture
Indigenous language learning and maintenance among young Australian Aboriginal and Torres Strait Islander children

Around the world the Indigenous populations of many colonised countries are experiencing a period of cultural renewal and language revitalization. The continuation and revitalisation of mother-tongue language is of great importance to Indigenous people as it is vehicle through which people come to know, understand, and interpret the world and identify themselves as part of a culture and a society (Marmion, Obata and Troy 2014; McCarty, 2003; United Nations, 2008). Prior to the European settlement of Australia in 1788, there were over 600 Aboriginal and Torres Strait Islander groups speaking an estimated 250 languages and 600 dialects (Australian Institute of Aboriginal and Torres Strait Islander Studies, AIATSIS 2005; Walsh 1993). Currently around 120 Indigenous Australian languages are still spoken (Marmion et al. 2014). Of these languages, around 13 are considered “strong” (Marmion et al. 2014, p. xii), being passed down to new generations in their full form while around 100 Indigenous languages are considered to be severely or critically endangered according to the language endangerment scale (Marmion et al. 2014; University of Hawai’i 2014), making Australia the continent where the most rapid decline in languages is occurring (Nettle and Romaine 2000). In order to support and revitalize Indigenous language it is necessary to investigate the languages spoken by young Aboriginal and Torres Strait Islander children and the factors that support the maintenance of these languages across early childhood.

In addition to traditional Indigenous languages, the Aboriginal and Torres Strait Islander people also began to speak English as a result of contact with European settlers and government policies which ordered the removal of Australia’s original inhabitants from traditional lands on to missions and reserves (Australian Law Reform Commission
The type of English commonly spoken by the Aboriginal and Torres Strait Islander people was linguistically influenced by Indigenous languages and over time developed into a form of English with unique phonological, morphological and syntactic features that is now recognised as its own dialect: Aboriginal Australian English (Arthur 1996; Butcher 2008). Contact with European settlers and the co-habitation of Aboriginal and Torres Strait Islander people who were speakers of mutually unintelligible languages from different language groups in the same missions and reserves also led to the creation of pidgins (a form of speech containing elements from different speakers’ languages, Walsh 1993) which over time developed in creoles (an English-based language containing elements of both speakers’ languages, Walsh 1993) to enable communication between Aboriginal and Torres Strait Islander people from different language groups and with European settlers and authorities.

**Multilingual Language Acquisition**

The development and maintenance of home languages in addition to learning the dominant language of a society promotes a strong sense of self and cultural identity (Puig 2010) which, in turn, has many individual, cognitive and social benefits (Adesope, Lavin, Thompson, and Ungerleider 2010). The acquisition of multiple languages occurs in two main ways: simultaneously or sequentially. Simultaneous language acquisition occurs when a child is exposed to multiple languages from early childhood (Paradis, Genesee, and Crago 2011). Sequential language learning occurs when additional languages are learned after the establishment of a first language (Tabors 1997). Both patterns of language acquisition are present among Aboriginal and Torres Strait Islander children. The type of multilingualism varies depending on children’s environment. For example, an Aboriginal or Torres Strait Islander child living in an urban area may be a simultaneous multilingual child, learning an
Indigenous language in the home environment with additional exposure to English in the home and in the broader social context. On the other hand, sequential multilingualism may occur for an Aboriginal or Torres Strait Islander child living in a remote community who exclusively speaks an Indigenous language at home and in their community with exposure to English occurring when entering formal schooling.

Another important phenomenon that occurs among multilingual children is subtractive multilingualism. This phenomenon occurs when the home language is lost as a result of a language shift towards the dominant language of an educational environment or social context (Roberts 1995). Subtractive multilingualism may occur among Aboriginal and Torres Strait Islander Australian children if they cease (or reduce) speaking Indigenous languages when their exposure to and use of English increases.

**Language maintenance in young children**

Intergenerational language exchange is a field of interest in countries the world over, with many researchers seeking to identify factors that can facilitate or inhibit this process (Marshall 1994). Internationally, a number of social and environmental factors that have been found to be related to home language maintenance among multilingual children living in contexts where the home language is not the dominant language of the community. One of the strongest predictors of language maintenance is rich exposure to, and support of, languages in the home environment (De Houwer 2007; Lyon 1996; Verdon, McLeod, and Winsler 2014). Among Indigenous populations, maintenance of an Indigenous language has also been found to be more common among people living in remote communities with limited mobility between places of residence, while communities closest to urban areas showed the lowest levels of language maintenance (Burnaby and Beaujot 1986). In addition to language learning in the home environment, some Aboriginal and Torres Strait Islander groups are working towards the re-voicing
of their languages and the re-practising of their at the community level (Williams 2013). Language revitalisation programs are being developed and implemented in Aboriginal and Torres Strait Islander communities across Australia to support the continuation of Indigenous language use among communities and families (Marmion et al. 2014). At least 30 of the Indigenous Australian languages listed as severely or critically endangered are currently seeing an increase in use as a result of such programs (Marmion et al. 2014).

McLeod, Verdon and Bennetts Kneebone (2014) documented the language use of 692 young Aboriginal and Torres Strait Islander Australian children, demonstrating that while English (Standard Australian English or Aboriginal Australian English) was the most commonly spoken language, many children spoke Indigenous languages and creoles. The current study aims to contribute to what is known in this field by describing patterns of language maintenance that are occurring among the young Aboriginal and Torres Strait Islander Australian children included in the study and by identifying personal and environmental factors associated with language use and maintenance. In doing so it is hoped that these data will contribute to the current literature informing initiatives to facilitate the revitalization and maintenance of Indigenous Australian languages.

**Context of the current study**

Footprints in Time: The Longitudinal Study of Indigenous Children (LSIC) is supported by the Aboriginal and Torres Strait Islander people and has been initiated, funded, and managed by the Australian Government to provide quantitative and qualitative data which offer insight into Aboriginal and Torres Strait Islander children’s early years and their development over time (Department of Families Housing Community Services and Indigenous Affairs, FaHCSIA 2012). Ultimately, LSIC aims
to “improve the understanding of, and policy response to the diverse circumstances faced by Aboriginal and Torres Strait Islander children, their families and communities” (FaHCSIA 2013, p. 2) by engaging with Aboriginal and Torres Strait Islander families to find out “what Aboriginal and Torres Strait Islander children need to have the best start in life and grow up strong” (FaHCSIA, 2013, p. 2).

LSIC, commenced in 2008 and is ongoing with annual waves of data collection. To date over 1,750 children and their families have been involved over six waves of data collection. The sample was not designed to be representative of the Aboriginal and Torres Strait Islander Australian population. Rather, 11 data collection sites were chosen to cover a range of socioeconomic and community environments where Aboriginal and Torres Strait Islander children live. These sites were chosen to ensure approximately equal representation of urban, regional and remote areas and to approximately represent the concentration of Aboriginal and Torres Strait Islander people around Australia. Approval to participate in the study was gained from community elders before recruitment and subsequent data collection began (FaHCSIA 2013). A non-representative purposive sampling design was implemented from which eligible families were approached and consent was voluntarily obtained from participants. Full information about the interviews and questionnaire content is available from FaHCSIA (2012). Waves of data were collected annually to ensure regular contact with families in order to maximise retention rates. To date, data have been released for waves 1 to 4. As wave 2 did not collect information regarding languages for children who had participated in wave 1, the current study focuses on data collected at waves 1, 3 and 4.

**Aims**
This paper aims to describe the cultural and linguistic diversity of Aboriginal and Torres Strait Islander children by answering the following research questions:

1. What is the linguistic diversity of Aboriginal and Torres Strait Islander children in the baby (B) cohort of LSIC?
2. What patterns of language maintenance are occurring among Aboriginal and Torres Strait Islander children in LSIC across early childhood?
3. What personal and environmental factors (including sex, use of an Indigenous language by a primary caregiver, level of relative isolation, primary caregiver’s concerns about speech, and ear and hearing problems) influence the maintenance of languages among Aboriginal and Torres Strait Islander children in LSIC?

Method

Participants

Participants selected for inclusion in the current study were 580 children (and their primary caregivers) in the B cohort of LSIC who were aged between 0 and 2 years at the time of wave 1 of data collection, who were present in waves 1, 3 and 4 of data collection, and had the same primary caregiver who provided information at all three waves. Children who were missing from waves 1, 3 or 4 or who left the LSIC study were excluded so that data could be examined longitudinally. At wave 1, children in the sample were aged between 3 and 24 months. Children in the sample had a mean age of 14.9 months. At wave 3 children were aged between 24 and 51 months with a mean age of 36.9 months and at wave 4 children were aged between 33 and 63 months with a mean age of 48.6 months at the time of the interview. There were 301 (51.9%) males and 279 (48.1%) females in the sample. Children’s Indigenous status was listed as Aboriginal (n = 519, 89.5%), Torres Strait Islander (n = 32, 5.5%) or both (n = 29, 5.0%). At each wave children’s level of remoteness was calculated using a classification
system of geographical isolation known as Level of Relative Isolation (Zubrick et al. 2004). At wave 1 children’s level of relative isolation was identified as high/extreme ($n = 38, 6.6\%$), moderate ($n = 72, 12.4\%$), low ($n = 287, 49.5\%$) or none ($n = 183, 31.6\%$). The total number of people living in the children’s households ranged from 2 to 15 with an average of 4.9 people per household.

Information about the children was collected from their primary caregiver, who was identified as the person who knew the study child best. In some cases children’s primary caregiver changed between waves. In order to ensure consistency in the interpretation of longitudinal findings only children whose primary caregiver was the same person at all three time points considered in the current paper were included in this study. In 97.4\% of cases the study child was the son or daughter of their primary caregiver. In the remaining 2.6\% of cases the study child’s relationship their primary caregiver was listed as grandson or granddaughter, adopted, niece, or extended family. In 99.0\% ($n = 574$) of cases the primary caregiver was female. The age of primary caregivers ranged from 16 to 58 years. The Indigenous status of primary caregivers was reported as Aboriginal ($n = 420, 72.4\%$), Torres Strait Islander ($n = 27, 4.7\%$), both ($n = 21, 3.6\%$), and neither ($n = 112, 19.3\%$).

Procedure

In each wave of LSIC, data collection was undertaken using face-to-face computer assisted personal interviews (CAPI). Interviews were conducted by Aboriginal and Torres Strait Islander fieldwork officers with the primary caregiver. Data were collected on a broad range of topics concerning the child, the primary caregiver, their family, community and educational environments. Questions answered by primary caregivers that pertained to the research questions of this study were extracted from the dataset and used to establish the findings presented in this paper.
Data analysis

Data analyses were undertaken using the Statistical Package for Social Sciences (SPSS) Version 20 (IBM, 2011). Analysis of the entire sample of 580 children described the languages spoken by the children and their primary caregivers at each wave. Chi square analyses were conducted to identify relationships between primary caregivers’ and children’s language use and children’s language maintenance over time. Additionally, analyses were undertaken on a subsample of children who were reported to speak an Indigenous language at wave 1 \((n = 93)\) to examine variables that were potentially related to language maintenance. Chi square analyses were used to determine whether relationships existed between Indigenous language maintenance and personal and environmental factors including: sex, primary caregiver’s use of Indigenous language, and primary caregiver’s concerns about speech, and hearing problems. ANOVAs were used to determine if a relationship existed between children’s level of relative isolation and their maintenance of an Indigenous language. The data collected regarding languages named individual Aboriginal and Torres Strait Islander languages. However, in the reporting of language data all Aboriginal and Torres Strait Islander languages are grouped together and referred to as ‘Indigenous languages’ to protect the confidentiality of the participants from smaller language groups. It is acknowledged that the grouping of languages does not allow for consideration of patterns of acquisition and maintenance occurring within individual languages.

Results

The linguistic diversity of Aboriginal and Torres Strait Islander children aged between 0 and 5 years

At wave 1, when 0 to 2 years of age, children in the sample were learning to speak between one and five languages (see Table 1). Approximately one in six children \((n = \)
93, 16.0%) were learning to speak an Indigenous language, 96.2% \((n = 558)\) spoke English (Standard Australian English or Aboriginal Australian English), and 2.8% \((n = 16)\) spoke a foreign or sign language. At wave 3, when the children were 2 to 4 years of age, children in the sample spoke between one and four languages (see Table 1). Nearly one in five children \((n = 112, 19.3\%)\) spoke an Indigenous language, 99.0% \((n = 574)\) spoke English (Standard Australian English or Aboriginal Australian English), and 4.0% \((n = 23)\) spoke a foreign or sign language. By wave 4, when the children were 3 to 5 years of age, a number of children in the sample continued speaking multiple languages. In total children could speak between one and six languages (see Table 1). Again around one fifth of children \((n = 112, 19.3\%)\) spoke an Indigenous language, 100.0% \((n = 580)\) spoke English (Standard Australian English or Aboriginal Australian English), and 2.8% \((n = 16)\) spoke a foreign or sign language.

Table 1.

*Number of languages spoken by parents and children*

<table>
<thead>
<tr>
<th>Number of languages spoken</th>
<th>Parents ((n = 580))</th>
<th>Children ((n = 580))</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>78.3%</td>
<td>84.8%</td>
</tr>
<tr>
<td>Two</td>
<td>15.3%</td>
<td>11.9%</td>
</tr>
<tr>
<td>Three</td>
<td>4.8%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Four</td>
<td>1.0%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Five</td>
<td>0.2%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Six</td>
<td>0.2%</td>
<td>-</td>
</tr>
<tr>
<td>Eight</td>
<td>0.2%</td>
<td>-</td>
</tr>
</tbody>
</table>

161
**Dominant language**

Many children in the study spoke more than one language. Information provided by the primary caregiver about how well their child spoke each language was used to create derived variables to identify the dominant language of the children. At wave 4, the majority (87.9%, \( n = 510 \)) of the children in the study were dominant in English (Standard Australian English or Aboriginal Australian English), 5.5% (\( n = 32 \)) were dominant in an Indigenous language and 4.7% (\( n = 27 \)) of children were equally dominant in English and an Indigenous language.

**Language exposure in the home environment**

**Main language spoken at home**

All primary caregivers except one (99.8%) reported that English (Standard Australian English or Aboriginal Australian English) was one of the main languages spoken in the home. For 76.9% (\( n = 446 \)) of the children in the study the only language spoken in the home was reported to be English (Standard Australian English or Aboriginal Australian English). In addition, 7.6% (\( n = 44 \)) of children spoke an Indigenous language as a main language in the home, 2.6% (\( n = 15 \)) spoke a creole and an Indigenous language as the main languages in the home, 0.9% (\( n = 5 \)) spoke three Indigenous languages in the home, 0.5% (\( n = 3 \)) families spoke two Indigenous languages and a creole in the home, 0.3% (\( n = 2 \)) families spoke two Indigenous languages in the home, and 0.3% (\( n = 2 \)) spoke Indigenous languages and a foreign language in the home. The family who did not speak English in the home reported speaking two Indigenous languages and a creole in the home.

**Type of English spoken at home**

At wave 3 the primary caregiver was asked about the main type of English spoken in the home. Approximately half of the families (\( n = 327, 56.4\% \)) used Standard
Australian English in the home, that is, they reported that their English did not contain any words from an Indigenous language and would sound the same as a person who was not Aboriginal or Torres Strait Islander person. Families speaking Aboriginal Australian English at home were described as using light Aboriginal English that was “sometimes mixed with a few Aboriginal or Torres Strait Islander words” ($n = 161, 27.8\%$) or heavy Aboriginal English “mixed with lots of Aboriginal or Torres Strait Islander words” that might be difficult for a person who was not Aboriginal or Torres Strait Islander to understand ($n = 89, 15.3\%$).

**Languages spoken by primary caregivers**

At wave 1, the number of languages spoken by the primary caregiver ranged between one and eight (see Table 1). One fifth of primary caregivers spoke an Indigenous language ($n = 119, 20.5\%$), $96.9\%$ ($n = 562$) spoke English, and $3.3\%$ ($n = 19$) spoke a foreign language. The dominant language of primary caregivers was identified as English (Standard Australian English or Aboriginal Australian English, $86.2\%, n = 500$), an Indigenous language ($5.0\%, n = 29$), and $8.8\%$ ($n = 51$) were equally fluent in both English (Standard Australian English or Aboriginal Australian English) and an Indigenous language. A Chi square analysis revealed there was a significant association between primary caregivers speaking an Indigenous language and their children speaking an Indigenous language at wave 4 (aged 3 to 5 years), ($\chi^2(1) = 220.6, p < .01$). When primary caregivers spoke an Indigenous language, $67.2\%$ of children also spoke an Indigenous language; compared with $6.9\%$ who spoke an Indigenous language when their primary caregivers did not.

**Longitudinal analyses of children’s languages**

Patterns of language maintenance across early childhood among children who spoke an Indigenous language were examined. Of those who were identified as learning
to speak an Indigenous language at wave 1 \((n = 93)\), 76.3\% \((n = 71)\) maintained speaking an Indigenous language until wave three and the same number were also speaking an Indigenous language at wave 4 (see Figure 1). It is important to note that the specific Indigenous language spoken by the child was not identified and therefore it is possible that the Indigenous language spoken may have changed across the waves.

![Figure 1. Language maintenance of children who spoke an Indigenous language at wave 1 \((n = 93)\)](image)

**Personal and environmental factors associated with language maintenance in Aboriginal and Torres Strait Islander children**

The impact of personal and environmental factors upon language maintenance among Aboriginal and Torres Strait Islander children was analysed. Factors considered were sex, whether the primary caregiver spoke an Indigenous language, and level of relative isolation, concerns about speech and language and ear and hearing problems.

**Sex**

Of the children who were learning to speak an Indigenous language at wave 1, 62.4\% \((n = 58)\) were male and 37.6\% \((n = 35)\) were female. Of these, 77.6\% of males maintained speaking an Indigenous language until wave 4, while 74.3\% of females
maintained speaking an Indigenous language until wave 4. The relationship between sex and language maintenance was not found to be significant for this group ($\chi^2 (1)= .13, p=.72$).

Use of an Indigenous language by primary caregivers

As expected, there was a significant relationship between primary caregivers speaking an Indigenous language and the maintenance of an Indigenous language by children from wave 1 to wave 4 ($\chi^2 (1)= 16.15, p<.01$), with 84.4% of children whose primary caregiver spoke an Indigenous language maintaining the language as compared with 37.5% of children maintaining an Indigenous language when their primary caregiver did not speak an Indigenous language.

Level of relative isolation

To examine the relationship between level of relative isolation at wave 1 and maintenance of an Indigenous language during early childhood, the ordinal level of relative isolation variable (1 = none, 2 = low, 3 = moderate, 4 = high/extreme) was treated as continuous, and one-way ANOVAs were run against whether or not children maintained speaking an Indigenous language. A statistically significant relationship was found between level of relative isolation at wave 1 and maintenance of an Indigenous language from wave 1 to wave 4. Children who maintained speaking an Indigenous language were more isolated ($M = 3.0, SD = 0.9$) than those who did not maintain speaking an Indigenous language ($M = 2.2, SD = 0.9$), ($F(1,91) = 14.18, p<0.01$).

Primary caregiver’s concerns about speech

Analyses were undertaken to determine whether primary caregiver concern about children’s speech was an influential factor in the maintenance of an Indigenous language. Among children who were learning to speak an Indigenous language at wave 1, concerns about speech were expressed for 15.1% ($n = 14$) of children by wave 4. A
Chi square analysis showed no significant relationship between concerns about speech and Indigenous language maintenance ($\chi^2 (1)= 1.33, p=.25$) with 64.3% of children whose primary caregivers identified speech concerns maintaining an Indigenous language as opposed to 78.5% of children for whom no speech concerns were reported.

*Ear and hearing problems*

The relationship between hearing and ear problems and maintenance of an Indigenous language was also investigated. At wave 4 primary caregivers reported ear problems including otitis media, perforated ear drums, hearing loss and other ear problems for 11.8% ($n = 11$) of children who were learning to speak an Indigenous language from wave 1. A Chi square analysis showed no significant relationship between ear and hearing problems and Indigenous language maintenance from wave 1 to wave 4 ($\chi^2 (1)= .21, p=.65$) with 81.8% of children with ear or hearing problems maintaining speaking an Indigenous language as opposed to 75.6% of children for whom no problems were reported (see Table 2).

Table 2.

*Personal and environmental factors bivariately related to language maintenance*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Wave 1 to Wave 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maintained</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>77.6%</td>
</tr>
<tr>
<td>Female</td>
<td>74.3%</td>
</tr>
<tr>
<td>Primary caregiver spoke Indigenous language</td>
<td>84.4%*</td>
</tr>
<tr>
<td>Primary caregiver did not speak Indigenous language</td>
<td>37.5%*</td>
</tr>
<tr>
<td>Concerns about speech</td>
<td>64.3%</td>
</tr>
<tr>
<td>No concerns about speech</td>
<td>78.5%</td>
</tr>
<tr>
<td>Ear and hearing problems</td>
<td>81.8%</td>
</tr>
<tr>
<td>No ear and hearing problems</td>
<td>75.6%</td>
</tr>
</tbody>
</table>

* p < .01
Discussion

The findings of this study make an important contribution to the limited information that is currently known about Aboriginal and Torres Strait Islander children’s use and maintenance of Indigenous languages throughout early childhood. A number of Aboriginal and Torres Strait Islander children in this large-scale study were found to be multilingual with around one in five speaking more than one language by wave 4. Aboriginal and Torres Strait Islander children’s use of English (Standard Australian English or Aboriginal Australian English) was high across all waves of data collection and continued to increase until reaching 100% at wave 4. There may be a number of reasons for the high use of English by Aboriginal and Torres Strait Islander children in the study. These include the fact that English is the language of instruction in Australian schools, television and social media are predominantly in English, and the exposure and need to communicate with the broader English-dominant community (especially if children are living in urban areas). However, it is important to note that while all children were reported to speak English by wave 4 this does not mean it was the child’s first language. The dominant language of the child identified at wave 4 revealed that in fact 5.5% of children spoke an Indigenous language as their dominant language (meaning that English was their second or additional language) and some were balanced bilinguals, being equally fluent in both English and an Indigenous language. The type of English that was being spoken at home also varied among families with around half reporting that they spoke Standard Australian English in their home while the other half of families in the study reporting that they spoke varying degrees of Aboriginal Australian English.
**Intergenerational exchange of Indigenous languages**

The findings of the current study are in keeping with previous international literature regarding the intergenerational exchange of languages that show exposure to languages in the home environment, especially from parents or primary caregivers, is one of the most important contributors to children’s ability to speak their home language (De Houwer 2007; Lyon 1996). In the current study, 67.2% of children learned to speak an Indigenous language when their primary caregiver spoke an Indigenous language as opposed to just 6.9% who learned to speak an Indigenous language when their primary caregiver did not, demonstrating the important role of intergenerational language exchange.

**Language maintenance among Aboriginal and Torres Strait Islander children**

Over three-quarters of children in this study who learned Indigenous languages from birth maintained speaking an Indigenous language across early childhood. Various reasons for children ceasing to maintain a language have been reported previously in the literature. For example, language loss may occur if children’s exposure to an Indigenous language in the home ceases, perhaps if the person who was teaching them is no longer living in the home, or if the child chooses not to speak an Indigenous language any more (Wong Fillmore 1991).

One major cause of home language loss or language shift to the dominant language of a society is exposure to, and use of, languages in educational environments. For example, children may be supported to speak their Indigenous language in an early childhood education or care environment and then experience language loss when they move to an English-based educational centre which does not support bilingual development (Hornberger and King 1996). Aboriginal and Torres Strait Islander children who speak Indigenous languages are at risk of language loss due to the lack of
bilingual programs supporting first language acquisition of Indigenous languages and explicit teaching of English as a second language for children who are not exposed to English in the home environment (Simpson, Caffery, and Patrick 2009).

**Personal and environmental factors associated with language maintenance in Aboriginal and Torres Strait Islander children**

Use of an Indigenous language by primary carers and children’s level of relative isolation were both found to be significantly related to language maintenance, while sex and primary caregiver concerns about speech, and ear and hearing problems were not. Input of Indigenous languages from primary caregivers may differ depending on the community in which children live. In urban areas primary caregivers may choose to speak an Indigenous language with their children to preserve their language and culture or to enable them to participate in cultural or community activities. In more remote areas primary caregivers may speak to children in Indigenous languages for different reasons. For example, in some remote communities in Australia, an Indigenous language would be the main language used at home and English may be spoken as an additional language or not at all. The relationship between location and Indigenous language use has been established by previous studies in both Australia (McLeod et al. 2014) and Canada (Burnaby and Beaujot 1986) and was further confirmed in the current study which found that children living in more isolated areas were more likely to maintain speaking an Indigenous language. The link between mother-tongue language maintenance and location and primary caregiver use is in keeping with previous international findings that the language spoken in the home is the most likely to be transmitted between generations and be adopted as the primary language of the next generation (Norris 2004).

*The influence of speech and hearing problems on language maintenance*
While there were only a small number of children in the sample who were reported to have speech and hearing concerns, given the important role of speech and hearing competence upon language learning, the relationship between these issues and language maintenance was considered. The cautionary findings of the current study suggest that primary caregiver concerns about speech did not appear to impact upon in the maintenance of Indigenous languages among Aboriginal and Torres Strait Islander children. Previous research has found that when parents suspect speech and language difficulties they may avoid multiple language input as it is sometimes thought to exacerbate or be the cause of their difficulties (Baker 2011; King and Fogle 2006). However, current literature on the influence of bilingualism upon speech and language development has found no reason to cease input in multiple languages if children are experiencing speech and language difficulties (Hambly et al. 2013; Paradis et al. 2011). Secondly, there was no correlation between language maintenance and the presence of ear or hearing problems in the current study. Aboriginal and Torres Strait Islander children are five times more likely to experience severe otitis media than Australian children not of Aboriginal or Torres Strait Islander descent (Gunasekera et al. 2007). A review of otitis media in Aboriginal and Torres Strait Islander children found that prevalence ranged between 1 and 67% in different communities throughout Australia with up to 67% experiencing conductive hearing loss at school age (Morris 1998). Previous studies of multilingual children with hearing loss have found that Australian parents of children from non-English speaking backgrounds were more likely to cease input of home language or multiple languages because of their children’s hearing loss (Crowe et al., in press). These findings are in contrast to the current study which suggests that ear and hearing problems do not appear to negatively impact upon the maintenance of Indigenous languages across early childhood.
Limitations and future research

While the current study makes an important contribution to understanding patterns of multilingualism and language maintenance occurring among Aboriginal and Torres Strait Islander children, conclusions from these findings should be drawn with caution. Firstly, due to the sampling framework used in the recruitment of participants to the LSIC cohorts and the grouping of all Aboriginal and Torres Strait Islander languages under the term ‘Indigenous languages’, the findings may not reflect the patterns of multilingualism and language maintenance occurring within all Aboriginal and Torres Strait Islander groups or all Indigenous languages. Additionally, the sample sizes of children with speech concerns and ear and hearing problems were small so caution must be used when drawing conclusions from these data.

The impact of entering an education setting where English is the primary language of instruction upon children’s Indigenous language maintenance was unable to be examined in the current study as most children had not yet commenced formal schooling. Further longitudinal research using these LSIC data as children progress through primary school and into adolescence would be of great value in order to examine whether language loss occurs and to aid in planning for language support services to facilitate Indigenous language maintenance.

Implications and conclusion

In summary, the current study found that Aboriginal and Torres Strait Islander children are highly multilingual and, among those who spoke an Indigenous language, high levels of language maintenance were found across early childhood. Intergenerational exchange of languages was found to be key with children whose primary caregivers spoke an Indigenous language being significantly more likely to speak an Indigenous language. Children from more isolated areas were found to have
significantly higher levels of Indigenous language use and maintenance. Factors such as
sex, speech concerns, and ear and hearing problems were not found to significantly
impact upon Indigenous language maintenance.

The findings of the current study are in keeping with previous international
studies regarding Indigenous language learning which highlight the important role of
language exposure in the home environment and the influence of location upon
language learning (Burnaby and Beaujot 1986; Norris 2004). When exposure to
language in the home is not possible, it is necessary to consider alternative opportunities
for Aboriginal and Torres Strait Islander children to learn Indigenous languages.

Internationally, alternative opportunities for mother-tongue language learning are
being explored. For example in Canada, the decline in Indigenous language learning as
a first language through intergenerational exchange is being offset by the acquisition of
these languages by Indigenous children as a second language in language revitalization
programs run by educational and community settings (Norris 2004). Language
revitalisation has also been facilitated among Indigenous populations in South America
by providing exposure to and support for Indigenous language development in
education settings (Hornberger and King 1996). Similarly, language and culture nests
are being established in parts of Australia and guidelines for schools wishing to teach
Aboriginal languages and cultures are being established (Williams, 2013; Williams,
2014). Norris (2004) suggests that language learning in both the home environment and
in broader community contexts (including education) are necessary to facilitate
effective intergenerational transmission of mother-tongue languages. Educators and
early childhood professionals play an important role in facilitating, encouraging, and
welcoming home language use and maintenance in children’s contexts outside of the
home environment. Such opportunities for language exposure and use are essential to
protect and facilitate the use of more than 100 Indigenous Australian languages which are currently classified as severely or critically endangered (Marmion et al. 2014) and to ensure the continuation of Aboriginal and Torres Strait Islander languages and culture in future generations.

References


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Abstract

The speech-language pathology workforce strives to provide equitable, quality services to multilingual people. However, the extent to which this is being achieved is unknown. Participants in this study were 2,849 practicing members of Speech Pathology Australia and 4,386 children in the Birth cohort of the Longitudinal Study of Australian Children (LSAC). Statistical and geospatial analyses were undertaken to identify the linguistic diversity and geographical distribution of Australian speech-language pathology services and Australian children. One fifth of services provided by Speech Pathology Australia members (20.2%) were available in a language other than English. Services were most commonly offered in Australian Sign Language (Auslan) (4.3%), French (3.1%), Italian (2.2%), Greek (1.6%), and Cantonese (1.5%). Among 4- to- 5-year-old children in the nationally representative LSAC, 15.3% were regularly spoken to in a language other than English. The most common languages spoken by the children were Arabic (1.5%), Italian (1.2%), Greek (0.9%), Spanish (0.9%), and Vietnamese (0.9%). Despite the relatively high number of multilingual SLP services, there was a mismatch between the location of multilingual services and the languages in which they were offered and the location of, and languages spoken by children. These findings highlight the need for speech-language pathologists, both multilingual and monolingual, to be culturally competent in providing equitable services to all clients regardless of the languages they speak.
Introduction

The World Health Organization’s definition of equity in health affirms that equitable services should be provided to all people regardless of their wealth, social status, or ethnicity (Braveman, Tarimo, Creese, Monasch, & Nelson, 1996). The speech-language pathology workforce aims to provide equitable and quality services to the entire clinical population; this includes children from culturally and linguistically diverse backgrounds (International Expert Panel on Multilingual Children’s Speech, 2012; Royal College of Speech and Language Therapists (RCSLT) Specific Interest Group in Bilingualism, 2007). One way to achieve this is to provide speech-language pathology services to children in their home language(s) (Gutiérrez-Clellen, 1999; Kohnert, Yim, Nett, Kan, & Duran, 2005). Traditionally, this has been done in two ways: by multilingual speech-language pathologists (SLPs) providing services in the languages spoken by multilingual children, or by providing services with the support of interpreters.

A number of English-dominant countries have reported large discrepancies between the proportion of multilingual people on caseloads and the number of multilingual SLPs available to meet the needs of these clients. In the USA, 19.7% of the population speaks a primary language other than English at home (Shin & Kominski, 2010). In some states this percentage is even higher, for example in California, 42.6% of the population speaks a primary language other than English (Shin & Kominski, 2010). In contrast, just 4.2% of SLPs registered as members of the American Speech-Language-Hearing Association (ASHA) meet the specified requirements outlined by the association to be considered a bilingual practitioner (ASHA, 2012). In England and Wales, eight percent of the population is reported to speak a main language other than English (Office for National Statistics, 2013) with some regions reporting up to 31.5%
of school-aged children speaking a language other than English (Mennen & Stansfield, 2006) and 59% of SLPs reporting at least one multilingual child on their caseload (Winter, 1999). Again, the proportion of the SLPs who identify as bilingual was comparatively lower, with just 5% of undergraduate speech-language pathology students being bilingual (RCSLT, 2001). In Australia, previous research has found comparatively higher percentages of SLPs reporting to be bilingual in comparison to the US and UK. The labour force survey undertaken by Speech Pathology Australia in 2001 which included responses from 588 members of the association stated that while 33% of SLPs reported to have clients on their caseload who spoke a language other than English just 11.2% of respondents did so themselves (Speech Pathology Association of Australia, 2002). However, to date, no comparative study has been undertaken to identify the extent to which the needs of multilingual clients are met by speech-language pathology services in Australia.

This paper draws on data from two studies to describe and compare the availability and geographical location of multilingual speech-language pathology services and the linguistic diversity and distribution of multilingual children in Australia. The implications of these findings on the provision of culturally appropriate services to multilingual children and their families are discussed.

**Multilingual Australia**

Australia is a highly linguistically diverse nation with 23.2% of the population speaking a language other than English (Australian Bureau of Statistics, 2012). It is estimated that one new international migrant enters Australia every 2 minutes (Australian Bureau of Statistics, 2013) contributing to both Australia’s multicultural and multilingual population. Unlike many other English-speaking countries, Australia’s linguistic diversity is comprised of many small language groups rather than people who
speak one dominant second language (Australian Bureau of Statistics, 2012). For example, in the 2011 census, 23.2% of Australians over 5-years-old indicated that English was not the primary language spoken at home (Australian Bureau of Statistics, 2012). This was an increase from 21.5% at the 2006 census (Department of Immigration and Citizenship, 2008). Additionally, in the 2011 census, the main languages other than English used, in order, were Mandarin (1.6%), Italian (1.4%), Arabic (1.3%), Cantonese (1.2%), and Greek (1.2%) (Australian Bureau of Statistics, 2012). This differed from the 2006 census, which reported the main languages other than English in Australia were Italian (1.6%), Greek (1.3%), Arabic (1.2%), Cantonese (1.2%), and Mandarin (1.1%) (Department of Immigration and Citizenship, 2008).

These findings show that Australia’s linguistic context is not only diverse, but also the number of Australians speaking languages other than English is increasing and changing.

**Linguistic diversity among Australian children.**

The Australian census does not report information about languages spoken by citizens under 5 years of age. Therefore, research has been undertaken to investigate the linguistic composition of Australia’s preschool aged children. Data from the Longitudinal Study of Australian Children (LSAC), a population-based study of 10,000 children, have been analyzed to investigate the proportion of Australian children who speak a language other than English and languages they speak (McLeod, 2011; Verdon, McLeod, & Winsler, 2013). McLeod (2011) reported on data from the Kindergarten (K) cohort of LSAC, that 12.2% of 4- to 5-year-old children spoke a primary language other than English, with the main languages being: Arabic (1.6%), Cantonese (1.3%), Vietnamese (1.0%), Greek (0.8%), and Mandarin (0.8%). Verdon et al. (2013) analysed data collected four years later regarding children in the Birth (B) cohort of LSAC and
found that 15.3% of 4- to 5-year-old children spoke a main language other than English with the most common languages being: Arabic (1.5%), Italian (1.2%), Greek (0.9%), Spanish (0.9%), and Vietnamese (0.9%). The findings of these two studies reveal that, as is the case with the Australian population as a whole, the proportion of multilingualism and the languages spoken by children under 5 years differ from the rest of the Australian population and are changing over time. However, the proportion of Australian children under 5 who are multilingual, and the languages they speak, differ from the rest of the population.

Linguistic variation within Australia also occurs depending on geographic location. Migration patterns based upon familial links and economic influences such as agriculture, mining, and industry have shaped the distribution of linguistic communities across Australia’s states and territories (Clyne, 1991). The diverse nature of Australia’s linguistic landscape makes it difficult to plan for and provide language-specific and culturally appropriate resources for the support of multilingual children. Additionally, little is known about the location of multilingual children and the services currently available for this population making it difficult to resource adequate and equitable service provision within the Australian context.

**Challenges for SLPs Working with Children from Culturally and Linguistically Diverse Backgrounds**

Linguistic diversity presents a number of challenges for SLPs in their practice. One of the most frequently reported issues in the literature regarding SLPs’ work with multilingual children is that the profession is predominantly monolingual (Guiberson & Atkins, 2012; Gupta & Chandler, 1993; Jordaan, 2008; Williams & McLeod, 2011), while clinical populations are increasingly culturally and linguistically diverse (Kritikos, 2003; Roseberry-McKibbin, Brice, & O’Hanlon, 2005). Specific challenges
during the stages of referral, assessment, and intervention when working with multilingual children have been documented in many countries including: the US (Caesar & Kohler, 2007; Guiberson & Atkins, 2012; Kritikos, 2003; Roseberry-McKibbin, et al., 2005; Skahan, Watson & Lof, 2007), UK (Stow & Dodd, 2005; Winter, 1999; 2001), Australia (Williams & McLeod, 2012), and internationally (Jordaan, 2008; Kimble, 2013). These challenges include: the over- and under-referral of multilingual children to speech-language pathology services, lack of knowledge among referral agents (e.g., teachers and parents) to accurately identify multilingual children in need of speech-language pathology services, insufficient case history information regarding languages spoken, lack of training of SLPs for working with families from multilingual backgrounds, lack of culturally appropriate tools for assessment, lack of normative data about multilingual children, lack of confidence in differential diagnosis between language difference and language disorder, choice of language for intervention, and lack of resources for conducting intervention in home languages.

In an initiative to address the challenge of bridging the gap between the cultural and linguistic homogeneity of the speech-language pathology profession and the heterogeneous nature of the children they work with, the International Expert Panel on Multilingual Children’s Speech was formed in June 2012. The result of this panel was the development of a position paper to guide SLPs’ practice for working with multilingual children (McLeod, Verdon, Bowen, & The International Expert Panel on Multilingual Children’s Speech, 2013). The delivery of services in all children’s languages, either by multilingual SLPs, or through the use of interpreters, was identified as important for accurate diagnosis and effective intervention with multilingual children.
Cultural Competence

It is essential that SLPs are equipped with the skills to engage in culturally competent practice with children from culturally and linguistically diverse backgrounds. The concept of cultural competence has arisen in health and educational literature as a means to address the highly documented disparities that exist between minority and dominant racial/ethnic groups regarding health and well-being (Betancourt, Green, Carrillo, & Ananeh-Firempong, 2003). Cultural competence has been described as practice that “acknowledges and incorporates—at all levels—the importance of culture, assessment of cross-cultural relations, vigilance toward the dynamics that result from cultural differences, expansion of cultural knowledge, and adaptation of services to meet culturally unique needs” (Betancourt et al., 2003, p. 294). In the field of speech-language pathology, professional regulatory bodies throughout the world (ASHA, 2004; RCSLT, 2006; Speech Pathology Australia, 2009) stipulate that a certain degree of cultural competency is required among SLPs who work with multilingual children. For example, in the US, ASHA states that it is essential to strive for culturally appropriate assessment and intervention services for all clients, regardless of their race, culture or language (ASHA, 2004).

Multilingual SLPs report higher personal efficacy in the assessment of multilingual children than monolingual SLPs (Kritikos, 2003). However, it is important to acknowledge the distinction between linguistic competency and cultural competency, because simply being multilingual does not necessarily equate to having cultural knowledge of communities from the same language background as multilingual SLPs. For example, SLPs who learn a second language in the context of cultural experiences report greater personal efficacy in the assessment of multilingual children than SLPs who acquire a second language through academic study (Kritikos, 2003). Given the
perceived higher rates of self-efficacy in cultural competence among multilingual SLPs, it is important to understand the linguistic diversity of the profession and how this may impact upon the delivery of services for multilingual children.

Previous research regarding SLPs’ practice with multilingual children in Australia by Williams and McLeod (2012) reported that 90.6% of Australian SLPs in their survey were not proficient in a language other than English. Additionally, the main languages spoken by the SLPs in their study (French, Italian, German, Spanish, Mandarin, and Auslan) differed from the main languages spoken by the children on their caseloads (Vietnamese, Arabic, Cantonese, Mandarin, Australian Indigenous languages, Tagalog, Greek, and other Chinese languages). Australian SLPs in the Williams and McLeod (2012) study continued to report engaging in practices that would not be considered to be culturally competent by the above definition (Betancourt et al., 2003), with many stating that they used English-only standardized tests when assessing multilingual children’s speech (always = 41.4%, sometimes = 43.4%) and language (always = 33.3%, sometimes = 48.6%). While the study by Williams and McLeod (2012) considered the practice of 128 Australian SLPs with an interest in multilingual practice, little is known about the linguistic diversity of the Australian speech-language pathology profession as a whole, and the extent to which the services provided by the profession meet the needs of multilingual Australian clients.

**Purpose**

The current paper aimed to make a geographical comparison between multilingual children and multilingual speech-language pathology services in Australia. For the purpose of this paper, multilingualism is defined as the ability to “comprehend and/or produce two or more languages in oral, manual, or written form with at least a basic level of functional proficiency or use, regardless of the age at which the languages
were learned” (International Expert Panel on Multilingual Children’s Speech, 2012, p. 1, adapted from Grech & McLeod, 2012). To achieve this aim the paper presents two studies which draw upon data from two large-scale datasets: the Speech Pathology Australia 2012 publicly available member records and the Longitudinal Study of Australian Children (LSAC). The first study considered the linguistic diversity of practicing members of Speech Pathology Australia and the geographical distribution within Australia of members who offer services in languages other than English. The second study considered the linguistic diversity of Australian preschool children and the geographic distribution of linguistic groups in Australia. The findings of these two studies were then compared to identify to what extent availability of multilingual services in speech-language pathology meets the needs of multilingual children in Australia. The following research questions were posed:

1. What is the linguistic diversity of practicing Speech Pathology Australia members who offer services in Australia in a language other than English?

2. What is the geographical distribution of multilingual Speech Pathology Australia members?

3. What languages other than English are spoken by preschool children in Australia?

4. What is the geographical distribution of multilingual preschool children in Australia?

5. How do the languages and locations in which paediatric services are offered by Speech Pathology Australia members compare with the languages spoken by Australian preschool children?

It is hypothesized that disparities will exist between the availability and geographical location of multilingual services and the location of multilingual Australian children. This hypothesis is based upon previous literature which describes
the linguistic homogeneity of the speech-language pathology workforce and also the geographical challenges presented by the vast Australian landscape.

**Study 1: Australian Speech-Language Pathologists**

**Method**

**Participants.**

The participants of this study were SLPs who were members of Speech Pathology Australia in 2012 who made their practice details publicly available. Publicly available records are accessible on the Speech Pathology Australia website via the “Find a Speech Pathologist” page. Permission to use the complete dataset was obtained from Speech Pathology Australia. Of the 4,147 registered Speech Pathology Australia members, 3,020 records of practice were publicly available. Only records pertaining to members practicing in Australia were included in the study ($n = 2,949, 97.6\%$). Among these, a further 100 were records related to non-practicing members, including postgraduate students, university staff, life members, and retirees. Consequently, non-practicing members’ records were excluded from the study leaving a final sample of 2,849. Within the membership database participants’ identity was concealed by using postcodes to identify individual workplaces. While the majority of these records represent individual members, it is possible that some members were listed more than once if they were registered or worked at multiple sites of practice. Therefore, within this paper, results must be considered in terms of multilingual SLPs’ services, rather than as individual practitioners. It is also important to note that SLPs listed as multilingual are those who offer services in a language other than English and therefore the results in this paper represent a conservative estimate of the actual number of Australian SLPs who may be multilingual but not do use a language other than English in a professional capacity. Additionally, it is presumed, but was not specifically
described within the database, that SLPs listed as multilingual also offered services in English.

Data analysis.

Data were obtained from Speech Pathology Australia’s publicly available membership records. Caseload type and languages spoken were coded numerically to enable statistical analysis. In the database, caseload type was categorized by five populations: paediatric 0 to 5 years, paediatric 5 to 12 years, adolescents, adults, and aged-care. Groups were not mutually exclusive and many records indicated that members offered services over multiple age groups. For the purpose of analysis the first two categories (paediatric 0 to 5 years and paediatric 5 to 12 years) were considered as paediatric practice and the remaining three categories (adolescents, adults, and aged) were considered as adult practice. Adult practices were not included in the presentation of results. Descriptive statistics were used to describe the numbers of SLPs, their multilingual status and caseload type. These statistical analyses were undertaken using the Statistical Package for Social Sciences (IBM Corporation, 2011). Subsequently, Arc Map geospatial analysis software (Environmental Systems Research Institute (ESRI), 2011) was applied to the data using linkage by postcodes to create maps that show the linguistic diversity and geographical distribution of practicing Speech Pathology Australia members.

Results

The linguistic diversity of practicing Speech Pathology Australia members.

The linguistic diversity of SLPs in the data set is described in Table 1. Among the 2,849 records pertaining to practicing Speech Pathology Australia members, 576 (20.2%) offered speech-language pathology services in a language other than English
(in addition to offering services in English). The most common languages other than English in which services in Australia were offered were: Australian Sign Language (Auslan) \((n = 122, 4.3\%)\), French \((n = 88, 3.1\%)\), Italian \((n = 64, 2.2\%)\), Greek \((n = 45, 1.6\%)\), and Cantonese \((n = 43, 1.5\%)\). Speech-language pathology services were also offered in an additional 64 languages (see Appendix).

Within the sample, 2,251 (79.0\%) records were identified as offering paediatric speech-language pathology services. Among these 2,251 records, 470 (20.9\%) offered services in a language other than English. The most common languages in which paediatric services were offered were: Auslan \((n = 102, 4.5\%)\), French \((n = 69, 3.1\%)\), Italian \((n = 46, 2.0\%)\), Cantonese \((n = 39, 1.7\%)\), and Greek \((n = 36, 1.6\%)\) (see Table 1). Paediatric speech-language pathology services were also offered in an additional 57 languages (see Appendix).

**The geographical distribution of multilingual Speech Pathology Australia members.**

A comparison between the location and number of speech-language pathology services offered in English (by postcode) and those offered in English as well as other languages by practicing Speech Pathology Australia members is presented in Figure 1. In this figure, symbols indicate that a speech-language pathology service is available in that postcode. A circle indicates that services in this location are only provided in English. A square indicates that in addition to English-based services, a service (or services) in a language other than English is offered in this location. Figure 1 shows that while there are far fewer services offered in languages other than English, the distribution of multilingual services is similar to the distribution of English-only services in that they are most commonly located within larger cities such as Brisbane, Sydney, and Melbourne on the east coast of Australia (where the majority of the
Australian population resides) with smaller numbers scattered elsewhere across the country.

Figure 1. SLP Services offered in English compared with services offered in English + languages other than English (LOTE) by practicing members of Speech Pathology Australia.

Study 2: Australian Preschool Children

The Australian Government utilizes national census data to assist in the planning of services (Australian Bureau of Statistics, 2011). However, as previously mentioned, these data do not include, and therefore are not representative of, preschool children aged 0 to 5 years. Consequently, study two of this paper considered the linguistic diversity and geographic distribution of multilingual Australian children aged 4 to 5 years from a nationally representative population so that these data also can be considered in planning of equitably accessible speech-language pathology services for multilingual children in Australia.
Method

Participants.

Participants in study two were 4,386 children aged 4 to 5 years from wave 3 of the birth (B) cohort of the Longitudinal Study of Australian Children (LSAC). Children in the B cohort entered the study between 0 and 1 years of age and were recruited through the Australian national Medicare database (Australian Institute of Family Studies (AIFS), 2007). LSAC comprises a nationally representative sample which was designed to match the Australian population of families with a 0- to 1-year-old child (for the B cohort) on key characteristics including ethnicity, country of birth, whether a language other than English was spoken at home, postcode, month of birth, education, and income (Gray & Sanson, 2005). The children in the study were born between March 2003 and February 2004. The gender of the children was almost equally split between males \((n = 2,251, 51.3\%)\) and females \((n = 2,135, 48.7\%)\). Most children were born in Australia \((n = 4,370, 99.6\%)\). The country of birth for the remaining 16 children was confidentialised to protect the identity of participants. Within the sample 2.9\% \((n = 129)\) of children were identified as being Aboriginal, 0.2\% \((n = 10)\) were identified as Torres Strait Islander and a further 0.2\% \((n = 10)\) were identified as both Aboriginal and Torres Strait Islander. Indigenous children from extremely remote areas were not included in the sample and therefore the languages spoken by Indigenous children in these areas may be underrepresented by these findings (AIFS, 2007)\(^1\).

\(^1\) Although the percentage of Indigenous children in LSAC is representative of the Australian population, another study, the Longitudinal Study of Indigenous Children (LSIC), was undertaken by the Australian Government and Indigenous communities to document Indigenous children’s development. The current researchers have described the language acquisition of children from LSIC in separate studies (McLeod, Verdon & Bennetts Kneebone, 2013; Verdon & McLeod, 2013).
Data analysis.

Data were obtained under an individual researcher’s license from the AIFS, the government department responsible for the development and administration of *Growing up in Australia: the Longitudinal Study of Australian Children*. This study is ongoing, with data collected by the LSAC team at two year intervals. The current results draw on data from wave 3 of LSAC data collection, when children were 4 to 5 years of age. Descriptive statistics were used to obtain findings regarding the number of languages spoken by the children (other than English) and the names of the languages they spoke. These statistical analyses were undertaken using the Statistical Package for Social Sciences (IBM Corporation, 2011). The unconfidentialised LSAC dataset was accessed to allow for mapping of children’s location by postcode using Arc Map geospatial analysis software (ESRI, 2011). Specific postcode locations were not named in the presentation of maps to protect the confidentiality of participants.

Results

Among the 4,386 Australian 4- to 5-year-old children in the B cohort of LSAC, 15.3% (*n* = 672) were identified as being regularly spoken to in a language other than English. The most common languages spoken by the children were Arabic (*n* = 65, 1.5%), Italian (*n* = 54, 1.2%), Greek (*n* = 41, 0.9%), Spanish (*n* = 40, 0.9%), and Vietnamese (*n* = 38, 0.9%) (See table 1).
Table 1

Main languages other than English in which practicing Speech Pathology Australia members offer services in Australia, main languages in which practicing Speech Pathology Australia members offer services to children (0 – 12 years) in Australia and the main languages spoken by Australian children² (according to LSAC)

<table>
<thead>
<tr>
<th>Language</th>
<th>Services offered by Australian members</th>
<th>Services offered by Australian practicing members</th>
<th>Paediatric services offered by Australian members</th>
<th>Australian children who speak a language other than English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auslan³</td>
<td>122</td>
<td>102</td>
<td>4.3</td>
<td>4.5</td>
</tr>
<tr>
<td>French</td>
<td>88</td>
<td>69</td>
<td>3.1</td>
<td>-</td>
</tr>
<tr>
<td>Italian</td>
<td>64</td>
<td>46</td>
<td>2.2</td>
<td>54</td>
</tr>
<tr>
<td>Greek</td>
<td>45</td>
<td>36</td>
<td>1.6</td>
<td>41</td>
</tr>
<tr>
<td>Cantonese</td>
<td>43</td>
<td>39</td>
<td>1.5</td>
<td>15</td>
</tr>
<tr>
<td>Spanish</td>
<td>33</td>
<td>26</td>
<td>1.2</td>
<td>40</td>
</tr>
<tr>
<td>Mandarin</td>
<td>24</td>
<td>22</td>
<td>0.9</td>
<td>30</td>
</tr>
<tr>
<td>Arabic</td>
<td>10</td>
<td>7</td>
<td>0.4</td>
<td>65</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>6</td>
<td>5</td>
<td>0.2</td>
<td>38</td>
</tr>
</tbody>
</table>

² Within wave 3 of the Birth cohort of the Longitudinal Study of Australian Children
³ Auslan = Australian Sign Language
⁴ - Indicates that no children the Birth cohort of the Longitudinal Study of Australian Children were reported to use Auslan or French as their main language
Figure 2 shows the geographic distribution of 4-to 5-year-old children identified as speaking a main language other than English in the LSAC. The number of children in the study who spoke a main language other than English in each location ranged from one to 15, this is indicated by the size of the circle on each location. As expected, more multilingual children were identified in capital cities of Australian states and territories such as Sydney, Melbourne Brisbane and Perth, than in most regional cities; however, multilingual speaking children were also found in regional cities such as Townsville, Cairns, and Alice Springs.

Comparison between Australian Speech-Language Pathologists (Study 1) and Australian Preschool Children (Study 2)

A comparison of the findings of studies 1 and 2 reveals important information about the extent to which the availability of multilingual paediatric speech-language
pathology services in Australia differs from the geographic distribution of Australia’s multilingual children. The symbols in figure 3 show the location of multilingual children in Australia by postcode according to LSAC. Squares represent locations containing multilingual children and offering a multilingual paediatric speech-language pathology service. Circles represent locations in which multilingual children resided where no multilingual speech-language pathology service was provided. Some state capitals such as Melbourne and Perth had high overlap between locations where multilingual services were available and locations where multilingual children resided. However, the disparity between the location of multilingual children and the availability of multilingual services was more notable in Sydney, Brisbane, and Canberra (see Figure 3).

Figure 3. Comparison between the geographic distribution of multilingual Australian children and multilingual paediatric speech-language pathology services
A more detailed comparison between the location of paediatric speech-language pathology services and the location of multilingual children can be made by examining the findings by state and territory. Table 2 shows the percentage of multilingual Australian children and the main languages spoken in each state and territory as compared with the percentage of multilingual paediatric speech-language pathology services and the main language in which services were offered in each state and territory. This comparison shows that while in each state and territory the percentage of multilingual paediatric speech-language pathology services offered was larger than the percentage of children who were multilingual, there was a mismatch between the main language spoken by children and the main language in which services were offered. For example in the Northern Territory, 37.5% of SLPs reported to offer services in a language other than English as compared to just 15.3% of children reporting to speak a language other than English. However, no SLPs offered services in the languages that were spoken by the children in the Northern Territory and no services were offered in Indigenous Australian languages although a high proportion of Indigenous Australian children live there.
### Table 2

Comparison of proportion of children and paediatric speech-language pathologists who speak a language other than English and the main languages spoken by children within each state and territory

<table>
<thead>
<tr>
<th>State/Territory</th>
<th>Australian 4- to 5-year-old children&lt;sup&gt;5&lt;/sup&gt;</th>
<th>Australian paediatric speech-language pathology services&lt;sup&gt;6&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percentage whose main language is other than English</td>
<td>Percentage of services offered in a language other than English</td>
</tr>
<tr>
<td></td>
<td>Most common language</td>
<td>Most common language</td>
</tr>
<tr>
<td>Victoria</td>
<td>20.2%</td>
<td>Greek</td>
</tr>
<tr>
<td>New South Wales</td>
<td>19.1%</td>
<td>Arabic</td>
</tr>
<tr>
<td>Australian Capital Territory</td>
<td>15.8%</td>
<td>French</td>
</tr>
<tr>
<td>Western Australia</td>
<td>11.7%</td>
<td>Italian</td>
</tr>
<tr>
<td>Queensland</td>
<td>9.5%</td>
<td>Italian</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>9.3%</td>
<td>German</td>
</tr>
<tr>
<td>South Australia</td>
<td>9.2%</td>
<td>Greek</td>
</tr>
<tr>
<td>Tasmania</td>
<td>6.8%</td>
<td>&lt;sup&gt;8&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

---

<sup>5</sup> Longitudinal Study of Australian Children, Birth cohort (<i>n = 4,386</i>)

<sup>6</sup> Speech Pathology Australia publicly available membership database (<i>n = 2,251</i>)

<sup>7</sup> Auslan = Australian Sign Language

<sup>8</sup> No dominant language other than English was identified in Tasmania
The differences between the languages spoken by Australian children and the languages in which paediatric speech-language pathology services are offered were also considered on a language-by-language basis. Figure 4 shows the number of paediatric speech-language pathology services offered in the five languages most commonly spoken by Australian children in the locations where these children reside. This figure demonstrates that multilingual services were rarely available in the same locations as the children who spoke the SLPs’ languages. For example, there were no paediatric speech-language pathology services offered in Arabic within the locations where Arabic-speaking preschool children resided, even though Arabic was the most common language other than English spoken by Australian preschool children (Figure 4). Discrepancies between the languages spoken by Australian children and those in which services are offered are further detailed in table 1.

*Figure 4.* Number of paediatric speech-language pathology services offered in the location of multilingual children speaking the five most common languages other than English according to the Longitudinal Study of Australian Children (B cohort).
Discussion

The purpose of the current study was to identify the languages other than English in which paediatric speech-language pathology services in Australia are offered and the location of these services compared with the languages spoken and location of Australian children who spoke languages other than English in a nationally representative sample. It was hypothesized that due to the previously documented linguistic homogeneity of the speech-language pathology profession and the geographical expanse of the Australian landscape, that discrepancies between the location and languages in which services were offered by Australian SLPs would not match the location and linguistic diversity of Australian children.

The findings of the current study revealed that 20.2% of services provided by Speech Pathology Australia members practicing in Australia who have made their practice details publicly available, were offered in a language other than English. These findings indicated a higher proportion of services being offered in languages other than English in comparison to a previous survey of the Australian speech-language pathology workforce (Speech Pathology Association of Australia, 2002) which found that 11.5% of Australian SLPs were proficient in a language other than English. The current finding is also higher in comparison with studies from other English dominant countries. For example in the US a demographic profile of SLPs who were members of the American Speech-Language and Hearing Association (ASHA) reported that just 5% of SLPs were identified as bilingual service providers (ASHA, 2012). It is not possible to determine from the current dataset the proportion of services that are actually delivered in languages other than English, rather the current findings should be interpreted in terms of services that are offered in a language other than English.
When interpreting these findings it is important to note that higher numbers of multilingual service providers alone does not equate to Australian speech-language pathology services being available or accessible to Australian multilingual children who are in need of these services. Recent research reported that the prevalence of communication impairment among Australian children is typically estimated to be between 12 and 20% (McLeod, McAllister, McCormack, & Harrison, in press). A systematic review has indicated that there is no evidence to suggest that being multilingual has a negative impact upon speech development (Hambly, Wren, McLeod, & Roulstone, 2013). Further, there is no evidence to indicate that multilingual children have a greater or lesser need for speech-language pathology intervention in comparison with monolingual children (Winter, 2001). Therefore, when discussing discrepancies between the location of multilingual speech-language pathology services and multilingual children, it is important to note that the data in the current study pertains to all multilingual children and not only those in needs of speech-language pathology services. The challenges to equitable service provision for culturally and linguistically diverse children with speech and language concerns in light of the current findings are discussed below.

Mismatch in linguistic diversity between children and SLP services

One prominent finding of this research was that many (23.3%) of the speech-language pathology services in languages other than English were offered in Auslan, Makaton, Signed English, or other forms of manual communication. This finding is important for working with people with hearing loss who use manual communication. However, the ability to communicate using manual languages, does not necessarily provide evidence of the breadth of cultural diversity required by Australian SLPs. Additionally, a number of the main languages in which SLPs offered services were
languages that are often taught in primary and secondary education in Australia (e.g., Italian and French) (Liddicoat, et al., 2007). While it is a positive finding that multiple languages are used by SLPs which enable them to provide services in these languages, it is possible that some SLPs learning languages in higher education contexts may not have experience in the cultural as well as the linguistic aspects of being multilingual, which is essential for understanding the needs of children from non-English speaking backgrounds (Kritikos, 2003).

The current findings demonstrate that the Australian speech-language pathology profession has a high proportion of multilingual service providers in comparison to other English-dominant countries (ASHA, 2012, RCSLT, 2001). However, the languages spoken by Australian SLPs in this study are reflective of the common languages offered in Australian schools (Liddicoat et al., 2007) and not those spoken by the Australian population in general. The higher proportion of Australian SLPs providing services in languages other than English could be explained to some extent by variations in the requirements set forth by different governing bodies in order for SLPs to be considered multilingual practitioners. For example in the USA, when renewing membership with ASHA, SLPs are required to identify whether they meet the specified criteria in order to identify as a bilingual practitioner, which stipulate that SLPs are required to have near-native proficiency in the languages in which they practice (ASHA, 2012). This differs from the Australian context, which guides practitioners as to their rights and responsibilities regarding language of practice (Speech Pathology Australia, 2009) but ultimately leaves discernment of competency up to the individual. While it is a positive finding that a high percentage of Australian SLPs identify as being multilingual, there are still a number of challenges to engaging in culturally competent
practice with clients from culturally and linguistically diverse backgrounds. A number of these challenges are outlined below.

**Mismatch in geographic distribution of children and SLP services**

The geography of Australia makes the delivery of culturally competent paediatric speech-language pathology services to multilingual children a complex task. While 20.2% of Australian SLPs in this study offered services in languages other than English, frequently these multilingual services were not offered in the location of the children who speak those languages. In the same vein, SLPs offering services in languages other than English may not speak the same languages as the children on their caseload. Using a geographical lens, the current findings showed that the main language other than English spoken by Australian 4- to-5-year-old children was different in each state and territory of Australia. As is the case with the Australian population as a whole, the linguistic diversity and unique geographic distribution of languages that exists among Australian children is a reflection of Australia’s history and migration over the last two centuries (Clyne, 1991). Given this diversity, it is difficult to plan for and provide services to meet the needs of the Australian population as a whole since each state and territory, and perhaps even each postcode has different needs.

Figure 4, shows that multilingual services were rarely provided in the same location and language of the children in the study. Previous research by Verdon, Wilson, Smith-Tamaray and McAllister (2011) found that when speech-language pathology services are not located within close proximity of those needing to access them, consumers become unable or unwilling to access regular speech-language pathology services. Even when services are available in the correct language and in the same location as the children who need the services, challenges still exist in terms of the availability and/or accessibility of services for these children. Availability of services
may be impeded by waiting lists or lack of space on the caseload of multilingual service providers to accommodate the number of multilingual children in need of services (Ruggero, McCabe, Ballard, & Munro, 2012). Barriers to access include the lack of identification of communication needs and referral to speech-language pathology services among multilingual children (McLeod, Harrison, McAllister & McCormack, 2013; Stow & Dodd, 2005), the high cost of accessing private practices if public are not offered in the required language, and the cost and logistics of organising transport to attend sessions. These barriers mean that in many cases children and their families may not be able to seek out and attend specific multilingual services, but rather they may present to their nearest speech-language pathology service to receive services from a monolingual SLP.

It is unrealistic for an SLP to be fluent in the languages of all multilingual clients on their caseload. However, it is essential to ensure the provision of culturally competent speech-language pathology services where multilingual services are unavailable (ASHA, 2004; 2010; RCSLT Specific Interest Group in Bilingualism, 2007; Speech Pathology Australia; 2009). Therefore, the findings of this study highlight that cultural competence is needed by all SLPs.

**Cultural competence**

Providing high quality speech-language pathology services to children from culturally and linguistically diverse backgrounds is a complex task that requires different approaches to assessment and intervention from working with monolingual children of the dominant culture within a society (for example, working with English speaking children in Australia). Therefore, the skills needed to engage in effective practice with multilingual children need to be specifically developed and nurtured.
through pre-service and in-service training to prepare (both monolingual and multilingual) SLPs for work in this field.

**Training of speech-language pathologists.**

The development of a culturally competent workforce needs to be addressed as a priority in university courses. Positive relationships have been found between the amount of theoretical and practical training SLPs receive for working with culturally and linguistically diverse populations and their perceived level of competence for working with multilingual children and families (Roseberry-McKibben et al., 2005). A number of initiatives can be taken to empower SLPs to work confidently and competently with increasingly diverse caseloads. The key is to build knowledge and understanding of multilingual speech and language acquisition in pre-service training to aid in the referral, assessment, and intervention of multilingual children. Skills to achieve cultural competency include: having an understanding of the children’s culture and the basic features of their language, being equipped with the skills to accurately assess and differentially diagnose disorders of speech and language, being competent in providing intervention in languages other than their own, supporting children in developing their cultural identity and the ability to collaborate with other professionals (e.g., interpreters) and form partnerships with families and communities (International Expert Panel on Multilingual Children’s Speech, 2012).

Preparation for working with culturally and linguistically diverse populations can be undertaken through not only theoretical teaching but also by exposing speech-language pathology students to practical experiences of working with culturally and linguistically diverse populations. In the current edition of the Competency-based Occupational Standards for Speech Pathologists Entry Level (CBOS, Speech Pathology Australia, 2011) outlining entry-level requirements for qualification as an SLP in
Australia, consideration of an individual’s cultural and linguistic background is listed as a principle of practice. However, students are not required to prove experience or competence in working with culturally and linguistically diverse populations in order to graduate as an SLP. Experience at the pre-service level could be key to developing competence in future practice (Roseberry-McKibbon et al., 2005); therefore, this is an important consideration for institutions preparing SLP students for work with linguistically diverse populations. In addition to pre-service training, SLPs should be provided with opportunities for continuing professional development for working with culturally and linguistically diverse clients throughout their career. Research by McAllister, Whiteford, Hill, Thomas, and Fitzgerald (2006) concluded that intercultural experiences for undergraduate students can be of value to students’ development of cultural competence and impact upon their growth and development both personally and professionally. Therefore, exposure to working in diverse communities before graduating may also be an important consideration for training institutions.

Another way of developing cultural competency would be to offer language learning as an elective in speech-language pathology courses. Higher levels of efficacy for working with multilingual children have been reported by multilingual SLPs (Roseberry-McKibbon et al., 2005) and therefore additional language learning could be both facilitated and encouraged by universities as an elective for speech-language pathology students. This could benefit the student in a twofold manner. Not only would they gain skills and knowledge in the structure and use of a language other than their own, they would also experience what it is like to be an additional language learner, which may help in understanding their clients who are in a similar position.

**Resourcing of speech-language pathologists.**
Speech Pathology Australia, the national professional association representing the speech-language pathology profession in Australia states that SLPs should also have access to culturally appropriate resources (including culturally appropriate assessments and interventions) that support their ability to work with culturally and linguistically diverse children as well as access to interpreters and translators (Speech Pathology Australia, 2009). In recent years a number of collaborative international projects have been established to assist in providing SLPs with such resources to facilitate their work with culturally and linguistically diverse caseloads. The International Expert Panel on Multilingual Speech (2012) developed a position paper to guide SLPs in their provision of services to multilingual children with speech sound disorders and to ensure equitable, high quality services for all children. Additionally, the opportunities afforded by internet-based technology such as online discussion forums and downloadable web resources are being utilized to provide SLPs with easily accessible resources for use with multilingual children (for example, the Multilingual Children’s Speech website (McLeod, 2012) [http://www.csu.edu.au/research/multilingual-speech](http://www.csu.edu.au/research/multilingual-speech)).

While training and resourcing SLPs are key to ensuring effective practice with culturally and linguistically diverse populations, it is also necessary for SLPs to take the initiative in becoming culturally competent by undertaking additional professional development and taking time to familiarize themselves with the languages and cultures of the children they work with. With sufficient training and resourcing of SLPs to engage in culturally competent practice, significant gains can be made in the mission of improving the lives of multilingual children with speech and language impairment.

Limitations

While the findings of the current study present valuable information about the linguistic diversity of the Australian speech-language pathology profession and how this
compares with the linguistic diversity of young Australian children, a number of limitations need to be highlighted for accurate interpretation of these results. It is acknowledged that membership of the national professional association, Speech Pathology Australia, is not compulsory for SLPs in Australia, and therefore these data are only representative of those who are members of Speech Pathology Australia and have made their practice details publicly available. However, it is a requirement in many positions, especially those that are Government funded, that SLPs are members of Speech Pathology Australia before gaining employment. Therefore it is likely that a relatively high proportion of SLPs in Australia are represented by these findings.

Similarly, while the Longitudinal Study of Australian Children was designed by the Australian Government to be a nationally representative sample, analysis of data from different cohorts within the study has shown that children’s linguistic diversity changes over time (McLeod, 2011; Verdon et al., 2013). These changes may be influenced by environmental factors such as different exposure to languages in the home or school environments as children grow or personal factors such as family attitudes and language use (Verdon, McLeod, & Winsler, 2013). Despite these limitations, the large sample size of these studies still provide important insights into the speech-language pathology profession in Australia and young Australian children who are not included in reports within the national census.

Conclusions and Future Directions

The findings of this research show that while 20.2% of SLP services in Australia are offered in a language other than English, speech-language pathology services are not offered in the languages or location of many Australian children. The current paper is the first to use geospatial mapping to identify discrepancies between the location of a target population and the availability of services to meet the needs of this population.
This is a useful method that could be applied to other countries and other target populations to assist in service planning and funding. While the current research focused on the services offered to multilingual children, the findings could also be applied to the provision of services to multilingual adults, who indeed have different needs from monolingual English-speaking adult clients. The use of geospatial data analysis within this paper provides a useful contribution to the literature in this field. These maps demonstrate how large scale datasets can be used for the planning of services and to lobby policy makers by enabling the identification of gaps in current service provision and by providing evidence to advocate for planning and funding of services to address these needs.

While a number of suggestions have been made that aim to improve clinical practice for working with multilingual children, there is a still a lack of evidence for guiding practice in this field. Additional research is needed to equip SLPs with evidence to guide their work with multilingual children and also into the development of assessment and intervention resources that can be used by SLPs to facilitate this important work. Future research would be useful to establish guidelines to assist SLPs to confidently work in culturally competent ways with multilingual children throughout the entire therapeutic process from referral to discharge within the Australian context.

Acknowledgments

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Children. The study is conducted in partnership between the Department of Social Services (DSS), the Australian Institute of Family Studies (AIFS) and the Australian Bureau of Statistics (ABS). The findings and views reported in this paper are those of the author and should not be attributed to DSS, AIFS or the ABS.

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## Appendix

Languages of services offered by practicing Australian speech-language pathologists who were members of Speech Pathology Australia in 2012 ($n = 2,849$)

<table>
<thead>
<tr>
<th>Services for all Australians</th>
<th>Services specifically for children (0 – 12 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal&lt;sup&gt;9&lt;/sup&gt;</td>
<td>Aboriginal&lt;sup&gt;9&lt;/sup&gt;</td>
</tr>
<tr>
<td>Afrikaans</td>
<td>Afrikaans</td>
</tr>
<tr>
<td>American Indian</td>
<td>Arabic</td>
</tr>
<tr>
<td>Arabic</td>
<td>Armenian</td>
</tr>
<tr>
<td>Armenian</td>
<td>Auslan</td>
</tr>
<tr>
<td>Auslan</td>
<td>Maltese</td>
</tr>
<tr>
<td>Bahasa Malay</td>
<td>Bahasa Malay</td>
</tr>
<tr>
<td>British Sign</td>
<td>Cantonese</td>
</tr>
<tr>
<td>Language</td>
<td>Chinese</td>
</tr>
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<td>Croatian</td>
</tr>
<tr>
<td>Chinese</td>
<td>Danish</td>
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<td>Dutch</td>
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<tr>
<td>Greek</td>
<td>Hebrew</td>
</tr>
<tr>
<td>Gaelic</td>
<td>Hebrean</td>
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Part 1: Summary and Conclusion

The findings of Part 1 describe the cultural and linguistic diversity of Australian children. As is the case with the population more broadly, Paper 1 demonstrates that Australian children speak many languages other than English at the commencement of formal schooling. This finding has important implications for children’s future success in a school system where English is the language of instruction. In English-only environments, children’s academic competencies may be underestimated if their ability in other languages are not considered or valued (Dixon, Wu, & Daraghmeh, 2012; Puig, 2010). Additionally, it has been found that support for children’s first language(s) can be beneficial in the acquisition of additional languages (i.e., English) (Gutiérrez-Clellen, 1999; Kohnert, Yim, Nett, Kan, & Duran, 2005). Therefore it is important that the understandings about Australian children’s linguistic diversity gained from this research be applied to service provision and planning in educational contexts to ensure that children are supported to become competent communicators in all of their languages.

Paper 2 reveals that language maintenance varied depending on children’s linguistic background. For example, children from language groups that were more likely to have migrated to Australia a number of generations ago (e.g., Italian, see Figure 3 in paper 2) were less likely to maintain their home language and a language shift to English across the early years was more apparent. In contrast, children from language groups from more recent waves of migration (e.g., Arabic, see Figure 2 in paper 2) had higher rates of home language maintenance. An examination of the factors related to language maintenance found that in addition to parental support in home environment, language maintenance was influenced by the type of education and the amount of support children receive from educational environments.
In the case of Aboriginal and Torres Strait Islander children discussed in Paper 3, it was again found that parents and primary caregivers were the main influencing factor in home language maintenance. Children living in urban areas were less likely to speak or maintain speaking an Indigenous language than children living in remote communities. This was potentially due to less exposure to Indigenous languages in the home environment or broader community in urban areas than remote areas of Australia (McLeod, Verdon, & Bennetts Kneebone, 2014; Standing Committee on Aboriginal and Torres Strait Islander Affairs, 2012).

One important factor that was unable to be analysed fully was the nature of children’s bilingualism and how this impacted upon language maintenance across early childhood. From the wording of the questions relating to language learning in LSAC and LSIC it could only be determined whether a child was speaking a language other than English or Indigenous language respectively. It was unclear whether children were monolingual or multilingual and, if children were multilingual, the dataset did not contain information about whether they were simultaneous or sequential language learners or the contexts in which languages were being learned and used by children. For this reason the data presented in these papers were not used to draw conclusions about children’s language profiles, but rather were only reported in direct response to the questions asked in LSAC and LSIC.

Paper 4 highlights the reality of the current services provision for culturally and linguistically diverse children in Australia. A mismatch was identified between the cultural and linguistic diversity of children and the speech-language pathology services available to support them. This mismatch made clear the fact that it is rarely possible for children and families to seek support from SLPs who speak the same language or are of the same cultural background.
A synthesis of these four papers reveals two main themes: (1) the increasing diversity of Australia’s children and (2) the continued homogeneity of Australia’s health and education services. Papers 1, 2 and 3 indicate that, as with the broader Australian population, many Australian children speak multiple languages other than English. In order to maintain these languages in an English-dominant context, a number of strategies are likely to be required. These may include the availability of services that support children’s linguistic and cultural diversity in community, health, and educational environments to give children the ability to flourish in their own languages and cultures as well as in the dominant culture and language. Some services are available to support typically developing children’s first or home languages and cultures in conjunction with learning English as a second language (for example, bicultural support workers in early childhood education and care settings, Miller, Knowles & Grieshaber, 2011). However, children who experience speech, language and communication difficulties will require the support of an SLP to facilitate their development in both English and their home language(s).

Therefore, SLPs providing services to families from culturally and linguistically diverse backgrounds need to be culturally competent in order for the services they provide to be effective in meeting the individual needs of all children and their families. However, contemporary literature indicates many SLPs do not feel comfortable, competent, or confident in providing services to families from culturally and linguistically diverse background (Kritikos, 2003). As a result, further research is needed to provide practical guidance for SLPs to support their engagement in culturally appropriate practice. This need is the impetus for Part 2 of this thesis.

References


Part 2:
Enhancing speech-language pathologists’ practice to support culturally and linguistically diverse children and their families
Introduction to Part 2

As outlined in the general introduction, the complexities of supporting children from culturally and linguistically diverse backgrounds with speech, language, and communication needs, has been a prominent topic in the literature over the last few decades. While much of the literature has identified the challenges of providing services to culturally and linguistically diverse children with speech, language, and communication needs, less research has been undertaken to provide practical pathways to inform practice with these children and their families. Part 2 of this thesis presents a series of five papers that draw upon expert theoretical and practical knowledge, to guide SLPs’ practice with culturally and linguistically diverse families.

The first paper in Part 2 (Paper 5) draws upon a focus group discussion with 14 members of the International Expert Panel on Multilingual Children’s Speech, to identify a series of aspirations and recommendations for practice with culturally and linguistically diverse children and their families. The remaining four papers (Papers 6 to 9) relate to a new study - Embracing Diversity – Creating Equality - designed specifically to address research questions six to nine.

The Embracing Diversity – Creating Equality study documents and analyses international practices occurring with multilingual and multicultural children in 14 different sites, in five countries around the world. The ethnographic methodology for this study is described in detail on page 156. In addition, Paper 6, which is published in a practice-based Australian speech-language pathology journal, argues for the benefits and opportunities of this methodological approach for practitioners seeking to investigate and enhance their practice with culturally and linguistically diverse families.

Paper 7 provides an holistic analysis of the data collected from the 14 sites in the Embracing Diversity – Creating Equality study, using CHAT as a heuristic framework.
The paper identifies a set of six overarching principles to guide culturally appropriate practice with culturally and linguistically diverse children and their families. Paper 8 discusses the realities, benefits and tensions of SLPs’ collaboration with families and communities in the Embracing Diversity – Creating Equality study. This paper highlights the importance of building strong working relationships when engaging in practice with culturally and linguistically diverse populations.

The final paper of this thesis, Paper 9, summarises the findings of the Embracing Diversity – Creating Equality study by translating the six overarching principles identified in Paper 7 into six achievable steps that practitioners can undertake in their daily activities to enhance their practice with culturally and linguistically diverse families. Paper 9 is published in an Australian practice-based speech-language pathology journal. The paper provides an Australian bookend to the thesis which opened in Part 1 by considering the Australian context and closes in Part 2 by identifying strategies derived from international practices to guide Australian SLPs’ practice with culturally and linguistically diverse children.

**Theoretical Orientation of Part 2**

**Cultural-Historical Activity Theory (CHAT)**

Part 2 of this thesis is underpinned by Cultural-Historical Activity Theory (CHAT, Engeström, 1987). CHAT is a theoretical framework for the holistic integration of human activity in context (Roth & Lee, 2007). From a CHAT perspective, activity is viewed as a collective process that occurs when humans operate on their environment to satisfy a need or achieve a desired outcome. While CHAT is described in Paper 5, expanded information is presented here since there was not space within the published article to describe CHAT in detail.

For the purpose of this research, the activity system being examined is the practice of SLPs with children and families from culturally and linguistically diverse
backgrounds. In this study, CHAT is used as both a method for analysing qualitative data collected using a range of approaches (including focus groups, interviews and observation), and a methodological approach for gaining an holistic understanding of the practice of SLPs with culturally and linguistically diverse populations.

Early activity theorists (e.g., Vygotsky) aimed to identify how human activity differed from animal activity, and determined that the difference was defined by the use of tools. Humans create and use tools/artefacts to act on and transform conditions for living. These tools (e.g., language) are used by people for social interaction and to undertake activities motivated by meeting the goals of the society in which they live (Engeström, 2005). Tools are handed down through generations, thus child development is influenced by both the social practices and cultural-historical traditions of the environment in which they are raised. The tools/artefacts used in interactions will vary depending on the cultural context of the activity. CHAT facilitates the investigation of such activities to gain an understanding of human behaviour.

Previous theories of human behaviour have explored both the individual (psychology) and society (social sciences). However, in the evolution of Activity Theory, the need for understanding the link between the individual and social structures when investigating human activity has been increasingly acknowledged, and thus CHAT has evolved with this task in mind (Engeström, 2005). The classic triangular representation of activity theory (see Figure 2), first outlined by Vygotsky in his concept of mediation (1978), describes how tools (mediating artefacts) mediate the person undertaking the activity’s (subject) capacity to achieve a desired outcome (objective). For example, in a speech-language pathology assessment session, a formal assessment tool (mediating artefact) may be used to facilitate an SLP’s (the subject) ability to evaluate a child’s language ability (object).
However, Vygotsky’s (1978) original conception of activity theory focuses on the individual and fails to account for influence of the collective (society and culture) and the historical context of the activity. It conceptualises activity as an isolated event that has a distinct beginning and end, but does not consider the leading motivations to undertake the activity nor the ongoing impact that this activity will have once it has been completed. As a result, others have built on Vygotsky’s initial conceptualisation to construct a more holistic picture of human activity. In particular, Engeström developed CHAT as a way of describing and explaining human activity within social, cultural and historical contexts.

Engeström’s representation of CHAT adds an additional level to activity theory (see Figure 3). This additional level incorporates the concepts of rules, community, and division of labour. These additional concepts acknowledge the cultural and societal impacts that influence activity systems and therefore activities are viewed as transcending processes rather than fixed, isolated events (Yamagata-Lynch, 2010). Engeström’s CHAT representation structures human activity as six interconnected elements interacting with one another to achieve a need or outcome. The need that is to
be met provides the motive for the activity and gives meaning to the activity (Capper & Williams, 2004).


The elements of CHAT are explained in detail in Table 1 of Paper 5. Each of the elements at play in an activity system (object, subject, mediating artefact, rules, community and division of labour) are illustrated in the following example in the context of the current research. An SLP (subject) may use picture matching task (mediating artefact) to work on a child’s production of velar consonants (/k/ and /ɡ/) (object), to help make the child’s speech more intelligible to others and to improve the child’s phonological awareness and literacy (outcome). While undertaking the activity the SLP is bound by the rules of the setting in which the activity takes place. For instance, the SLP must abide by certain laws, policies, and ethical codes of conduct. The activity is also constrained by the rules of time allocated to the session by the institution in which it takes place (e.g., a private clinic with set appointment times). The community in which the activity takes place impacts upon the language used during the
activity, the type of setting used (e.g., indoor or outdoor) and the cultural and social norms that govern the interaction. The division of labour refers to the role different people take in the activity, including, for instance, the role of the parents and teachers in participating in the activity and the transfer of skills learnt in the clinical setting to the home and educational settings.

The holistic analysis of an activity system reveals tensions that exist between different elements within the system (Yamagata-Lynch, 2010). For instance, if the SLP is from a different language or cultural background to the family, this may impact the way that the different parties view and experience the activity and can become a possible source of tension within the system. For example, if an SLP is from a western culture, which is highly structured around time and punctuality, and the family is from a culture where time is not adhered to in the same way, the family may arrive late for their appointment or wish to stay longer than their appointed time slot, hence receiving less clinical time and causing tension between their expectations and the expectations of the SLP. Another example of a possible source of tension would be if the SLP is from a different language background from the family and conducts the session in a language that is not fluently spoken by the parents. This language barrier could cause difficulties in transferring the skills and knowledge required for working towards therapy goals in the home setting and the transferral of knowledge about the child from parents to the SLP. From a CHAT perspective, such tensions or contradictions are not necessarily seen as problematic, but rather as opportunities for identifying and overcoming challenges, and facilitating the growth and expansion of the activity system (Engeström, 1987).

CHAT has been identified as a useful tool for analysing and understanding complex activity systems to support practice in a number of fields including teacher
education, inter-professional practice, professional learning, conflict monitoring, and information technology (Foot, 2001; Pihl, 2011; Wilson 2014; Yamagata-Lynch, 2007).

In the field of speech-language pathology there is a large body of literature documenting the complexities of practice with culturally and linguistically diverse families, and a comparatively small body of literature that seeks to identify solutions to these complexities. Where solutions are offered they often identify singular areas for improvement that fail to acknowledge the holistic and complex nature of practice. CHAT provides a theoretical framework that recognises, seeks to make visible, and supports the development of, complex human activity and practice and so is an appropriate theoretical approach for the current study. A number of other theoretical frameworks were considered, including sociocultural theories of development (e.g., Vygotsky), post-structuralist theories (e.g., Foucault) and other sociomaterial theories (e.g., Actor-Network Theory). However, CHAT was identified as the most useful framework for this research because of its ability to facilitate an holistic analysis of multiple elements within SLP practice, identify existing tensions, and highlight opportunities for change and improvement (Wilson, 2014).

Importantly, CHAT reveals the interconnected nature of all the elements within an activity system. This implies that making a small change to one element will inherently impact upon all other elements of the system, creating a change to the system as a whole (Engeström, 1987). By this logic it can be deduced that if a thorough understanding of the tensions existing within an activity system is gained, SLPs (as the subject in the activity system) have a certain degree of power to make changes to their daily practice which could have flow on effects for solving tensions and potentially transforming practice with culturally and linguistically diverse families.
Overarching Aims of Part 2

In summary, Part 2 aims to answer research questions five to nine of this thesis by:

1. Identifying international experts’ aspirations and recommendations for practice with culturally and linguistically diverse children and their families (Paper 5).
2. Demonstrating how SLPs’ current practices can be re-considered using qualitative methodologies to support more effective engagement with culturally and linguistically diverse children and their families (Paper 6).
3. Describing current international practices that support culturally and linguistically diverse children with speech, language, and communication needs (Paper 7).
4. Describing SLPs’ collaboration with families and communities in their practice with culturally and linguistically diverse children with speech, language, and communication needs and to identify the realities, benefits, and tension of collaborative practice (Paper 8).
5. Discussing opportunities for SLPs to demonstrate cultural competence and enhance their practice to facilitate positive outcomes for culturally and linguistically diverse children with speech, language, and communication needs (Paper 9).

References


Abstract

Background: The speech and language therapy profession is required to provide services to increasingly multilingual caseloads. Much international research has focused on the challenges of speech and language therapists’ (SLTs) practice with multilingual children.

Aims: The aim of this paper is to draw on the experience and knowledge of experts in the field to (i) identify aspirations for practice (ii) propose recommendations for working effectively with multilingual children with speech sound disorders and (iii) reconceptualise understandings of and approaches to practice.

Methods and Procedures: Fourteen members of the International Expert Panel on Multilingual Children’s Speech met in Cork, Ireland to discuss SLTs’ practice with multilingual children with speech sound disorders. Panel members had worked in 18 countries and spoke nine languages. Transcripts of the 6-hour discussion were analysed using Cultural Historical Activity Theory (CHAT) as a heuristic framework to make visible the reality and complexities of SLTs’ practice with multilingual children.

Outcomes and Results: A number of aspirations and recommendations for reconceptualising approaches to practice with multilingual children with speech sound disorders were identified. These include: increased training for working with multilingual children and their families, working with interpreters and transcribing speech in many languages, increased time and resources for SLTs working with multilingual children and use of the ICY-CY to ensure holistic consideration of individual children’s functioning and participation in context.

Conclusions and Implications: The reality and complexities of practice identified in this paper highlight that it is not possible to formulate and implement one ‘gold standard’ method of assessment and intervention for all multilingual children with speech sound
disorders. It is possible, however, to underpin practice with a framework that ensures comprehensive assessment, accurate diagnosis, and effective intervention. This paper proposes that by working towards the aspirations of the Expert Panel, SLTs can be empowered to facilitate appropriate services for multilingual children regardless of the context in which they live and the languages they speak.

**What this paper adds**

*What is already known on this subject*

Multilingual children acquire language differently from monolingual children, therefore different approaches to assessment are needed to be effective in differential diagnosis of speech sound disorders and planning of efficacious treatment. SLTs often report that they lack competence and confidence in how to approach practice with multilingual children.

*What this study adds*

The findings of this paper make visible the reality and complexities of practice with multilingual children with speech sound disorders and facilitate thinking around how current approaches can be reconceptualised to progress practice towards more efficacious outcomes. Aspirations include increased training for SLTs to prepare them with skills and knowledge for working with multilingual populations and increased clinical time for assessing speech in multiple languages, working with interpreters and consulting with family members and the child’s wider community to ensure culturally appropriate practice. It is argued that by making even one small change in their approach to practice, SLTs have the potential to challenge the existing constraints of practice and advance the profession’s efficacy in working with multilingual children.
Introduction

In many nations throughout the world, the speech and language therapy profession is faced with the challenging task of a linguistically homogenous workforce to providing services to increasingly multilingual and multicultural caseloads (Caesar and Kohler 2007). On a daily basis, many speech and language therapists (SLTs) are required to provide services to children who do not speak the same language(s) as they do. While much has been written about the theoretical differences between speech and language acquisition in monolingual and multilingual children (Paradis, Genesee and Crago 2011) and the challenges that SLTs face in their attempts to provide adequate and optimal services for these children (Caesar and Kohler 2007; Kritikos 2003; Williams and McLeod 2012), little consensus has been reached regarding practical ways for SLTs to address and overcome these challenges. The aim of this paper is to present the aspirations and recommendations of members of the International Expert Panel on Multilingual Children’s Speech (hereafter known as “the Expert Panel”) for working with multilingual children with speech sound disorders. Through considering their aspirations this paper proposes a holistic approach to practice with multilingual children that considers each child in their individual cultural and linguistic context to facilitate optimal participation in the world in which they live.

Throughout the world the field of speech and language therapy contains great diversity between countries with different professional associations, policies and contexts governing SLTs’ practice. Indeed, consensus in the name of the profession has not been reached between countries (e.g. speech-language pathologist, speech and language therapist, logopedist etc.), nor has consensus between terminology to classify groups of people seen by SLTs been reached. Two terms of particular relevance to this paper are speech sound disorders (also known as articulation and phonological
disorders) and multilingualism (also known as bilingualism). For the purpose of this study, the definition of each of these terms will be taken from the position paper developed by the International Expert Panel on Multilingual Children’s Speech (2012). In this document, speech sound disorders are defined as “…any combination of difficulties with perception, articulation/motor production, and/or phonological representation of speech segments (consonants and vowels), phonotactics (syllable and word shapes), and prosody (lexical and grammatical tones, rhythm, stress, and intonation) that may impact speech intelligibility and acceptability… of both known… and presently unknown origin” (International Expert Panel on Multilingual Children’s Speech 2012, p. 1). Multilingualism is defined as the ability to “comprehend and/or produce two or more languages in oral, manual, or written form with at least a basic level of functional proficiency or use, regardless of the age at which the languages were learned” (International Expert Panel on Multilingual Children’s Speech 2012, p. 1).

**Impact of Speech Sound Disorders**

Children’s current and future outcomes, both academic and social, can be affected by having a speech sound disorder in childhood. Potential long term impacts of speech sound disorders in children include difficulties in “learning to read/write, attention and thinking, calculating, communication, mobility, self-care, relating to persons in authority, informal relationships with friends/peers, parent-child relationships, sibling relationships, school education, and acquiring, keeping and terminating a job” (McCormack, McLeod, McAllister and Harrison 2009, p. 163). While speech sound disorders are one of the most common communication impairments in young children, they are also the most effectively treated, according to a Cochrane review of speech and language interventions (Law, Zeng, Lindsay and Beecham 2012). Early detection of, and treatment for, speech and language disorders can reduce the longevity of these
disorders and their impact upon children’s education and socialisation (Schwarz and Nippold 2002), thus improving future chances of success in education and employment.

**Multilingual Speech Acquisition**

Multilingual children are a heterogeneous population and the circumstances in which they may become multilingual vary depending on age of acquisition, number of languages spoken, level of exposure to languages and opportunities to hear and speak individual languages (Paradis, et al. 2011). Most multilingual children are able to acquire their languages without difficulty; however, as is the case with monolingual children, some multilingual children experience speech sound disorders (Hambly, Wren, McLeod and Roulstone 2013). Some differences occur in the ways that monolingual and multilingual children acquire speech and language (Grech and McLeod 2012), and these differences may falsely be assumed to mean that multilingual children’s speech and language is disordered. However, if a speech and/or language disorder is present, typically it will appear in all languages of a multilingual speaker (Paradis, et al. 2011); if difficulties occur in only one language this is often described as language difference (Kohnert 2010).

It is the role of the SLT to differentially diagnose between a speech sound disorder and a speech difference to ensure that children receive intervention where it is needed and conversely to ensure that they do not receive intervention unnecessarily. This task is made difficult for SLTs as currently little is known about the typical speech and language acquisition of multilingual children, and less still is known about children within this population who are suspected of speech and language disorders (Grech and McLeod 2012).
Challenges for Multilingual Practice

Working with multilingual children with speech sound disorders requires a different set of skills and procedures from those required when working with monolingual children. For example, different questions are needed to gain an accurate language profile in the referral and case history phase of practice and different assessment tools may be necessary when existing tools are not designed for use with multilingual children. Challenges for SLTs working with multilingual children throughout the world are well documented (Caesar and Kohler 2007; Guiberson and Atkins 2012; Kritikos 2003; Stow and Dodd 2003; Williams and McLeod 2012) and are found across all facets of speech and language therapy practice including referral, assessment, intervention, working with interpreters, and training for working with multilingual children. These challenges are summarised below.

Referral

Children may be referred to SLTs by parents or other agents such as teachers or health visitors. Parental referral to speech and language therapy services is lower in multilingual children than monolingual children (Stow and Dodd 2005), especially for those with speech sound disorders. This lower referral rate may be due to a number of factors including lack of understanding about multilingual speech acquisition and a language barrier between parents and services. Additionally referral rates among multilingual children may be inhibited by parents’ lack of information about what services are available, lack of understanding of the benefits of speech and language therapy services and how to access them, and cultural issues such as the stigma of disability, guilt, or shame about seeking advice (Bowers and Oakenfull 1996; Stow and Dodd 2003; 2005).
Assessment

SLTs must utilise appropriate methods of case history investigation and assessment to gain a full language profile and differentially diagnose between features that represent typical linguistic diversity or dialectal difference, and those that indicate the presence of a speech and/or language disorder (De Lamo White and Jin, 2011). This task is made difficult by the lack of, or lack of knowledge about, the availability and accessibility of assessment tools, developmental norms and typical speech acquisition data for assessing multilingual children (Guiberson and Atkins 2012; Kritikos 2003). Additionally, it has been frequently reported that many SLTs in English-dominant countries commonly assess multilingual children’s speech skills in English only (Caesar and Kohler 2007; Williams and McLeod 2012). Lack of consideration of the languages and dialects spoken by children when undertaking an assessment can lead to misdiagnosis in both the presence and severity of a speech sound disorder (Toohill, McLeod and McCormack 2012).

Intervention

SLTs must select appropriate intervention goals to meet both the targets identified from assessment and the needs of individual children in context. The success of intervention with multilingual children can be maximised when the home language is used as the language of instruction (Gutiérrez-Clellen 1999; Kohnert, et al. 2005) and development of the home language in intervention has been found to positively impact upon the development of additional languages (Gutiérrez-Clellen 1999). Further to this, intervention in all languages spoken is the optimal approach for facilitating participation in all aspects of children’s lives (Paradis, et al. 2011). However, decisions regarding the choice of intervention and the language used for intervention can be influenced by a number of factors. These include: parents’ preferences (Stow and Dodd 2003), SLTs’
competence in providing intervention in another language (Kritikos 2003), availability of culturally appropriate resources for intervention, and availability of bilingual staff to support SLTs in the provision of therapy in a language other than their own (Guiberson and Atkins 2012).

*Working with interpreters*

Interpreters play a key role in fostering working relationships between families and SLTs and facilitating the provision of assessment and intervention for children who speak a language different to their SLT (Isaac 2002). However, SLTs report a number of challenges for the successful utilisation of interpreting services. These include lack of availability of interpreters, lack of training for effectively working with interpreters and clinical restraints such as time and funding (Caesar and Kohler 2007; Guiberson and Atkins 2012; Kritikos 2003). Additionally, there can be difficulties in administration and interpretation of formal assessments when mediated by an interpreter (Roger and Code 2011).

*Training for working with multilingual children*

SLTs frequently perceive a lack of pre-service and in-service preparation and training for working with children from culturally and linguistically diverse backgrounds (Kritikos 2003). A positive relationship has been found between the level of training that SLTs receive in working with culturally and linguistically diverse children and the amount of confidence they have in servicing this population (Guiberson and Atkins 2012). A sound understanding of the unique nature of multilingual children’s development, speech and language acquisition and cultural context is essential to prepare SLTs to engage in culturally competent practice with multilingual children (Cheng, Battle, Murdoch and Martin 2001).
Addressing the Challenges of Multilingual Practice

While the challenges SLTs face in working with multilingual populations are frequently documented, less is known about the best solutions for addressing these challenges to ensure optimal service provision for multilingual children. In terms of assessment for multilingual children, a number of approaches have been suggested such as the use of standardised assessments to gain qualitative data, or the use of dynamic assessments in the form of test-teach-test (Gutiérrez-Clellen and Peña 2001; Hasson, Camilleri, Jones, Smith and Dodd 2013), but no official approach has been formally adopted among professional bodies. A review by De Lamo White and Jin (2011) compared commonly used forms of assessment (i.e. norm-referenced standardised measures, criterion-referenced standardised measures, language processing measures, dynamic assessment and a sociocultural approach) to determine their suitability for use with multilingual children. These authors proposed that of these five methods, the sociocultural approach to assessment may be most appropriate for multilingual children as it allows for a holistic evaluation of the child’s communicative abilities in their broader context, but that further research in this field is warranted. Less still has been documented about effective intervention strategies for multilingual children with speech sound disorders. While case study interventions have been trialed (Paradis, Crago, Genessee and Rice 2003) no universal agreement of an optimal approach to intervention has been determined.

A previous paper by McLeod, Verdon, Bowen and the International Expert Panel on Multilingual Children’s Speech (2013) outlined the development of a position paper to guide the practice SLTs with multilingual children with speech sound disorders. The following areas of practice were outlined in the position paper: referral, assessment, intervention, service delivery, cultural competence, knowledge of other
languages, training, and collaboration with interpreters. The current paper aims to build upon the scaffold provided by the position paper by adopting the use of the theoretical lens of Cultural Historical Activity Theory to (i) identify aspirations (ii) to propose recommendations and (iii) to make visible and acknowledge the reality and complexities of SLTs’ practice with multilingual children with speech sound disorders.

**Theoretical Orientation**

This study is informed by Cultural Historical Activity Theory (CHAT) (Engeström 1987) which provided the heuristic framework for data analysis. An explanation of CHAT and its usefulness in facilitating understanding of complex phenomena are detailed below. CHAT is a multi-perspective, practice-based approach to academic inquiry that acknowledges the complexity of human activity systems and facilitates understanding of such complexities. The application of CHAT to the current study is useful due to the complex nature of international speech and language therapy practice with multilingual children and the different ways that such practice is enacted in different contexts throughout the world.

CHAT has been adopted from a theoretical world-view that is different from the medical approach traditionally taken in speech and language therapy. While CHAT’s origins in Russian educational psychology literature stem back to the early part of last century, originating from Vygotsky’s model of mediated action, use in western society in its current form as developed by Engeström (1987) has only become prominent in recent decades (Roth 2004). This paper presents the second known application of CHAT to the field of speech and language therapy. The first application was a doctoral thesis which used CHAT to primarily focus on learning theory in regards to the roles, routines and perspectives of an SLT working as a collaborative partner in the field of inclusive education (Wakefield 2007). This thesis undertook data analysis in three
phases by coding data regarding observed speech and language therapy lessons using three macro-categories. These included: the structure of activities (what therapy looked like in this context), ways of participating (how instructional discourse was used) and relationships (outlining the unique role of the SLT in this context). The roles of the SLT in this context were then described and discussed with a focus on the ‘division of labour’ element of CHAT. The current study is the first known application of CHAT to take a holistic view considering each of the CHAT elements in the practice of SLTs in a specific specialist field, that is, multilingual children with speech sound disorders. It is hoped that this form of analysis will enable a new approach to making visible and addressing the complexities faced in clinical practice.

From a CHAT perspective, all activity, such as the practice of speech and language therapy, is culturally and historically oriented within complex activity systems (for example, the activity of an SLT working with a child and family, typically occurs within a clinic that is located in a particular geographical, cultural, social, political and historical context). CHAT divides the activity system into a number of elements - object, subject, mediating artifacts, rules, community and division of labour (see Table 1). Together these elements form the activity system that is working towards a desired outcome. Each of these elements and their application to the practice of speech and language therapy are outlined in Appendix A.
Table 1.

Definitions of the individual moments which comprise Cultural-Historical Activity

<table>
<thead>
<tr>
<th>Element of CHAT</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome</strong></td>
<td>Every activity system is focused towards achieving a certain outcome. This is the motivation for the activity to take place (Engeström 1987).</td>
</tr>
<tr>
<td><strong>Object</strong></td>
<td>The activity system is object-oriented (Engeström 1987). That is, the activity system is working towards the attainment of an object or goal. The object is the reason that individuals choose to engage in an activity.</td>
</tr>
<tr>
<td><strong>Subject</strong></td>
<td>The subject is the person/people undertaking the action, motivated by the attainment of the object (Yamagata-Lynch 2007). Incorporated in the subject is consideration of his/her history, beliefs and personal agency (i.e. the subject’s capacity and/or willingness to take action and an awareness of their ability to initiate, execute, and control their actions). These individual factors impact the subject’s view of the object and influence their engagement in the activity (Roth 2004).</td>
</tr>
<tr>
<td><strong>Mediating artifacts</strong></td>
<td>Mediating artifacts are the cognitive or material resource used by the subject to mediate an activity and work towards the object (Engeström 1987). Mediating artifacts can take many forms including physical (such as assessment tools or therapy resources) or non-physical (such as language or knowledge) artifacts.</td>
</tr>
<tr>
<td><strong>Rules</strong></td>
<td>Rules are any formal or informal principles or procedures by which an activity is governed (Engeström 1987). Rules may include policies, social conventions, or organisational procedures that regulate the subject’s actions toward an object, and relations with other participants in the activity (Foot 2001).</td>
</tr>
<tr>
<td><strong>Community</strong></td>
<td>The community refers to the social context or group to which</td>
</tr>
</tbody>
</table>
the subject belongs. It is the community of people in the activity system who share an interest in and involvement with the same object (Foot 2001). In the practice of speech and language therapy this includes the clinic, the community of SLTs, and the home community of the children.

**Division of labour**

The division of labour refers to the assignment of roles among those within the activity system. These divisions may be both the horizontal division of tasks or the vertical division of power based on social status, level of qualification, knowledge of the object or organisational hierarchy (Foot 2001).

CHAT is typically portrayed using Engeström’s (1987) triangular diagram (see Figure 1). As illustrated by the bi-directional arrows in Figure 1, activity systems are not static; they are dynamic and ever changing. Over time, tensions/contradictions arise between elements in the activity system which is in a continual act of negotiation. These contradictions are a central impetus for change and development of the system (Engeström 1987), making transformation possible. Thus, a change in one element inherently impacts upon the other elements and in so doing changes the very nature of the system. From this perspective, contradictions are not viewed as problematic roadblocks in the enactment of the activity system but rather as opportunities for change and progression.
CHAT acknowledges the complexity of activity systems and aims to make visible, and open to challenge, the multiple factors that influence systems. Furthermore, CHAT provides a lens which can be used to “locate and articulate internal contradictions [within an activity system] and to design concrete collective actions to remove them” (Roth 2004, p. 6). An example of a contradiction in speech and language therapy activity systems, is when the ‘rules’ governing practice in a particular context (such as the ways time and resources are allocated) are incongruent with the time and resources needed to implement recommendations for ‘best practice’.

Every activity system consists of multiple voices, viewpoints, traditions, and interests (Engeström 1987). The current study draws on the voices, viewpoints, traditions, and interests of members of the Expert Panel as they discussed (i) their aspirations for practice (ii) recommendations for ways they believed practice could be improved and (iii) the reality and complexities of SLTs’ practice with multilingual children. The record of this discussion was analysed using CHAT as a heuristic framework, in order to make visible individual elements at play within multilingual speech and language therapy systems; and to identify challenges and aspirations in relation to each of these elements, contradictions and tensions between the elements, and possible means for negotiating these contradictions and tensions.

Aims

This paper draws on the knowledge and experience of 14 members of the International Expert Panel on Multilingual Children’s Speech paper to fulfill three aims:
To propose aspirations for SLTs’ practice with multilingual children with speech sound disorders

To identify recommendations for working appropriately and effectively with multilingual children with speech sound disorders

To make visible the reality and complexities of SLTs’ practice with multilingual children with speech sound disorders

Method

Recruitment of Participants

Participant recruitment took place through an invitation to 92 people with specialist knowledge of multilingual speech and speech acquisition (as identified by their publications in the field of speech sound disorders and multilingualism) (see McLeod et al. 2013) to participate in an expert panel on multilingual children’s speech. Potential participants were invited via an email, which explained the purpose and intended outcomes of the Expert Panel. In total, 57 people accepted the invitation to participate and formed the Expert Panel. Of these, 14 were available to meet face-to-face for a one-day workshop, upon which the current paper is based.

Participants

Members of the face-to-face workshop group of the Expert Panel were SLTs, phoneticians, and linguists identified as experts in multilingual speech and speech acquisition. Members are all female and had worked in the following 18 countries: Australia, Brazil, Canada, Finland, France, Hong Kong, Hungary, Jamaica, New Zealand, Paraguay, Peru, Russia, Slovakia, Sweden, Turkey, United Kingdom, United States of America, and Vietnam. The members used the following languages in a professional capacity: English, Australian Sign Language (Auslan), French, Hungarian, Jamaican Creole, Portuguese, Russian, Spanish and Turkish.
**Ethics**

Ethics approval for this research was granted by the Charles Sturt University Human Research Ethics Committee (project no. 2012/061). The information sheet outlining the study, consent forms and a brief questionnaire to gain details about participants’ professional and linguistic background were sent to all potential participants in the recruitment phase. The forms were completed and returned by the 14 face-to-face panel members. Members of the online panel gave consent by joining the online discussion. Written transcripts of the audio-recorded panel discussion were returned to Expert Panel members for checking and approval.

**Procedure**

*Data collection*

Fourteen members of the Expert Panel met for a one-day workshop in Cork, Ireland prior to the 14th International Clinical Phonetics and Linguistics Association conference. Expert Panel members discussed challenges of, and aspirations for, working with multilingual children with speech sound disorders with the aim of developing a position paper. The workshop was convened by the second author and discussions were informed by an agenda based upon a literature review conducted by the first author regarding the major challenges identified by SLTs when working with multilingual children with speech sound disorders. The agenda included discussion of assessment, transcription, analysis, intervention, contextual factors, collaboration with schools, families and professionals, policies, resources and practical pathways for the improvement of international practices. These topics were discussed using the International Classification of Functioning, Disability and Health – Children and Youth Version (ICF-CY) (World Health Organization (WHO) 2007) as a conceptual framework to ensure that Body Structures and Functions, Activities and Participation as
well as Personal and Environmental Factors impacting upon children were considered during discussions. The remaining 43 members of the Expert Panel, in conjunction with the face-to-face Expert Panel, formed the 57 members of the online Expert Panel who debated similar issues for a period of 2 months via online communication and developed a position paper titled *Multilingual Children with Speech Sound Disorder: Position Paper* (International Expert Panel on Multilingual Children’s Speech 2012).

Prior to the face-to-face meeting ethics approval was gained and an information sheet and consent form was sent to all participants. At this time participants were invited to identify sub-topics from the agenda that they had expertise/experience in and to which they wished to contribute. The second author chaired the meeting and guided discussion, starting with an overview of each topic, followed by comments from self-nominated contributors, then general discussion from the remaining participants. The meeting was audio recorded for detailed analysis.

The six-hour panel discussion was professionally transcribed by an independent source to ensure that all information gathered during the discussion was documented for analysis. The transcription was checked by the first and second authors to ensure reliability and consistency with the audio recordings. Transcripts were then sent to Expert Panel members to ensure agreement and obtain consent for use in further research. All Expert Panel members provided consent and minor adjustments were made to the transcripts based upon the members’ feedback.

*Data analysis*

Data analysis followed procedures common to qualitative research where the aim is to use “interpretive, material practices that make the world visible” (Denzin and Lincoln 2011, p. 3). Qualitative research methods are recognised as inherently subjective and therefore it is necessary to understand the individual viewpoints which
have been brought to this analysis by the authors. All three authors are monolingual Australian English speakers. The first two authors are SLTs have practiced speech and language therapy in both developed and developing nations, working with children who speak multiple languages and children who speak languages different from their own. The third author is a researcher in the field of early childhood education who focuses on inter-professional practices.

The first author undertook analysis of the data in three phases. In phase 1, data from the transcript of the expert panel discussion were coded in NVivo9 (QSR International 2010) at the sentence or paragraph level (if sentences were related to the same unit of meaning). Codes were assigned according to which, if any, of the CHAT elements they corresponded (i.e., object, subject, mediating artifacts, rules, community and division of labour). For example, the following sentence, which reflected the role of schools in speech and language therapy was coded under division of labour: “we still need to make sure that schools and pre-schools and settings are equipped to be able to manage the milder [cases of speech sound disorders] who traditionally we might have seen”. As another example, the sentence “I think ultrasound would be a really critical part of transcription”, which referred to a tool used by SLTs, was coded under mediating artifacts. Like codes were then grouped together.

In phase 2, the coded data were integrated to identify (i) aspirations and (ii) recommendations made by Expert Panel members for the progression of SLTs’ practice with multilingual children with speech sound disorders. In phase 3, individual elements were examined and reflected upon in relation to each other to identify tensions and contradictions within and between each element of the framework. For example, within the element of mediating artifacts, some Expert panel members foregrounded the use of ultrasound as a gold standard tool for the assessment and intervention of speech sound
disorders. However, a tension became apparent when the use of such a tool in practice was considered in relation to ‘rules’ discussed by the panel in which the clinical restraints of limited funding and resources was seen as a key issue which may inhibit the use of this tool. Therefore, it became evident using this framework that to simply take up the recommendation of implementing ultrasound as a tool for use in every clinic for the assessment and intervention of multilingual children with speech sound disorders, without identifying and discussing the tensions that would arise with other elements in the activity system, would be a flawed and unrealistic recommendation. This is an example of how, when using the CHAT framework, the complexities and multiplicities of speech and language therapy practice become visible so that the aspirations and recommendations presented in this paper can be realistic in real world clinical settings.

**Results and Discussion**

In this section, in keeping with the traditions of reporting qualitative research, the results of this project are presented in conjunction with discussion of these findings in relation to the literature. Firstly, aspirations and recommendations for SLTs’ practice in the area of multilingual children’s speech (as discussed by the Expert Panel) are presented using the six elements of CHAT (object, subject, mediating artifacts, rules, community and division of labour). These findings are also summarised in Appendix A. Secondly, the reality and complexities of applying these aspirations and recommendations to SLTs’ practice are then discussed by examining the tensions that arose between elements in the CHAT framework when applied to the data.

**Aspirations and Recommendations for Reconceptualising Practice**

**Outcome**

In the present study, the desired outcome is for SLTs to provide services to
multilingual children with speech sound disorders that are effective and appropriate for individual children in context. The establishment of the Expert Panel was prompted by the need for discussion around possible ways to work towards better outcomes for multilingual children and to overcome the challenges of practice that have been frequently documented in the literature. This need was best summarised by the Chair who stated: “There’s quite a silence about what we do and what we need when we do not speak the language of that child in front of us”. Discussion among Expert Panel members suggested that this silence stems from the lack of research, resources, normative data, and training for working with culturally and linguistically diverse children. Such discussion by the Expert Panel similarly reflected the findings of previous studies considering the comfort, confidence and competence of the speech and language therapy workforce to deliver services to multilingual children which has highlighted this silence and SLTs’ feeling of being ill-equipped to effectively work with multilingual children (Caesar and Kohler 2007; Guiberson and Atkins 2012; Kritikos 2003; Stow and Dodd 2003). Furthermore, Expert Panel members contended that where information does exist, there is a large gap between the ideal aspirations set forth in the literature and the reality of every day practice with multilingual children with speech sound disorders. The gap between recommended practice and the reality of current practice has also been documented in the literature (Stow and Dodd 2003). The aspiration of the Expert Panel was that (i) greater knowledge be generated in the field through research into multilingual children with speech sound disorders and (ii) that steps are taken to bridge the nexus between research and practice (see Appendix A).

Object

The overriding aspiration of the Expert Panel was that SLTs will look upon their practice with multilingual children in a way that is culturally inclusive and based upon
the languages that the child speaks, in order to accurately identify the individual needs of the child. Several participants placed emphasis upon determining the functional impact that a child’s speech is having upon interactions in their broader context, how this influences their phonological development, literacy, educational attainment and participation in society. Thus, a recommendation of the Expert Panel was for SLTs to consider the child’s perspective of their communication abilities when engaging in practice and, as one Expert Panel member noted, taking “…opportunities to think around not just single words but also connected speech, and about… the impact of the speech difficulties on their overall interaction, not just on picture naming, and then the complications of that for these children”. This recommendation is supported by current literature which emphasises the need to consider children’s speech and language skills within their broader social and cultural context (De Lamo White and Jin 2011).

Subject

In the present study the SLT was taken to be the subject of the activity. In keeping with current literature (e.g. Gutiérrez-Clellen 1999; Kohnert, et al. 2005) many members of the Expert Panel had the aspiration that, practice would be conducted in the home languages of children. Members of the Expert Panel agreed that in order to make this a reality, a broad knowledge of languages is required by SLTs. This includes knowledge of language features such as consonants, vowels and tones, language structure and developmental patterns. Participants agreed that SLTs must know what is typical and atypical in a language to engage in effective practice, as one Expert Panel member stated, “I think normal processes are really, really critical to our understanding as speech pathologists of what we’re doing”. The importance of SLTs actively and attentively listening to parents and having cultural understanding about issues such as language status and dialectal variations when taking case history and assessment
information was also raised. The Expert Panel noted that parents may not feel comfortable sharing the language and dialect that they speak if it is perceived to be of a lower status, and this lack of information can significantly impact upon an SLT’s ability to be effective in assessment and intervention. As one Expert Panel commented “I mean one absolute minimum [information required] is, ‘What languages do you speak?’, and actually asking with a good ear so that you…ask about dialect and language”.

The Expert Panel recommended that support is needed to prepare SLTs with the knowledge of different languages and the complexity of multilingualism. This recommendation is supported by previous studies in which SLTs have reported a lack of knowledge in these areas (Kritikos 2003). They suggested this could be achieved in the form of resource packs about languages or through the use of human resources such as interpreters or bicultural support workers (see Appendix A). The Expert Panel also agreed that by providing training for SLTs, for example in working with interpreters and transcribing speech in languages other than English, confidence can be built among SLTs for working with linguistically diverse children.

**Mediating Artifacts**

A number of mediating artifacts were discussed by the Expert Panel including: the ICF-CY (WHO 2007), assessment and intervention tools, transcription, and literature regarding multilingual children’s speech. Expert Panel members discussed the important role that these mediating artifacts play in an SLT’s ability to engage effectively with children to meet their needs.

Many Expert Panel members also expressed an aspiration for a framework, such as the ICF-CY (WHO 2007), to be used to facilitate a holistic approach to child-centered practice. The Expert Panel emphasised the importance of assessing speech in real world circumstances, rather than in clinical measures of single words and sounds in
isolation. The consideration of real world performance has also been supported by a previous evaluation of the efficacy and appropriateness of different approaches to speech and language assessment (De Lamo White and Jin 2011). Rather than focusing on a reductionist view of speech production across a developmental trajectory, a number of participants commented that the focus should be on functional aspects of how the child is able to participate in their world and improving this participation through speech and language therapy intervention. In order to address the ICF-CY framework, discussion among Expert Panel members concluded that information regarding the child must be drawn from numerous sources, including parents and children, to gain information about the languages and/or dialects spoken by children, “language exposure, language use, language competency and age of acquisition” (Expert Panel member), and the circumstances in which the language is being used, learned and developed (i.e., level of exposure to language and speaking partners in each language) as well as from direct assessment by the SLT.

The use of technological advances to facilitate optimal practice was also discussed. The Expert Panel highlighted the usefulness of tools such as ultrasound with multilingual children to aid in assessment diagnosis and visual feedback for both the client and SLT in therapy. Additionally, Skype™ was advocated by Expert Panel members when working with multilingual children to overcome geographical and linguistic barriers to engaging in quality practice by facilitating access to an SLT who speaks the same language as children and families when their local SLT does not speak their language.
Rules

From the Expert Panel’s discussion it became clear that the rules that bind SLTs’ practice with multilingual children fall into two main categories: (1) the professional and theoretical rules of multilingual practice and (2) the organisational confounds of time, money and resources.

The Expert Panel provided two main aspirations to improve the rules that govern SLTs’ practice with multilingual children. Firstly, it was hoped that the academic community would accept more varying forms of evidence, including single case studies, to assist in building the evidence base for this field so that SLTs may be more equipped to engage in evidence-based practice. Secondly, it was the aspiration of the Expert Panel that SLTs will be allowed sufficient time to adopt recommended strategies for engaging effectively in practice with multilingual children, for instance, one member noted “In terms of entitlement for SLTs… the need for more time; more time to assess because you’ve got more languages to assess, but creating also more time to analyse…time to train interpreters, time to have information interpreted…all these things extend the length of the session and… we already have long waiting lists, limited time, and busy caseloads” (see Appendix A).

Community

The Expert Panel made the suggestion that when working with multilingual children, it may be beneficial for SLTs to leave the clinical environment and engage with children and their families in a more realistic setting such as a cultural community activity. One Expert Panel member gave an example of colleagues who “went to a community activity which was already up and running with the Somali women and got engaged in that activity to then get in and engage in conversations around this whole issue.” It was stated that in this example a community-based approach to practice
enabled the children to be in a familiar and safe environment and allowed SLTs to engage with members of the community, earning trust, which increased continuity in the implementation of strategies between settings and shaping practices so that they were relevant to the child. Likewise, the Expert Panel noted that a community-based approach enables SLTs to work with children on a functional level to ensure that speech sound disorders are addressed in ways that will be useful for children in their everyday lives (see Appendix A).

The benefits of a community-based model of service delivery have been discussed previously in the literature, for example in a study by Prathanee, Dechongkit and Manochiopinig (2006). This model can be especially beneficial for communities which may have limited knowledge of, or access to, speech therapy services. A community-based approach can also benefit SLTs by increasing their understanding of children’s contexts and facilitating collaboration with parents and the community. In addition, a number of Expert Panel members agreed that parents are more likely to engage if they feel heard and are in a safe environment and not excluded by language barriers or the uncertainty of a foreign environment. This feeling of being safe and informed may help to overcome issues such as low referral rates that have been frequently cited in the literature (Bowers and Oakenfull 1996; Stow and Dodd 2003; 2005) by providing services in the community rather than families having to seek out services in unfamiliar settings. Moreover, as suggested by one Expert Panel member, the community itself can benefit from such engagement as other children and parents facing similar issues can work together to ensure positive outcomes for their children.
Division of labour

In the practice of speech and language therapy with multilingual children labour is divided between SLTs, teachers, parents, interpreters, audiologists, bi-cultural support workers, other health professionals, families, and the children themselves. Given the complexity of working with multilingual children and their families Expert Panel members agreed that there is a need for labour to be divided to ensure effective practice. The Expert Panel highlighted that in different countries different people collaborate with, or carry out, roles of the SLT (e.g., assistants, special educators and teachers). It was the aspiration of members of the Expert Panel that regardless of how labour is divided, there is a need for all involved to be culturally and professionally competent in working with multilingual children with speech sound disorders (see Appendix A).

The Expert Panel aspired toward the development of strong working relationships between all collaborators in the provision of speech and language therapy to multilingual children. In particular, parental involvement was seen as key when working with multilingual children because of their knowledge of the child’s culture, languages and contextual use of languages. Furthermore, school teachers and other personnel were recognised as playing an important role in referral as well as ongoing skill development and support. In addition, the Expert Panel discussed bi-cultural support workers’ invaluable role as cultural brokers and cultural mediators in helping to understand the children’s culture and also in developing trust between the SLT and the family. For example, one Expert Panel member shared her success with using a cultural mediator to access difficult to engage populations: “And just because she has the knowledge of their culture and also to a certain extent she speaks [their language], she’s much more trusted than I ever will be”. Members of the Expert Panel reflected that a
trusting and respectful relationship between families and SLTs is essential if SLTs are to be heard and respected by families and communities and vice versa.

Tensions between elements

One of the benefits of using CHAT analysis is that not only can issues within individual elements be identified but consideration can be given to how the various elements interact. In particular, the internal contradictions within an activity system are the forces that drive development and change within the system. While contradictions can form an obstacle to the enactment of an activity, they also provide opportunities for the development of creative innovations, and new ways of structuring and engaging in the activity.

In the current analysis, tensions and contradictions between theoretical recommendations for practice and the reality of practice were found to arise in three central domains: people, practicalities, and policy. In each of these domains there was a continual emphasis placed by Expert Panel members upon the need to shift from a medical, impairment-based approach to assessment and intervention towards a holistic consideration of the whole child and their functioning and participation in context (as outlined in the ICF-CY, WHO 2007).

People

The domain of people highlighted that children should be considered in the context of their home and community (as a whole person) rather than in the confines of the clinical setting (isolating one aspect of the person). This included consideration of cultural views, ideals and beliefs when engaging in practice. Tensions arise between the elements of object, subject, and community when there is a mismatch between the ideals and beliefs of different parties working towards the object. For example, Expert Panel members noted that communication and mutual understanding between these
parties can be inhibited by the cultural and linguistic barrier between SLTs and their clients and when SLTs are not sufficiently trained or knowledgeable in working with children and families from culturally and linguistically diverse backgrounds. As one Expert Panel member stated, there is a “need for ongoing training, post graduate…there’s only so much you can do for a qualified course, so we were discussing the need for continuing [training] and developing this as a specialism.” Likewise, Expert Panel members identified that parents and communities may have different goals for intervention than SLTs due to different world views and cultural understandings, and this can be difficult to negotiate.

**Practicalities**

The domain of *practicalities* highlighted the tensions between the elements of object, mediating artifacts, rules and division of labour that arise in working with multilingual children in the current reality of clinical practice. For example, a number of authors advocate that multilingual children should be assessed in all of the languages they speak (e.g., Dodd, Holm and Wei 1997; Kohnert 2010), but the Expert Panel suggested that enactment of such recommendations within the time, funding, and resource allocations of clinical practice presents a significant challenge for SLTs. As one Expert Panel member reflected “it was seen as a real challenge for speech pathologists, the extra time that was taken to help with these populations”. In particular, the resources (e.g. ultrasound) and additional staff (e.g. interpreters) required for assessments in multiple languages are not always available or affordable within departmental budgets. As one Expert Panel member stated “I think realism in terms of
the economics…I just cannot see the Dime Box School District getting that… there’s no money for that.” Additionally, the extended time required before, during, and after contact with children for preparing materials, assessing multiple languages, working with interpreters, undertaking detailed transcription and analysis of results and implementing intervention methods in appropriate contexts for the child, may not fit into the current reality of carefully allotted time slots for seeing children in a clinical setting.

Policy

In the domain of policy the constraints within which practices need to be carried out as directed by individual policies of different organisations and governments were explored. Tensions were identified in this domain between the elements of object, rules and community as SLTs are bound to work within certain contexts and within specified policies and procedures of their workplace. For example, Expert Panel members noted that undertaking community-based approaches outside of the clinical setting or clinical hours can be difficult for SLTs as this action may not be permitted by employers or covered by insurance arrangements. Furthermore, the Expert Panel discussed the inability of SLTs to engage with children and communities in a familiar environment inhibits their ability to gain cultural knowledge, build trusting relationships and develop culturally and contextually appropriate goals for intervention. As one Expert Panel member reflected “it emphasises the point that this isn’t just about language, is it? There’s so much more that we need to understand about the clients, children, families

10 The Dime Box School District is one of the smallest school districts in Texas. This comment is used to exemplify the reality that small rural school districts do not have extensive economic resources.
that we’re working with.” From a CHAT perspective, by identifying and addressing these tensions, participants in the activity have the power to identify means to overcome them and change the system.

Implications of the Study

The theoretical lens of CHAT (Engeström 1987) emphasises that change and progression towards aspirations for practice are possible through the emergence of new approaches which aim to resolve contradictions that exist within the system. From this perspective, the subject (the SLT) has the power to continually change his or her approach to the object and therefore challenge the very nature of the activity system. By adopting approaches recommended by this paper (see Appendix A), SLTs have the potential not only to work towards positive outcomes for multilingual children, but to also transform themselves and develop their competencies as professionals. In doing so, SLTs contribute back to the profession by engaging in new ways to meet the object of providing high quality services for multilingual children with speech sound disorders.

The bidirectional arrows within the CHAT framework imply that a single change in any one of the individual elements inherently impacts upon its relationship with the other elements challenging the current arrangement and in doing so causing a series of reactions that inevitably change the activity system as a whole. With this in mind, despite the seemingly insurmountable challenges posed to SLTs in their quest to achieve the afore mentioned aspirations for practice with multilingual children with speech sound disorders, SLTs can feel empowered by their ability to affect change through their practice. By making just one change, perhaps in the mediating artifact used for assessment or in their engagement with members of the community around children with speech sound disorders, SLTs are changing and challenging the very system that confines them. While it is acknowledged that the challenges facing SLTs
are great, if multiple positive changes are made by multiple practitioners over time, the eventual negotiation between these elements has the potential to change the activity system. It is through individual SLTS making these changes that the aspirations of this Expert Panel may be realised in the day to day reality of SLTs’ practice with multilingual children with speech sound disorders. Over time the activity system constructed to meet the objective of working with multilingual children with speech sound disorders will continue to change and evolve as certain aspirations are met by future innovations in research, policy, practice and technology. So too will the challenges faced by the profession continue to change, requiring new and adaptive approaches to the practice the practice of speech and language therapy in order to continue to work towards the object of meeting the needs of multilingual children with speech sound disorders.

Contributions of this Paper

In summary, the current paper has drawn on the wisdom of 14 members of the International Expert Panel on Multilingual Children’s Speech to make visible the reality and complexities of engaging in practice with multilingual children with speech sound disorders. Through their discussion they have proposed aspirations for the speech and language therapy profession, and most importantly they have identified a series of recommendations that SLTs can use to work towards these aspirations in their daily practice (summarised in Appendix A). Future research may build on the individual aspirations documented here and as time progresses, research into aspects such as the affordances of new technological advances, the development of multilingual resources and changes to organisational structures to facilitate optimal practice in this field may be further explored.
This paper makes a unique contribution to the field of speech and language therapy as it uses the theoretical underpinnings of CHAT to holistically view the practice of SLTs with multilingual children. The diversity and complexities of the enactment of the practice of speech and language therapy around the world in different cultures and communities and therefore the futility of trying to implement a single ‘gold standard’ method of assessment and intervention of multilingual children with speech sound disorders have been highlighted. The use of the CHAT lens facilitates thinking around how current approaches to practice with multilingual children can be reconceptualised to progress practice towards more efficacious outcomes. In doing so this process reinforces that a narrow, monolingual approach to service provision is outdated and broader consideration of the child in context is needed when working with multilingual children. Future aspirations and recommendations for practice are presented in a holistic approach that shifts away from the medical model of practice towards a social model of practice, scaffolded by the ICF-CY (WHO 2007). The Expert Panel did not prescribe a uniform method of best practice that every SLT in every country must follow for every multilingual child. Rather, through the recommendations given here and in their position paper (International Expert Panel on Multilingual Children’s Speech 2012), the Expert Panel has systematically provided a series of considerations that can be made to ensure thorough, appropriate and accurate assessment of multilingual children, and culturally appropriate intervention of which the ultimate goal is to facilitate maximum participation of children in their society.
References


QSR INTERNATIONAL., 2010, NVivo qualitative data analysis software. 9 ed. Doncaster, Australia.


Appendix A: Aspirations and recommendations for SLTs’ practice with multilingual children with speech sound disorders

<table>
<thead>
<tr>
<th>Element</th>
<th>Description of CHAT element</th>
<th>Challenges</th>
<th>Aspirations</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Object</strong>&lt;br&gt;The objective or goal of the activity</td>
<td>To align ideal aspirations for speech and language therapy practice with multilingual children with the daily reality of practice.</td>
<td>• Service provision for multilingual children is infrequently discussed in the literature&lt;br&gt;• Few differences reported between practice with multilingual and monolingual children</td>
<td>That SLTs will engage in practice that is culturally inclusive, based upon the languages and culture of the children they work with.</td>
<td>That consideration is made of the functional impact of children’s speech upon participation and interactions in their broader context.</td>
</tr>
<tr>
<td><strong>Subject</strong>&lt;br&gt;The person/people that are undertaking the action, motivated by the attainment of the object</td>
<td>The SLT: his/her history, beliefs and personal agency.</td>
<td>• SLTs lack confidence and cultural competence&lt;br&gt;• Cultural and linguistic barriers exist between SLTs and children&lt;br&gt;• SLTs report limited knowledge of multilingual speech acquisition</td>
<td>That SLTs will build confidence for working with multilingual children by gaining:&lt;br&gt;• A broad knowledge of the features of languages other than their own&lt;br&gt;• Cultural understandings of languages (i.e., language status and dialectal variations)</td>
<td>• That training be provided for:&lt;br&gt;  ▪ working multilingual children&lt;br&gt;  ▪ working with interpreters&lt;br&gt;  ▪ transcribing speech in many languages&lt;br&gt;• That knowledge of languages be developed through the availability of online resource packs&lt;br&gt;• That interpreters and bicultural support workers will be utilized to aid in bridging cultural and linguistic barriers.</td>
</tr>
</tbody>
</table>
| Mediating artifacts | The mediating artifacts used for conceptualizing practice and performing assessment and intervention with multilingual children. | • Widespread use of monolingual and culturally inappropriate assessment tools  
• Limited use of transcription  
• Lack of published data on multilingual speech acquisition  
• Limited publication of intervention methods | • That SLTs will use culturally and linguistically appropriate tools for holistic assessment  
• That the possibilities of technology be explored to improve practice (such as Skype and ultrasound) | • That the ICF-CY be adopted to guide holistic practice with multilingual children  
• That linguistic and background information be collected from numerous sources including parents, children and direct assessment  
• That all languages spoken by children be assessed  
• That technological advances be used to support assessment and intervention  
• That SLTs transcription skills be developed for detailed analysis of speech |
| --- | --- | --- | --- |
| **Rules** | *The set of principles by which an activity is governed including policies and*  
Two categories of rules bind SLTs’ practice:  
1. Theoretical rules of multilingual practice  
2. Government and organisational | • Lack of research makes evidence-based multilingual practice difficult  
• SLTs are required to practice within the organisational confines of their | • That the academic community will accept more varying forms evidence to increase knowledge of multilingual populations  
• That organisations will allow changes to practice | • That more single case study and small group examples of multilingual speech acquisition be undertaken and published in the literature  
• That SLTs be allowed of sufficient clinical time to adopt recommended strategies for assessment, analysis and intervention |
<table>
<thead>
<tr>
<th>organisational procedures</th>
<th>confounds including: time, funding, and resources</th>
<th>department</th>
<th>structure to enable different approaches to practice to be realised</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rules governing qualifications and how practice is enacted vary between countries</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rules governing qualifications and how practice is enacted vary between countries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>The community is the context of the SLT’s practice and the broader context of the child.</td>
<td>SLTs may lack contextual knowledge of the child’s community</td>
<td>That SLTs will engage in a community-based approach to service provision with multilingual children</td>
</tr>
<tr>
<td></td>
<td>SLTs may lack contextual knowledge of the child’s community</td>
<td>Children and families may feel uncomfortable in an unfamiliar clinical environment</td>
<td>That SLTs engage with the child’s community to:</td>
</tr>
<tr>
<td></td>
<td>Children and families may feel uncomfortable in an unfamiliar clinical environment</td>
<td></td>
<td>- Increase understanding of the child’s context</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Create a familiar and safe environment for children</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Earn trust, and build relationships</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Enable parents to feel heard and valued</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Work on functional goals based on interactions in children’s daily lives</td>
</tr>
<tr>
<td>Division of labour</td>
<td>Labour is divided between SLTs, interpreters, audiologists, bi-cultural support workers, other health</td>
<td>The division of tasks varies greatly between countries</td>
<td>That all people involved in speech and language therapy with multilingual children will be culturally competent in their roles of during the processes of referral,</td>
</tr>
<tr>
<td></td>
<td>The division of tasks varies greatly between countries</td>
<td>Each person has different knowledge/skills for</td>
<td>That SLTs utilise the expertise of others to facilitate effective practice. For example, use of cultural mediators to develop trusting and respectful relationships between families and SLTs</td>
</tr>
<tr>
<td></td>
<td>Each person has different knowledge/skills for</td>
<td></td>
<td></td>
</tr>
<tr>
<td>those within the activity system</td>
<td>professionals, teachers, parents, families, and children.</td>
<td>working with multilingual children</td>
<td>assessment and intervention</td>
</tr>
</tbody>
</table>
Embracing Diversity – Creating Equality Study

The Embracing Diversity – Creating Equality study is a multi-site study of speech-language pathology practice in different cultural and linguistic contexts around the world. The study was designed for this doctoral research to investigate international practices to support the speech, language, and communication of children from culturally and linguistically diverse backgrounds. The impetus for this study was the need for research to support culturally appropriate practice with children from culturally and linguistically diverse backgrounds as identified in the literature and in Papers 1 to 5 of this thesis.

Aim

The aim of the Embracing Diversity – Creating Equality study was to investigate current practices used to support culturally and linguistically diverse children with speech, language, and communication needs in diverse international contexts. The second aim was to identify strategies that could be used by SLPs in various contexts around the world to enhance their practice with culturally and linguistically diverse children and families.

Method

Sites

Fourteen international sites were identified as engaging in practice with culturally and linguistically diverse children. Sites were recruited using two methods:

1. Identifying professionals in the areas of multilingual and multicultural practice in speech-language pathology, based on their publications and contacting them both in person at conferences and via email sending an information sheet detailing the purpose of the study and what participation in the study would involve.
2. Using professional networks (e.g., professional online forums and speech-language pathology association bulletins) to seek nominations of sites that engage in multilingual and multicultural practice.

The recruitment of sites was intended to reflect not only the cultural and linguistic diversity of the profession around the world, but also the organisational diversity of the speech-language pathology profession. As a result, a variety of settings were selected for participation in the study: private practice, hospitals, schools, early childhood education centres, communities, and universities (see Table 3).

At the commencement of the study the primary contact for each site was sent an information sheet detailing the purpose of the study and what participation in the study would involve (see Appendix A). A requirement for recruitment was that at least one professional in each of the sites was fluent in English to allow for communication with the researcher (the author of this thesis) during data collection. The contact person at the site shared the information about the study with staff and families in the site and invited them to participate. As a result, the participants within each site varied and included SLPs, colleagues from other disciplines (e.g., teachers), parents and children. Separate information sheets were created to cater for site managers, professionals and parents. A simplified and child-friendly version of the information sheet (see Appendix B) and an accompanying assent form (see Appendix C) was provided so that children could also be informed about the study and give assent if they wished to participate. The information sheets were provided in English but in some cases were translated by bilingual SLPs at the site to allow for the participation of parents and children who spoke languages other than English. Participation in the study was voluntary and if informed consent could not be gained from participants they were not included in the study.
<table>
<thead>
<tr>
<th>Country</th>
<th>Site No.</th>
<th>Setting</th>
<th>Main language(s) spoken by SLP(s) in their practice</th>
<th>Main language(s) spoken in community</th>
<th>Number of SLPs at service</th>
<th>Number of SLPs who participated in the study</th>
<th>Number of children and families interviewed</th>
<th>Children and families interviewed</th>
<th>Other professionals at site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>1</td>
<td>University clinic run by SLP students</td>
<td>Portuguese and English</td>
<td>Portuguese</td>
<td>8 + class of student SLPs</td>
<td>5</td>
<td>No</td>
<td>No</td>
<td>Physiotherapists, occupational therapists</td>
</tr>
<tr>
<td>Italy</td>
<td>2</td>
<td>Private hospital with clinic run by adjacent university</td>
<td>Italian</td>
<td>Italian and English</td>
<td>8 + class of student SLPs</td>
<td>2 + 1 student SLP</td>
<td>No</td>
<td>No</td>
<td>Audiologists (in same department), medical staff in hospital</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>3</td>
<td>University with student-operated clinic</td>
<td>Cantonese</td>
<td>Cantonese, English, Mandarin</td>
<td>5 + class of student SLPs</td>
<td>1</td>
<td>No</td>
<td>No</td>
<td>Physiotherapists, occupational therapists</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>4</td>
<td>International English-speaking special needs school</td>
<td>English</td>
<td>Cantonese, English, Mandarin</td>
<td>1</td>
<td>1</td>
<td>No</td>
<td>No</td>
<td>Teachers, physiotherapists, occupational therapists</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>5</td>
<td>School for the physically disabled</td>
<td>Cantonese and English</td>
<td>Cantonese, English, Mandarin</td>
<td>1</td>
<td>1</td>
<td>No</td>
<td>No</td>
<td>Social worker, teachers physiotherapists, occupational therapists</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>6</td>
<td>University based professional-operated clinic</td>
<td>Cantonese, English, Mandarin</td>
<td>Cantonese, English, Mandarin</td>
<td>8</td>
<td>2</td>
<td>Yes</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

Table 3.

*Description of sites in the Embracing Diversity – Creating Equality study*
<table>
<thead>
<tr>
<th>Country</th>
<th>No</th>
<th>Program Description</th>
<th>Language(s)</th>
<th>SLPs</th>
<th>1+ student SLPs</th>
<th>Type of Staff</th>
<th>Staff Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada 7</td>
<td>1</td>
<td>First Nations community-based service</td>
<td>English, First Nations language</td>
<td>1</td>
<td>1</td>
<td>No</td>
<td>Community nurse, educators, dentist, maternal health worker, counsellors.</td>
</tr>
<tr>
<td>Canada 8</td>
<td>1</td>
<td>Multilingual private practice clinic</td>
<td>French, English, Spanish, Greek, Italian, Arabic, Portuguese</td>
<td>1</td>
<td>1</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>United States 9</td>
<td>1</td>
<td>Bilingual university masters program for SLP students</td>
<td>English and Spanish</td>
<td>1+ student SLPs</td>
<td>1</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>United States 10</td>
<td>1</td>
<td>Bilingual pre-school</td>
<td>English and Spanish</td>
<td>2</td>
<td>1+ 1 student SLP</td>
<td>No</td>
<td>Teachers, teachers’ aides</td>
</tr>
<tr>
<td>United States 11</td>
<td>1</td>
<td>Elementary school 1</td>
<td>English and Spanish</td>
<td>1</td>
<td>1</td>
<td>No</td>
<td>Teachers, teachers’ aides</td>
</tr>
<tr>
<td>United States 12</td>
<td>1</td>
<td>Elementary school 2</td>
<td>English and Spanish</td>
<td>1</td>
<td>1 student SLP</td>
<td>No</td>
<td>Teachers, teachers’ aides</td>
</tr>
<tr>
<td>United States 13</td>
<td>1</td>
<td>School-based SLP working in elementary and high schools</td>
<td>English and Spanish</td>
<td>1</td>
<td>1</td>
<td>Yes</td>
<td>Teachers, teachers’ aides</td>
</tr>
<tr>
<td>United States 14</td>
<td>1</td>
<td>Bilingual-multicultural multidisciplinary clinic</td>
<td>English and Spanish, Navajo, Tiwa, Keres, Spanish</td>
<td>55</td>
<td>2</td>
<td>No</td>
<td>Psychologists, social workers, physiotherapists, occupational therapists</td>
</tr>
</tbody>
</table>
Approach

This study used a qualitative approach as a means of obtaining rich and broad data to investigate the complex issue of service provision to culturally and linguistically diverse children and their families. Qualitative methods enable the study of real world settings. They do not try to simplify or generalise what they observe, but rather provide opportunity for in-depth analyses that encompass the complexity of the issues they address (Leedy & Ellis Ormrod, 2001).

Data Collection

The methodology used in the Embracing Diversity – Creating Equality study was a form of ethnographic observation. Ethnography is a methodology valued by those who seek to bring about social, cultural and behavioural understanding and change (Lewis & Russell, 2011). Ethnography, in its purest form, is a methodology in which the researcher does not observe phenomena from a physical and intellectual distance, but rather immerses themselves in what they are observing over a long period of time (Willis & Trondman, 2000). The time constraints of this doctoral research did not allow for long term immersion; however, short term ethnographic observation that deviates from the strict original form still has merit as a valuable methodology for obtaining data (Lewis & Russell, 2011). Therefore, ethnography was selected to enable the observation and investigation of the practice of speech-language pathology with culturally and linguistically diverse children in the Embracing Diversity – Creating Equality study.

A key component of ethnographic research is being physically present in a culture. It is through participation in the mundane and nuanced aspects of socio-cultural life through observations, interactions, and conversations, that the researcher comes to understand what has been observed (Lewis & Russell, 2011). As such, the observations of practice undertaken in this study aimed to gain a rich and detailed understanding of
the interactions that occurred, as well as the successes and tensions experienced by the practitioners.

The researcher travelled to each of the sites over a total period of six months. The numbering of the sites indicates the order in which the sites were visited. Observations took place at each site for timeframes extending from one to ten days. The data collection procedure varied between sites according to the cultural and organisational context. For example, in more traditional, medically-based clinical contexts, such as in site 1, the researcher was a silent observer in the room. This was also influenced by the fact that sessions were conducted in Portuguese and although the researcher could follow what was happening, was unable to verbally participate. In contrast, in the private practice context of site 8, which used English in addition to a number of other languages, the researcher quickly became a participant observer, being included in games and therapy tasks. In site 4, the researcher was not present in the room at all but watched interactions from a viewing room with a double-sided window. This was done to respect the wishes of the site supervisor who did not allow visitors to enter clinic rooms with the children and their families. Some sites placed more emphasis on professional opinion than on observations and in these sites the majority of the time was spent in conversation and interviews regarding practice rather than in direct observation of sessions. This flexibility was important in keeping with the spirit of diversity and letting the participants share what they felt was most important about their practice, rather than adhering to a rigid and replicable method of collection as is often done in quantitative studies.

As part of the ethnographic design of this research a number of different forms of data were collected to richly describe practice in each of the settings (Krefting, 1991). These included: field notes, semi-structured interviews, personal reflections by the
researcher, photographs, video and artefact collection. The rationale for each of these forms of data are outlined in Table 4 and further elaborated on in Paper 6.

When collecting the data the importance of different data forms in different cultural contexts became apparent. For example, in site 7, a First Nations community in Canada, photos of the children or families were not permitted and therefore data collection at this site relied heavily on interview data and the personal reflections of the researcher to illustrate the experience of practice in this setting. On the other hand, site 8 was more focused on the researcher’s participation in therapy and hence the field notes and photographs taken in each session became an important source of data for this site.
Table 4. *Forms of data collected in the Embracing Diversity – Creating Equality Study*

<table>
<thead>
<tr>
<th>Form of data</th>
<th>Rationale</th>
<th>Number collected</th>
<th>Sites used in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field notes</td>
<td>Both formal and informal field notes were used to document observations made in each site (see Appendix of Paper 6).</td>
<td>53</td>
<td>1,2,3,4,5,6,7,8,9,10,11,13</td>
</tr>
<tr>
<td>Semi-structured</td>
<td>Interviews were undertaken with professionals to clarify and further investigate what was observed at the site. In some sites, interviews with parents and children were also used to gain their perspectives.</td>
<td>40</td>
<td>1,2,3,4,6,7,8,11,13,14</td>
</tr>
<tr>
<td>Personal reflections by the researcher</td>
<td>Reflections were written to record the researcher’s experience of being in many new cultures and to document the broader social and political contexts of the sites visited.</td>
<td>10</td>
<td>1,2,3,6,7,8,9,11,12,13</td>
</tr>
<tr>
<td>Photographs</td>
<td>Photographs provided visual representations and reminders of the physical context of sites visited. Photographs were also used to document interactions and mediating artefacts observed in the study.</td>
<td>535</td>
<td>1,2,3,4,5,6,7,8,9,10,11,12,13</td>
</tr>
<tr>
<td>Video</td>
<td>Videos were used to document practices or techniques that could not be captured with a still image, such as visual feedback therapy using an ultrasound machine.</td>
<td>38</td>
<td>1,3,6,8,13,14</td>
</tr>
<tr>
<td>Artefact collection</td>
<td>Artefacts such as copies of assessment tools and case history forms were collected to analyse typical artefacts used in certain sites.</td>
<td>9</td>
<td>2,4,7,8,14</td>
</tr>
</tbody>
</table>
**Data analysis**

The data collected in the Embracing Diversity – Creating Equality study were analysed in using the CHAT framework in NVivo9 (QSR International, 2010). NVivo is a qualitative data analysis computer software package used for working with rich text-based and/or multimedia information, where deep levels of analysis on large volumes of data are required (QSR International, 2012).

Data analysis took place in eight steps as outlined below.

1. **Data cleaning.** All data collected in the study were collated and sorted by site and type (e.g., photograph, interview transcript, field notes etc.). Photos and videos were reviewed and those not for analysis were deleted. Photo and video data were considered not for analysis if they were a duplicate or if the researcher perceived that no new or different information from that captured in other photos/videos was presented. It is acknowledged that this is an inherently subjective method of data cleaning so to reduce research bias the majority of non-duplicate data remained in the data set for analysis even if at this preliminary stage the researcher was unable to see what contribution was being made by a specific piece of data.

2. **Labelling.** All data were given a label that contained information about the source of the data and could be easily interpreted by the researcher. For example, an artefact labeled S12P23 would be interpreted as site ("S") 12 photograph ("P") 23.

3. **Confidentialising the data.** All data were reviewed and de-identified to protect the identity of the participants. For participants included in interview transcripts, pseudonyms were used instead of their names. For other participants their first initial and then M or F to indicate gender was used. Site names were replaced with site number (as indicated in Table 3) and city names were replaced with “the city”. The only people to view the raw data were the author of this thesis and her two
supervisors, all of whom had ethics approval to know the identity of sites and participants. In the findings of this study data are reported by site and not by individual participants to further protect the identity of those involved in the study. The primary contacts at each site were consulted and agreed that the reporting of site information could include the country and type of setting (as detailed in table 3).

4. **Digital uploading.** Site by site, data were uploaded into NVivo9 for analysis. Hard copy documents were scanned into the analysis software and electronic artefacts were digitally uploaded.

5. **Phase one analysis.** Each artefact (field notes, photos, interviews, etc.) was coded into the elements of CHAT to which they corresponded (i.e., object, subject, mediating artefacts, rules, community, and division of labour). Written data were coded at the sentence level to keep units of meaning together. If appropriate the same artefact of data was coded into multiple CHAT elements (Silverman, 2011). For example, the following phrase taken from field notes in site 1 “SLPs are not allowed to treat in schools but do provide advice to teachers about supporting students with additional needs” could be coded under both rules and division of labour.

6. **External validation.** A random sample of data containing each type of data collected in the study (e.g., photograph, interview transcript, field notes etc.) was given to one of the supervisors of this doctoral research for investigator triangulation (Johnson, 1997). It is acknowledged that, as with all qualitative data, the coding of the data in this study was inherently subjective given the fact that the researcher had selected and collected the data based on her own interpretation of the meaning it held about a particular site. However, the coding undertaken by the supervisor was used to gain an outside perspective on the data and other possible interpretations of how the data could be coded using the CHAT framework (Leedy & Ellis Ormrod, 2001). Coding
was similar between the two coders, with occasional variation as expected given the second coder’s lack of contextual knowledge about the collection of the data from not being present during data collection.

7. Phase two analysis. At the completion of phase one analysis the content contained within each element of CHAT was then considered individually. For example, all of the data contained within the element of ‘community’ was considered together. A thematic analysis was used to identify key concepts that arose within the text in each element of CHAT. These concepts were then triangulated by other data sources. Identified concepts were then synthesised into main themes to facilitate the reporting of data within each element.

8. Phase three (holistic systems analysis). After each CHAT element was considered individually in phase two, the activity system was then considered as a whole. This phase of analysis looked for common themes that arose across elements and the tensions that became apparent within and between sites. Similarities and differences between tensions identified were considered for practice in different sites across the world.

Tensions between findings were then considered in light of the current literature regarding practice with culturally and linguistically diverse populations to identify whether theoretical suggestions were being enacted in daily practice and how this enactment was either facilitated or inhibited by the reality of practice in these different settings. After this holistic analysis (reported in Paper 7), different themes/ideas were selected to be the foci of individual papers presented in this thesis. For example, the elements of community and division of labour are the focus of Paper 8. Elements not included in this thesis will be written
up in ongoing post-doctoral research. The following section of the thesis presents the final four papers of the thesis.

**Ethics**

The Embracing Diversity – Creating Equality study was approved by the Charles Sturt University Ethics in Human Research Committee (protocol number 2013/003).

**References**


Abstract

Qualitative research in health provides insight into the experiences, perceptions and interactions of clients, caregivers, health professionals and the broader community. In this paper, the use of ethnography is discussed as a qualitative research technique to facilitate the understanding of the practice of speech-language pathology in different cultural and linguistic contexts around the world. A description is provided of the different types of data collection methods that are employed in ethnographic research (such as observation, interviews, photography, video-recording, and personal reflection) and their usefulness in facilitating understanding of complex practice situations. Important considerations for designing and undertaking ethical and culturally appropriate qualitative research are explored and the benefits of qualitative research to the speech-language pathology profession are discussed.
Understanding the world through ethnography: The experience of speech-language pathology practice in culturally and linguistically diverse settings

Qualitative health research is a field of research which focuses on the experiences, perceptions and interactions of clients, caregivers, health professionals and the broader community (Morse, 2011). Qualitative health research acknowledges that there are different ways of viewing the world. In qualitative research the key to enhancing understanding is not to reduce research findings to figures or statistics, but to expand knowledge by considering multiple viewpoints. In essence, qualitative research adds ‘flesh to the bones’ of understanding provided by quantitative research. Qualitative methods first appeared in health contexts in the form of ethnographic studies of practices in the 1950s (Morse, 2011). Since then, ethnography has been used to study practice in a number of health care fields such as nursing and medicine (for example Antrobus & Kitson, 1999; Carroll, Iedema, & Kerridge, 2008).

Ethnography

Ethnography is a type of qualitative research, which involves the study of people in naturally occurring settings through observation and data collection methods which capture ordinary activities and their social meanings. Social scientists use these observations to write ethnographies. The word ethnograph simply means folk (ethno) and writing (graph). Therefore, ethnography is the social science of writing about particular folk and the activities they undertake.

The aim of ethnographic research is to “try to get inside the fabric of everyday life” (Silverman, 2011, p. 113). Ethnographic observation differs from other forms of data collection in that the researcher must enter the field and be physically present in the activity that they are trying to study (Eberle & Maeder, 2011). In entering the field they experience “the architecture, the furniture, the spatial arrangements, the ways people work and interact,
the documents they produce and use, the contents of their communication, the timeframe of social processes and so on” (Eberle & Maeder, 2011, p. 54). Being present in the field allows real time experience and interpretation of events in a way that reflections, interviews and second-hand accounts do not.

In ethnographic research the emphasis is typically placed on exploring and understanding the nature of a particular social phenomena (for instance, the practice of speech-language pathology in culturally and linguistically diverse contexts) rather than testing a specific hypothesis developed by the researcher (Atkinson & Hammersley, 1994). Ethnographic research usually involves studying a small number of cases in great detail, rather than seeking the breadth of a large number of cases or representative sample as is common in quantitative research (Atkinson & Hammersley, 1994). The product of ethnographic research is usually presented in the form of written descriptions and explanations of the meaning of human activity rather than quantifiable results (Atkinson & Hammersley, 1994).

There are a number of key elements to effective ethnographic research: observation, description, contextualism, process, and flexible research designs (Bryman, 1988, see Box 1).

<table>
<thead>
<tr>
<th>Box 1. Key elements of ethnographic observation (adapted from Bryman, 1988, pp. 61-66)</th>
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</thead>
<tbody>
<tr>
<td>1. Observation – seeing activities and interactions through the eyes of the participants</td>
</tr>
<tr>
<td>2. Description – paying close attention to the smallest detail to uncover deeper understandings and inferences</td>
</tr>
<tr>
<td>3. Contextualism – understanding events as they are situated in their broader physical, social, political and historical context.</td>
</tr>
<tr>
<td>4. Process – viewing activity as a series of interlocking events</td>
</tr>
</tbody>
</table>
5. Flexible research designs – being open to coming across unexpected issues rather than adhering to prescribed methods

Achieving the key elements of effective ethnographic research can be assisted by using various forms of data collection which together provide multiple viewpoints of the research site. By shadowing participants and taking field notes the researcher is trying to see through the participant’s eyes, but at the same time it is important not to assume what participants are thinking or feeling based upon observations. This is why accompanying field notes with interviews can help to clarify what was observed and add information about how participants felt and what their intentions and motivations were during observed sessions.

The essence of ethnography is to describe the details of mundane activities in everyday settings and to find the extraordinary among the ordinary (Silverman, 2011). Therefore, careful description and attention to detail is essential (Bryman, 1988). It can be easy to overlook or feel it is unnecessary to document certain elements of a setting if they seem familiar or un-noteworthy to the researcher. However, detail is the key to effectively capturing the true nature of what is being observed and understanding the complexities of a research site. For this purpose, the use of photographs and audiovisual data can be particularly useful in capturing detail that may be missed in other forms of data.

All activity must be situated in a context in order for it to be interpreted and understood. This is referred to as contextualism (Bryman, 1988). Multiple forms of data can be used to assist in capturing the context of a research site. One particularly useful tool is the writing of personal reflections by the researcher. This enables a description of the social, political, physical and organisational context (as experienced by the researcher) within which the research site is located.

**Undertaking ethnographic research**
Silverman (2011) outlines four main components for undertaking ethnographic research in order to achieve the key elements outlined by Bryman (1988):

1. Defining the research problem
2. Adopting a theoretical orientation
3. Using rigorous methods to collect data
4. Using rigorous methods to analyse data

In the following sections, the enactment of these four elements is described and examples of each are provided from an ethnographic study entitled “Embracing Diversity – Creating Equality” a multi-site study of speech-language pathology practice in different cultural and linguistic contexts around the world undertaken by the current author.

**Defining the research problem.**

A research problem may be identified either through professional experience or through a review of the literature. Both of these elements played a key role in defining the research problem that initiated the *Embracing Diversity – Creating Equality* study. Firstly, the motivation to undertake this research was instigated through personal and professional experiences of people with communication needs in culturally and linguistically diverse settings in Australia, Vietnam and the United Kingdom. Secondly, the need for this research was highlighted by a review of the literature in this field which consistently identified speech-language pathologists’ (SLPs’) challenges when working with people from culturally and linguistically diverse backgrounds (Caesar & Kohler, 2007; Stow & Dodd, 2003; Williams & McLeod, 2012) but provided limited practical examples and suggestions for modifying practice to facilitate optimal engagement with this population. The inability of existing literature to inform the complexities of practice with people from culturally and linguistically diverse backgrounds highlighted the need for a new approach to research in this field.

Ethnography was selected as the most appropriate research method to address the research
problem identified in the *Embracing Diversity – Creating Equality* study given its historical use in the understanding of cultural diversity and its potential to provide insight into complex everyday activities.

**Adopting a theoretical orientation.**

The use of a theoretical lens aids in providing a scaffold for interpreting and making sense of the large amounts of qualitative data collected during ethnographic research. In the *Embracing Diversity – Creating Equality* study, Cultural Historical Activity Theory (CHAT) (Engeström, 1987) was used as the theoretical framework for interpreting and analysing the data collected. CHAT is a practice-based approach to academic inquiry that acknowledges the complexity of human activity systems and provides a framework for analysing and understanding these complexities. CHAT divides the practice into a number of elements: object, subject, mediating artifacts, rules, community and division of labour (see Figure 1). Together these elements form an activity system that is working towards a desired outcome. The application of CHAT to SLPs’ practice with culturally and linguistically diverse children is outlined in detail in a paper by Verdon, McLeod, and Wong (2014).

Using rigorous methods to collect data.

The first step in ensuring rigorous data collection methods is to consider the ethical issues that may arise through the research. It is essential that research is approved by the ethics committee of the host university or organisation. Such organisations will outline the types of risks to be aware of and important considerations for minimising potential harm and maximising benefit to the participants and the field being studied. For example, the Embracing Diversity – Creating Equality study involved working with both children and participants who did not speak English as their primary language and therefore a number of strategies were put into place to ensure that informed consent could be obtained and that methods of data collection were culturally safe and appropriate. One strategy for safeguarding participants was providing the opportunity to have information and consent forms interpreted in their primary language. Additionally, it was important to allow for variation in data collection methods. Participants were given the option to only participate in aspects of the study in which they felt comfortable. Participants were free to withhold consent for any aspect of the study such as interviews and the taking of photographs.

Conducting rigorous data collection during an ethnographic study often involves collecting various types of data including, but not limited to, fieldnotes, interviews, audiovisual data and personal reflections. Each type of data fulfills a different purpose and has a unique ability to add to the larger picture of what is being described and experienced by the researcher.

Fieldnotes.

Fieldnotes are a vital part of ethnographic research (Wolfinger, 2002). During ethnographic observation, the researcher determines what aspects of an observed site are considered worthy of documentation (Wolfinger, 2002). Therefore, structured fieldnotes can be useful in guiding the research to ensure that the information recorded is consistent between
sites while also allowing for the diversity of each site to be documented. In the *Embracing Diversity – Creating Equality* study, observations were recorded using both structured fieldnotes (which were designed to facilitate identification of certain elements of CHAT within sites), as well as unstructured fieldnotes that were written incidentally to document events that took place. Structured fieldnotes were useful in ensuring that basic descriptive information was gathered about each observed site, such as the physical context and setting, while also allowing space for free text observations of the session (see Appendix A).

**Semi-structured interviews.**

Semi-structured interviews are used to guide conversations with participants by using open-ended questions to explore the participants’ experiences and attitudes and to allow for clarification and discussion of the activities that have been observed (Al-Busaidi, 2008). In the *Embracing Diversity – Creating Equality* study semi-structured interviews were used to gain insights regarding practice from multiple viewpoints (SLPs, parents and children) about their experiences of speech-language pathology. For the purpose of ensuring accurate recollection and analysis of data obtained during interviews, each was audio-recorded and transcribed. To ensure rigour in this form of data collection transcripts were sent back to the participants, where possible, to gain their approval of the content and ensure that their meaning was clearly expressed in the transcript. This is known as member checking (Irvine, Roberts & Bradbury-Jones, 2008).

Both sources (the audio and the written transcript) should be used in conjunction when reviewing and analysing data because the audio-recorded version contains non-verbal aspects of the interaction such as hesitations and tone of voice, which can be very useful in understanding the meaning of spoken utterances. For example, in the *Embracing Diversity – Creating Equality* study one participant described a child’s linguistic competence by saying: “it’s so ridiculous”. This could be interpreted with a negative connotation if the words were
only read. However, when listening to the audio recording it is clear that the participant is laughing at the interesting patterns of code switching that occur in their interactions. Therefore, the additional information provided by the audio recording changed the way this utterance was interpreted by the researcher.

**Photography.**

The use of photography in data collection stems from anthropology, where images were initially used to enhance the sharing of the researcher’s experiences of other cultures and communities (Bateson & Mead, 1942). Photographs are useful in providing an added dimension to data about cultures, activities, people, or experiences that are otherwise inaccessible or difficult to share and describe through other means such as the written word (Grbich, 1999). Photographs can contribute both subjective and objective data. Photographs should be used as data which are “one-off, context bound images” (Grbich, 1999, p. 137) and open to interpretation. In the *Embracing Diversity – Creating Equality* study, the use of photographs allowed for observations of similarities and differences between aspects of sites, countries, and continents such as the clinic room set up, resources, tools for assessment, uniforms and so on. For example Figures 2a and 2b are photographs of clinician’s resource cupboards, one from Asia and one from North America. It can be seen that these were remarkably similar between the two sites. On the other hand the differences between sites were also made apparent through the use of photographs. For example, uniforms worn between sites varied greatly with an SLP from Europe wearing a scrubs-like hospital uniform (Figure 3a), an SLP from South America wearing a lab coat (Figure 3b) and the SLP from Asia wearing professional plain clothes (Figure 3c).
**Video.**

Video data enables experiences to be re-lived and shared with others. Video data are useful in accounting for both the verbal and non-verbal aspects of communication that may not be able to be conveyed through transcripts of audio recordings or through still photographic images (Grbich, 1999). In the *Embracing Diversity – Creating Equality* study video data were used to document therapy techniques used by SLPs. Video data were useful in capturing the complexity of such interactions. For example, the use of ultrasound technology with a child during one session was recorded to show how the technology worked and how
the SLP interacted with the child and the technology to provide instruction and feedback on therapy targets.

**Personal reflections.**

Personal reflections provide important insight into how the researcher thinks, feels and acts. This is important given that qualitative data are collected, interpreted and reported using the lens of the researcher (Grbich, 1999). Writing personal reflections enables researchers to be critically reflective of their experiences and processes in data collection. In the *Embracing Diversity – Creating Equality* study personal reflections were used to capture the researcher’s internal experiences of being exposed to such culturally and linguistically diverse situations. These documents proved to be useful as they captured the “culture shock” that is often forgotten after being immersed in a new setting after a period of time. The following quote is an example of a personal reflection, which describes the experience of walking through the streets in the location of one of the research sites:

> People lay sick and crying in the streets, some had even passed out in the heat with no one to give them medical care. During the day felt quite safe but it was frightening to go out at night ...

Such reflections provided insight into the broader context of the research sites which could not be captured through documentation of the clinical setting alone.

**Using rigorous methods to analyse data.**

Qualitative data analysis is scaffolded and underpinned by the use of a theoretical lens or framework. There are countless theories which have been applied to the study of practice. Each theoretical lens allows the data to be viewed from a different perspective with a common purpose, that is, to gain an understanding of what has been observed. In the *Embracing Diversity – Creating Equality* study one such theory, CHAT, was used as an analytical framework for interpreting the collected data. Using the framework, data were
coded and organised into one or more of these six elements of CHAT (i.e. object, subject, mediating artifact, rules, community and division of labour). The data contained within each element were then considered and main themes arising within each element were identified using grounded theory. The themes identified within each element were then considered individually as well as collectively to create an understanding of the interconnected nature of all things occurring in the activity system and how they work with or against each other. Understanding the barriers and facilitators to practice can be used to identify possible means to address the challenges identified within the activity system to improve practice.

A number of different tools can be used to assist in the analysis of qualitative data. These tools help with organising and coding large quantities of data into to make sense of what has been observed and collected. In particular, computer-assisted qualitative data analysis software (Silverman, 2011) is often used to facilitate the analysis of qualitative data. In the Embracing Diversity – Creating Equality study, NVivo 9 software (QSR International, 2009) was used as an organisational tool to assist in the analysis of interview transcripts, field notes, photographs, video recordings, and personal reflections. This software enabled the systematic coding of all data forms into the six elements of CHAT. Some data were assigned to more than one category if appropriate. Coding allowed for the identification of themes arising in the data and a synthesis of similarities and differences in speech-language pathology practices around the world, which will form the findings of the Embracing Diversity – Creating Equality study (forthcoming). It is hoped that the results of this study will generate new insights for engaging in culturally appropriate practice in speech-language pathology and pave the way for such methodologies to be used more broadly to address other areas of need in the profession.
Important considerations when undertaking qualitative research

There are a number of important considerations for those attempting to engage in qualitative research for the first time. The most important aspect of qualitative research to be acknowledged is its inherently subjective nature. All experiences, as well as the interpretation and reporting of data, are undertaken through the lens of the researcher and their personal, social, and cultural context. While some objective data are collected (such as photographs of the physical setting), the interpretation of what this means and how it impacts upon the activity being observed is subjective and constructed through the lens of the researcher and the theoretical framework that they are applying to the research (Silverman, 2011). This can be confronting for researchers who are used to searching for one ‘truth’ or ‘fact’ using quantitative research. However, the very nature of qualitative research is to seek experiences and understandings of the world through multiple viewpoints, so this subjectivity is not considered a limitation.

The use of theories to underpin research design and interpretation can be a foreign concept when coming from a quantitative research background. Practitioners and researchers who are unfamiliar with theories may think they do not have a theoretical perspective. However, the motivation to undertake research is often driven by a theoretical perspective, even if it is unbeknownst to the researcher. For example, in the case of the Embracing Diversity – Creating Equality study, the motivation to undertake the research was driven by the theoretical perspective that all children deserve equal access to, and benefit from, services regardless of their cultural or linguistic background. This perspective informed the development, implementation and interpretation of the research. After some reading and conversations with others in the field using qualitative research, CHAT was selected as the appropriate framework to structure the study. This theoretical perspective acknowledges the
complex and diverse nature of practice and the impact of cultural and historical context upon human activity.

Another important aspect of qualitative research is that research methods must be flexible (Bryman, 1988). This can be a challenging paradigm shift from quantitative research which emphasises that uniformity and replicability are key elements of a rigorous research design. However, flexibility can be key to capturing the true nature of a research site which may not otherwise be discovered if the researcher maintains a strict regime of data collection methods. This was especially true in the Embracing Diversity – Creating Equality study as it would have been in contradiction to the whole concept of the research, which focused on “embracing diversity” to keep the methodology the same in all contexts when at times it was culturally inappropriate to do so. For example, the initial intention was only to observe practice in the research site, but the presence of the researcher in the room and the fact that the researcher was an “insider” in the world of speech-language pathology meant that on many occasions in different cultural contexts it was necessary to become a participant observer. In these situations the role of participant observer was taken on by the researcher to work with the natural flow of the session rather than against it, meaning that distance as simply an observer was unable to be maintained. Either choice by the researcher in such a situation would have impacted on the session. If participation was refused it may have appeared rude, culturally inappropriate or have impacted on rapport and relationship with the participants. Conversely, choosing to participate in the activity inevitably changed the very nature of the activity being studied. Research flexibility was also required when data collection was unable to be carried out in exactly the same manner in each site. This was because at some sites it did not seem culturally or contextually appropriate to conduct some forms of data collection. For example, conducting interviews with parents and children was not always appropriate when a language barrier was present or when trust had not been
established due to a shortage of time at some sites. These examples demonstrate that the nature of qualitative research does not allow researchers to control for unpredicted variables in the way that quantitative clinical trials are controlled. Rather qualitative research provides a more accurate reflection of real life situations, which are neither predictable nor controlled. This means researchers must adapt to fit the reality of the situation, rather than trying to make it fit pre-determined research goals or outcomes. Rather than a limitation, this could be argued as a strength of qualitative research.

Benefits of qualitative approaches to research

Qualitative approaches to research have the potential to empower researchers to work in different ways to create new understandings of both professional and client/participant experiences of care. By allowing insight into multiple viewpoints, qualitative research can identify potential opportunities to optimise these experiences. Practitioners and researchers alike have the opportunity to employ qualitative techniques such as those outlined in the current paper. The key to effectively utilising qualitative research in health and education settings is to think critically and reflectively about practice with clients and their families to support the best possible outcomes for people with communication needs.

References


Appendix A. Data Collection Record Form

Celebrating and supporting cultural and linguistic diversity in the provision of services for multilingual children with speech sound disorders

Setting: ________________________________
Day/date: ________________________________
Professional participant: ________________________________
Child participant: ________________________________
Family/others present: ________________________________

Environment/setting description

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
<th>Supporting documents/data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inside</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(group/common area)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inside (individual therapy/work room)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisational</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Activity description – Cultural Historical Activity Theory framework

<table>
<thead>
<tr>
<th>Time</th>
<th>People</th>
<th>Setting</th>
<th>Activity</th>
<th>Tools used</th>
<th>Object of activity</th>
<th>Supporting artefacts</th>
</tr>
</thead>
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<td></td>
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</table>

Field notes – observations

__________________________________________________________________________

Anything especially innovative, interesting, or important?

__________________________________________________________________________

Reflections

__________________________________________________________________________

To do for next visit?

__________________________________________________________________________

*Supporting culturally and linguistically diverse children with speech, language, and communication needs: Overarching principles, individual approaches.*

Manuscript submitted for publication.
Abstract

Speech-language pathologists (SLPs) are working with an increasing number of families from culturally and linguistically diverse backgrounds as the world’s population continues to become more internationally mobile. The heterogeneity of these diverse populations makes it impossible to identify and document a one size fits all strategy for working with culturally and linguistically diverse families. This paper explores approaches to practice by SLPs identified as specialising in multilingual and multicultural practice in culturally and linguistically diverse contexts from around the world. Data were obtained from ethnographic observation of 14 sites in 5 countries on 4 continents. The sites included hospital settings, university clinics, school-based settings, private practices and Indigenous community-based services. There were 652 individual artefacts collected from the sites which included interview transcripts, photographs, videos, narrative reflections, informal and formal field notes. The data were analysed using Cultural-Historical Activity Theory (Engeström, 1987). From the analysis six overarching principles were identified as being integral to culturally competent practice with culturally and linguistically diverse populations. These were: (1) identification of culturally appropriate and mutually motivating therapy goals, (2) knowledge of languages and culture, (3) use of culturally appropriate resources, (4) consideration of the cultural, social and political context, (5) consultation with families and communities, and (6) collaboration between professionals. These overarching principles align with the six position statements developed by the International Expert Panel on Multilingual Children’s Speech (2012) which aim to enhance the cultural competence of speech pathologists and their practice. The international examples provided in the current study demonstrate the individualised ways that these overarching principles are enacted in a range of different organisational, social, cultural and political contexts.
Tensions experienced in enacting the principles are also discussed. This paper emphasises the potential for individual SLPs to enhance their practice by adopting these overarching principles to support the individual children and families in diverse contexts around the world.

Keywords: practice, multilingual, cultural and linguistic diversity, cultural competence
1. Introduction

In the field of speech-language pathology the need to engage in culturally competent practice with children and families from culturally and linguistically diverse backgrounds is identified in a number of key professional documents (e.g., American Speech-Language-Hearing Association, ASHA, 2004a; Canadian Association of Speech-Language Pathologists and Audiologists, 1997; International Association of Logopedics and Phoniatrics, 2011; International Expert Panel on Multilingual Children’s Speech, 2012; Speech Pathology Australia, 2009). Culturally competent practice “acknowledges and incorporates—at all levels—the importance of culture, assessment of cross-cultural relations, vigilance toward the dynamics that result from cultural differences, expansion of cultural knowledge, and adaptation of services to meet culturally unique needs” (Betancourt, Green, Carrillo & Ananeh-Firempong, 2003, p. 294).

In this paper the term “culturally and linguistically diverse” is used to refer to children and families who are not of the dominant language and cultural background of the broader social context in which they reside, as well as children and families with multiple linguistic and cultural influences. The many challenges that speech-language pathologists (SLPs) face in the provision of services to culturally and linguistically diverse populations have been documented extensively. These include lack of: culturally appropriate tools for assessment; developmental norms for linguistically diverse populations; service provision in children’s primary languages; professional support and training for working with families from different cultural backgrounds, and sufficient time to undertake additional elements of practice recommended for working with diverse families (Caesar & Kohler, 2007; Guiberson & Atkins, 2012; Jordaan, 2008; Kritikos, 2003; McLeod & Baker, 2014; Pascoe & Norman, 2011; Peña &
Iglesias, 1992; Stow & Dodd, 2003; Williams & McLeod, 2012). However, limited data have been published regarding practical approaches for overcoming these challenges.

Often in the field of speech-language pathology professionals are directed towards a gold standard method of enacting practice for certain groups of patients or disorders (Dollaghan, 2004). The trouble with identifying and implementing one gold standard approach to practice with culturally and linguistically diverse populations is that it tends to lead to homogenising practices based on the dominant culture and fails to acknowledge the complexity, variation and strengths that exist among the individuals and families that SLPs serve (Verdon, McLeod, & Wong, 2015). Therefore, rather than advocating for a standard one size fits all model of best practice, this paper proposes a set of six key overarching principles that provide guidance to SLPs for achieving a high standard of cultural competence in their practice. A principles-based approach is used to guide practice in a number of fields including speech-language pathology, education, and nursing (e.g., Hatfield, 1995; Royal College of Nursing, 2014; Speech Pathology Australia, 2014). The current paper identifies principles for embracing and supporting culturally and linguistically diverse families that can be applied to all clients, given that every family has their own unique cultural influences. This paper draws upon international examples to illustrate individual approaches to applying these overarching principles as undertaken by SLPs in multilingual and multicultural practice in diverse contexts around the globe.

1.1 Children’s speech and language development

The development of functional speech, language and communication skills is an essential component of childhood and lays the foundation for lifelong autonomy and participation in society (McCormack, McLeod, McAllister, & Harrison, 2009; Stothard,
Snowling, Bishop, Chipchase, & Kaplan, 1998). Therefore, it is important that children receive rich exposure and support to develop competency in the language(s) they speak.

1.1.1 Language, culture and identity

With increased mobility of people between countries over the last few decades, cultural and linguistic diversity has become a common feature of many societies around the world (Hugo, 2004; Ottaviano & Peri, 2006). The United Nations’ Global Commission on International Migration found that in 2005 there were almost 200 million international migrants around the world, as compared with 82 million in 1970 (Global Commission on International Migration, 2005). Many children considered to be culturally and linguistically diverse come from migrant families. This includes both new migrants as well as families and communities who may have migrated to a country a number of generations ago. Migration may result from forced relocation, due to war or natural disaster, or the voluntary relocation of families seeking better social or economic opportunities in a new country. In the process of migrating to a new country, families are faced with complex issues such as loss of identity, loss of status and loss of connection to family and community (Wong Fillmore, 1991). One key way that migrant families maintain a connection to their home country and identity is through the preservation of language and culture. Similarly, the preservation and continuation of identity among Indigenous people whose lands have been colonised is supported by maintenance of culture and language (Williams, 2013). Therefore supporting children’s cultural and linguistic diversity during the development of their speech, language and communication is integral to developing their sense of self and cultural identity (Park & Sarkar, 2007; Puig, 2010).

Parents and professionals alike often find it difficult to create balance between what is perceived as necessary acculturation to the dominant context (including
understanding of the dominant culture and mastery of the dominant language) and the preservation of families’ own language and culture. It has long been recognised that when two or more cultures interact on a regular basis, attributes from each culture will be adopted and in turn the original cultures themselves will be impacted by such interactions (Redfield, Linton, & Herskovits, 1936). It is essential that the process of acculturation, that is, the process of acquiring a second culture, is not confused with assimilation, that is, the process of replacing one's first culture with a second culture (Berry, 2005). Therefore, dialogue, understanding, and collaboration between all parties involved in children’s development (including teachers, parents, SLPs, and the children themselves) is necessary to identify goals for children that will allow children to maximise their participation in multiple cultural spaces, in both the academic and social domains.

1.1.2 Children with speech, language and communication needs

Supporting children to become competent communicators can be complicated when children have speech, language and communication needs. Aside from the many challenges documented from SLPs’ perspectives as previously mentioned, there are also issues that arise as a result of different cultural views, explanatory models and interpretations of disability (Nuckolls, 1991; Vukic, Gregory, Martin-Misener & Etowa, 2011). For example, the use of diagnostic labels (such as speech and/or language disorder) is common in western cultures but may be inappropriate in some cultures and have a negative impact on SLPs’ ability to build rapport with families and develop mutually motivating goals for assisting children’s speech, language and communication development (Zeidler, 2011). Therefore, it is necessary for SLPs to engage in culturally competent practice (Westby, 2009).

1.2 Culturally competent practice
Intervention in itself has no inherent value if it is not relevant to the person receiving the intervention and their functional participation in their own lives. In order for practice to be relevant and culturally competent it is essential that individual children are viewed in an holistic manner. This is done by considering their broader social and cultural context as well as environmental and personal factors that influence their functioning and participation in society. Verdon et al. (2015) drew upon the knowledge and experience of international experts to describe aspirations and recommendations for reconceptualising culturally competent practice in speech-language pathology. These recommendations called for the expansion of current practice to include: (1) SLPs being aware of cultural and linguistic influences in children’s lives in order to undertake appropriate and accurate assessments of children’s strengths and needs; (2) using multiple data sources to draw appropriate conclusions about whether a speech, language or communication issue is present; (3) identifying the impact of such an issue on children’s daily lives; and (4) consulting appropriate collaborators (such as parents and teachers) to identify and implement appropriate strategies to support children’s development and increase their capacity in their daily functioning. Supporting holistic practice through the application of these recommendations can help to ensure that intervention is relevant to the individual and facilitates their optimal participation in daily life.

1.3.1 Initiatives towards culturally competent practice

A number of initiatives towards promoting culturally competent practice are being undertaken worldwide in the field of speech-language pathology. Some of these initiatives include: (1) the development of assessment tools in multiple languages so that children can be assessed in their own primary language and not just the language(s) in which the SLP is fluent (see Bernhardt & Stemberger, 2015; McLeod & Verdon,
(2014); (2) alternative approaches to assessment including dynamic assessment (Lidz & Peña, 1996) and parental or adult target contrastive analysis (McGregor, Williams, Hearst, & Johnson, 1997), and (3) specialist speech-language pathology university programs dedicated to multilingual and multicultural practice.

A number of online resources have also been developed to support SLPs in their practice with multilingual children. These include: screening tools in multiple languages to identify whether a comprehensive assessment of a child’s communication may be needed (McLeod, 2012; Paradis, Emmerzael, & Duncan, 2010) and downloadable information about the components and structure of languages to aid in SLPs’ differential diagnosis between a genuine speech, language or communication difficulty and a language difference resulting from multiple linguistic influences in a child’s communication (McLeod, 2012).

In 2012 the International Expert Panel on Multilingual Children’s Speech developed a position paper to guide practice for SLPs working with culturally and linguistically diverse children (McLeod, Verdon, Bowen, & the International Expert Panel on Multilingual Children’s Speech, 2013) and six key position statements regarding practice were made (see box 1).
Box 1 - International Expert Panel on Multilingual Children’s Speech

Position Statement (2012, p. 2) Reproduced with permission from the authors

1. Children are supported to communicate effectively and intelligibly in the languages spoken within their families and communities, in the context of developing their cultural identities.

2. Children are entitled to professional speech and language assessment and intervention services that acknowledge and respect their existing competencies, cultural heritage, and histories. Such assessment and intervention should be based on the best available evidence.

3. SLPs aspire to be culturally competent and to work in culturally safe ways.

4. SLPs aspire to develop partnerships with families, communities, interpreters, and other health and education professionals to promote strong and supportive communicative environments.

5. SLPs generate and share knowledge, resources, and evidence nationally and internationally to facilitate the understanding of cultural and linguistic diversity that will support multilingual children’s speech acquisition and communicative competence.

6. Governments, policy makers, and employers acknowledge and support the need for culturally competent and safe practices and equip SLPs with additional time, funding, and resources in order to provide equitable services for multilingual children.

The position statements used the International Classification of Functioning, Disability and Health: Children and Youth Version (ICF-CY, World Health Organization, 2007) to ensure consideration of the breadth of knowledge, skills, and responsibilities required for engaging in culturally competent practice which holistically considers children’s functioning and participation in context.

1.3 Professional knowledge as evidence-based practice
The current paper aims to move beyond the identification of aspirations and recommendations for practice, by describing the state of the art in terms of practices that are currently being undertaken by SLPs in a diverse range of real world contexts to support the speech, language and communication needs of culturally and linguistically diverse children. A focus on documenting professional knowledge is consistent with the American Speech-Language-Hearing Association (2004b) definition of evidence-based practice, of which clinical expertise comprises one of three components, with the other two being external scientific evidence and client perspectives. A study by McCurtin (2012) found limited evidence to suggest that SLPs’ practice reflects scientific approaches documented in the literature. Rather, it was found that in reality “evidence-based practice” in speech-language pathology is involves scientific experimentation and adaptation of approaches to intervention based upon population-specific experiences to allow for the construction of individually appropriate interventions. Therefore, in lieu of a substantial body of scientific evidence to direct practice in this field (for example, developmental norms for multilingual children upon which to base a differential diagnosis), this paper offers an holistic overview of professional knowledge that can provide an evidence base against which SLPs and other professionals in the field can consider their own practice.

1.4 Aims of this research

The aim of this paper is to use an holistic system-based approach to the analysis of SLPs’ practice in culturally and linguistically diverse contexts to answer the following research questions:

1. How do SLPs in multicultural and multilingual practice support culturally and linguistically diverse children with communication needs?
2. How do SLPs in multicultural and multilingual practice develop, maintain and demonstrate cultural competence in their practice with culturally and linguistically diverse children and their families?

This paper draws upon data obtained through ethnographic observation of 14 international sites identified as engaging in multilingual and multicultural practice with children with speech, language and communication needs and their families, to identify and describe approaches to culturally competent practice.

1.5 Theoretical orientation

The majority of existing papers documenting practice with culturally and linguistically diverse children have described practice from the perspectives of individual SLPs, with data collected largely via questionnaires (e.g., Guiberson & Atkins, 2012; Jordaan, 2008; Williams & McLeod, 2012). The current paper takes a different approach to understanding practice and identifying opportunities to improve the cultural competence of practice. It does this by conceptualising SLPs’ practice with culturally and linguistically diverse children as a complex, multifaceted and dialectal system. By using the system of practice as the unit of analysis rather than individual SLPs, the complexity of practice and the numerous factors which impact upon SLPs’ actions within the system can be identified, described and discussed (Yamagata-Lynch, 2010).

To undertake analysis of SLPs’ practice with culturally and linguistically diverse children Cultural-Historical Activity Theory (CHAT, Engeström, 1987) was adopted as the heuristic framework for this study. A detailed explanation of CHAT and its application to the speech-language pathology profession are provided in a paper by Verdon et al. (2015). To summarise, CHAT is a practice-based approach to academic inquiry that conceptualises practice as occurring within a social, cultural and historically
situated activity system and seeks to facilitate understanding of the activity system (Foot, 2011). It was developed on the basis of Vygotsky’s model of mediated action, and was expanded to include all aspects of an activity system by Engeström (1987, see Figure 1).

![Figure 1: Cultural-Historical Activity Theory. Reproduced with permission from page 78 of Engeström, Y. (1987). Learning by expanding: An activity-theoretical approach. Helsinki, Finland: Orienta-Konsultit.](image)

CHAT provides a framework for considering all the interacting elements of an activity system. These elements are identified as the: object, subject, mediating artefacts\(^{16}\), rules, community and division of labour. Together these elements form the activity system that is working towards a desired outcome. Using the CHAT framework facilitates understanding of the individual elements, identification of tensions between elements, and possible means for resolving tensions to improve practice within the activity system. An explanation of each of the CHAT elements and one example of their presentation in the current study are outlined in Table 1.

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\(^{16}\) In this article the word “artefact” is used for three individual purposes. The word artefact is used to describe the data that were obtained from sites in varying forms (e.g., video, field notes and photographic data), artefact is also used in reference to materials that were collected from site for analysis (e.g., an assessment or case history form) and thirdly the word artefact is used in Cultural-Historical Activity Theory analysis to describe tools or materials that are used to mediate an activity.
Table 1.

**Definitions of the individual elements which comprise Cultural-Historical Activity Theory**

<table>
<thead>
<tr>
<th>CHAT Element</th>
<th>Definition and example from the current study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome</strong></td>
<td>Every activity system is working towards the attainment of an outcome. Example in this study: A desired outcome is for children to competently and effectively communicate to participate in society.</td>
</tr>
<tr>
<td><strong>Object</strong></td>
<td>The object or goal is the motivation for individuals to engage in an activity. Example in this study: An object would be for a child to correctly produce a target phoneme.</td>
</tr>
<tr>
<td><strong>Subject</strong></td>
<td>The subject is the person undertaking the action, motivated by the attainment of the object. Incorporated in the subject are his/her history, beliefs, knowledge, skills, and capacity to engage in the activity. Example in this study: One subject is the SLP working towards the object of supporting children’s speech production.</td>
</tr>
<tr>
<td><strong>Mediating artefact</strong></td>
<td>A mediating artefact is a tool used by the subject to work towards attaining the object. Mediating artefacts can be physical (such as assessment tools or therapy resources) or non-physical (such as language or knowledge). Example in this study: The use of an ultrasound machine to assess the speech production of a child.</td>
</tr>
<tr>
<td><strong>Rules</strong></td>
<td>Rules are any formal/informal principles or procedures by which an activity is governed. These include policies, social conventions, or organisational procedures that regulate the subject’s actions toward an object, and relations with other participants in the activity. Example in this study: A policy that prohibits the use of languages other than English in educational contexts.</td>
</tr>
<tr>
<td><strong>Community</strong></td>
<td>The community refers to the social context or group to which the people in the activity system belong. Example in this study: An Indigenous community in which children and families live.</td>
</tr>
<tr>
<td><strong>Division of labour</strong></td>
<td>The division of labour refers to the assignment of roles among people within the activity system. Example in this study: The SLP training parents to support communication in the clinic and parents implementing the strategies with children in the home environment.</td>
</tr>
</tbody>
</table>

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17 Based on Engeström (1987); Foot (2001); Yamagata-Lynch (2007); Yamagata-Lynch (2010).
2. Method

This research project was approved by the Charles Sturt University Ethics in Human Research Committee, protocol number 2013/003. Site managers were also contacted and provided with detailed information about the study prior to data collection to ensure that the project met the ethics requirements of individual sites. Where necessary, additional ethics forms were completed in order to comply with the policy of individual sites.

2.1 Recruitment of sites

For the purpose of this study, data collection and the reporting of data are organised by sites. Sites for the study were recruited using two methods:

1. Sites operated by experienced and knowledgeable professionals in the area of multilingual and multicultural practice in speech-language pathology were identified based on their publications in the field and were contacted both in person at conferences and via email.

2. Professional networks (e.g., recommendations from known experts in the field, professional online forums and speech-language pathology association bulletins) were also used to seek nomination of sites that engage in high quality multilingual and multicultural practice. This second method was used to ensure that practice-based professionals who had not published in the field were also given the opportunity to participate in the study.

A requirement for recruitment was that at least one professional in each of the sites was fluent in English to allow for communication with the first author during data collection. SLPs from eight sites in five different countries agreed to participate in the study using the first mode of recruitment. Some of these SLPs worked closely with other sites recognised as being experienced and knowledgeable in the area of
multilingual and multicultural practice and through these professional networks (the second mode of recruitment) an additional six sites were recruited to be part of the study.

2.11 Sites

In total, 14 sites were recruited to the study. The sites were located in Brazil (1), Canada (2), Hong Kong (4), Italy (1), and the US (6). The primary contact in each site was an SLP. In some sites services were provided by one SLP while others worked in a team of SLPs and other health and education professionals. Once the sites had been recruited, individual participants were recruited including professionals, family members and children who were present at the site at the same time as the first author. Consent was obtained using a series of information sheets and consent forms specifically designed for each type of participant (e.g. professional, family members etc.). These forms detailed the nature of the study and what participation in the study would involve. If necessary, consent forms were translated for participants. For children, a separate, child-friendly information and assent form was used to give children the opportunity to choose whether or not they would like to participate. At times, the participation of some family members and children was not considered culturally appropriate. For example, it was not always possible to gain consent or conduct interviews with family members and children when a language barrier was present and no interpreter was available, or if trust and rapport had not been established between the first author and the family.

In many of the sites English was not the first language of the professionals or the families they worked with and a number of languages were used both in practice and in the community. Despite the diversity in the locations of the sites it was observed that the built environment of the speech-language pathology sites in this study were remarkably similar. For example, site 1 (in Brazil) and Site 4 (in Hong Kong) both had
brand new buildings that were modelled on state of the art designs typically found in western countries with limited cultural variation. The details of the sites are provided in Table 2.

Table 2.

Description of sites included in the study

<table>
<thead>
<tr>
<th>Country</th>
<th>Site No.</th>
<th>Setting</th>
<th>Main language(s) spoken by SLP(s) in their practice</th>
<th>Main language(s) spoken in community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>1</td>
<td>University clinic run by SLP students</td>
<td>Portuguese and English</td>
<td>Portuguese</td>
</tr>
<tr>
<td>Italy</td>
<td>2</td>
<td>Private hospital with clinic run by adjacent university</td>
<td>Italian</td>
<td>Italian and English</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>3</td>
<td>University with student-operated clinic</td>
<td>Cantonese</td>
<td>Cantonese, English, Mandarin</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>4</td>
<td>International English-speaking special needs school</td>
<td>English</td>
<td>Cantonese, English, Mandarin</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>5</td>
<td>School for the physically disabled</td>
<td>Cantonese and English</td>
<td>Cantonese, English, Mandarin</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>6</td>
<td>University with professional-operated clinic</td>
<td>Cantonese, English, Mandarin</td>
<td>Cantonese, English, Mandarin</td>
</tr>
<tr>
<td>Canada</td>
<td>7</td>
<td>Indigenous community-based service</td>
<td>English</td>
<td>English, First Nations language</td>
</tr>
<tr>
<td>Canada</td>
<td>8</td>
<td>Multilingual private practice clinic</td>
<td>French, English, Spanish, Greek, Italian, Arabic, Portuguese</td>
<td>French, English</td>
</tr>
<tr>
<td>United States</td>
<td>9</td>
<td>Bilingual university masters program for SLP students</td>
<td>English and Spanish</td>
<td>English and Spanish</td>
</tr>
<tr>
<td>United States</td>
<td>10</td>
<td>Bilingual pre-school</td>
<td>English and Spanish</td>
<td>English and Spanish</td>
</tr>
<tr>
<td>United States</td>
<td>11</td>
<td>Elementary school 1</td>
<td>English</td>
<td>English and Spanish</td>
</tr>
<tr>
<td>United States</td>
<td>12</td>
<td>Elementary school 2</td>
<td>English</td>
<td>English and Spanish</td>
</tr>
<tr>
<td>United States</td>
<td>13</td>
<td>School-based SLP working in elementary and high schools</td>
<td>English</td>
<td>English and Spanish</td>
</tr>
<tr>
<td>United States</td>
<td>14</td>
<td>Bilingual-multicultural multidisciplinary clinic</td>
<td>English and Spanish</td>
<td>English, Navajo, Tiwa, Keres, Spanish</td>
</tr>
</tbody>
</table>
2.2 Data collection

Data were collected as part of the Embracing Diversity – Creating Equality study (see Verdon, 2015a; 2015b). The first author travelled to each of the sites over a period of six months. The numbering of the sites reflects the order in which the sites were visited by the first author during data collection. The methodology selected for data collection was ethnography. This methodology was selected as it is recognised for its ability to bring about social, cultural, and behavioural understanding and change (Lewis & Russell, 2011). Ethnography, in its purest form, is a methodology in which the researcher immerses themselves in what they are observing and assumes the role of participant-observer rather than observing phenomena from a physical and intellectual distance (Willis & Trondman, 2000).

In the current study ethnographic observations were used to understand and describe practice within each of the 14 sites. As is common in ethnographic research, a number of different forms of data were used to obtain information about the sites (Krefting, 1991). These included: field notes, photographs, video recordings, collection of artefacts, narrative reflections by the researcher and interviews with professionals, family members, and the children themselves. Data collection typically included the researcher entering the site, interviewing the hosting professional at that site and then observing interactions with children and their families. A semi-structured interview guide with individual questions for each group of participants (i.e. professionals, family members, and the children) was used to elicit data during interviews. Questions included “I want to ask you about some of the strategies I observed you using with multilingual children in your centre, why do you use these strategies? (for SLPs), “How does [this site] support your multilingual child and their communication development?” (for family members) and “What does [the speech pathologist] do that helps you with
your talking? (for children). Interviews were recorded using a small handheld recording device and varied in length from 5 minutes to a number of hours depending on the responses supplied by the interviewees.

During observations, field notes, photos and videos were taken. If appropriate, the researcher also collected artefacts from the site for analysis (such as copies of assessment and therapy resources used in the clinic). Narrative reflections were completed by the researcher before, during and after the time spent in each site to document her experiences of being immersed in the physical, social, cultural and political context of the site. Given that the aim of the research was to be culturally sensitive, the type of data collected and the method of collection varied at each site depending on the participants and the cultural appropriateness of using such methods in that context. For example, at site 7, which is located in a First Nations community in Canada, the use of photography and video recording were not permitted or culturally appropriate and therefore these data were not collected. In total 652 artefacts were collected in this study including 13 transcribed interviews, 10 personal reflections, 53 field notes, 535 photographs, 38 videos and 9 additional artefacts.

2.3 Situating the researchers

Data analysis in qualitative research is inherently impacted by the subjectivity of the researchers undertaking and reporting on the analysis. Therefore, it is necessary to understand the background of the researchers and how this may have influenced the viewpoints which have been brought to the analysis. All three authors are monolingual English-speaking Australians. The first two authors have a background in speech-language pathology and have practiced in culturally and linguistically diverse contexts around the world. Their experiences include working with children who speak multiple languages and children who come from language and cultural backgrounds different to
their own. The third author is a researcher in the field of early childhood education who focuses on inter-professional practices and has a history of research and teaching in multicultural education.

2.4 Data analysis

The data collected from the 14 sites were analysed using NVivo 9 software (QSR International, 2010). Prior to commencing analysis, all data were reviewed and confidentialised to protect the identity of participants. Site names were replaced with site numbers and participants were assigned pseudonyms. Recorded interview data were professionally transcribed and returned to participants for clarification and approval. Participants were given the opportunity to further expand on concepts within the interview and also to delete information that they did not wish to be included in the research. Once the data had been reviewed by the participants, the process of coding commenced. Approaches to data coding were discussed among the authors using examples from different data forms and sites to guide the discussion. Data were then analysed in three phases:

Phase 1: Coding of data into individual CHAT elements (i.e., object, subject, mediating artefacts, rules, community and division of labour);

Phase 2: Thematic analysis identifying major themes that arose in the data contained within individual CHAT elements;

Phase 3: Analysis of tensions and contradictions arising in themes between elements.

Data analysis was undertaken by the first author. This was necessary as the first author was present during data collection and therefore, as is inherent with qualitative research, understanding and interpretation of the data were influenced by the researcher’s experience of being present in the site (Silverman, 2011). The third author
also undertook phase one analysis on a small sub-sample of data. This was done to provide an external perspective on coding the data removed from the experience of being present in the site.

Phase 1 analysis involved considering each artefact from each site and coding it into the most appropriate CHAT element. As is common in CHAT, a single artefact was often coded into multiple elements depending on why the researcher collected that artefact and what information it provided about practice at the site. For example, the following quote from an interview with an SLP was coded under both mediating artefact (in reference to music) and division of labour (in reference to collaboration among professionals working towards the same goals): “I also did a lot of collaboration with the special ed. teacher, and he was…very good at creating songs on the spot. And so whatever we were doing…he put it in music.” In phase 2, a thematic analysis of the data contained within each element was undertaken to identify the main themes that arose in the data. For example, within the subject element, themes included the affordances of being a multilingual SLP, and the specialist skills and knowledge required for culturally and linguistically diverse practice. In phase 3 of data analysis the themes that arose across elements were considered as a whole activity system to identify contradictions and tensions within practice and how these were negotiated in the participants’ practice.

3. Results and Discussion

To allow for the interpretation of findings in light of contemporary literature the results and discussion of this paper will be presented together.

3.1. Key findings within CHAT elements

Through the analysis of the data using the individual elements of CHAT, six overarching principles of culturally competent practice with children and families from
culturally and linguistically diverse backgrounds were identified. These are: (1) identification of culturally appropriate and mutually motivating therapy goals, (2) knowledge of languages and culture, (3) use of culturally appropriate resources, (4) consideration of the cultural, social and political context, (5) consultation with families and communities, and (6) collaboration between professionals. Upon considering the findings of the data and reading the recommendations for practice in this field it became apparent that the six overarching principles identified from the data within each CHAT element corresponded to the six key position statements made by the International Expert Panel on Multilingual Children’s Speech (2012). The alignment between the findings of this study and the position statements made by the International Expert Panel on Multilingual Children’s Speech (2012) are highlighted in the presentation of each of the six overarching principles below. The triangulation of the findings across both the current study and the position paper highlights relevance of these overarching principles to the current needs and practice of SLPs working with culturally and linguistically diverse children and families.

3.1.1 Object.

**Overarching Principle: Identification of culturally appropriate, mutually-motivating goals**

*Aligns with International Expert Panel on Multilingual Children’s Speech (2012) position statement: “Children are entitled to professional speech and language assessment and intervention services that acknowledge and respect their existing competencies, cultural heritage, and histories. Such assessment and intervention should be based on the best available evidence.”* (p. 2)

The importance of having culturally appropriate, mutually-motivating goals was highlighted throughout the data. The object of the activities observed differed across the
sites, ranging from achieving specific speech and language targets (such as the correct production of a consonant produced in error) to achieving functional communication in the child’s broader context, making communication enjoyable and motivating, and learning languages for inclusion in specific contexts (e.g., English-only schools and future employment settings). For example, some sites placed emphasis on developing phonological awareness (Gillon, 2000) and taking hierarchical approaches to mastery of consonants (Van Riper & Erickson, 1996; Winitz, 1975). Another site focused primarily on the functional use of speech sounds in conversational speech in interactions with siblings and family members (using different languages as appropriate) working on correct production incidentally and though modelling from communication partners (see Figure 2).

![Figure 2. Siblings playing a game together with SLP to work on intervention targets.](image)

Working in multiple languages allowed for recognition of cross-linguistic influences on speech. For example it was typical that French-English speaking children in site 8 had difficulty producing /θ/ in English as this consonant is not present within the French phonetic inventory. Therefore, the consonant was targeted in intervention as the object was to improve English accuracy, but it was recognised that this error was not
indicative of a speech sound disorder, rather it was the result of cross-linguistic influence of French upon the child’s English. The SLP from site 8 described cross-linguistic knowledge as essential because “it tells you if it’s an articulation or phonological error, or if it’s just linguistically based, which is really what you want to know.” Such knowledge of cross-linguistic influences has been recognised as key to identifying children’s competencies across languages and avoiding the misdiagnosis of a speech sound disorder (Yavaş & Goldstein, 1998).

The importance of consultation with parents and children in order to identify their goals for intervention was highlighted. For example, in site 6, when discussing choice of language for therapy, one SLP believed in using the parents’ strongest language so that children would receive a good model for therapy “I chose Mandarin, even though Dad speaks English as well…because I asked the parents, ‘Which language are you most comfortable with?’ and Mum said, ‘Mandarin is the most comfortable language I speak.’ So I started with Mandarin.” The choice to undertake therapy in parents’ strongest language (the home language) is supported by the literature, particularly when proficiency in the dominant language is limited (Gutiérrez-Clellen, 1999). In the case of an older child the SLP in site 6 offered choice about the language of therapy “I asked this child, ‘Do you prefer to speak English or Cantonese?’ And then he told me, ‘English.’…that was the patient preference so I chose that.”

3.1.2. Subject.

Overarching Principle: Knowledge of languages and culture

Aligns with International Expert Panel on Multilingual Children’s Speech (2012) position statement: “SLPs aspire to be culturally competent and to work in culturally safe ways.” (p. 2)
The major themes identified in relation to the subject or SLP were the affordances of being a multilingual SLP, and the specialist skills and knowledge required for culturally and linguistically diverse practice. The benefits of being multilingual were obvious in some sites as multilingual SLPs were able to provide therapy in multiple languages without the use of an interpreter. For example, the SLP in site 8 speaks up to 10 languages in some capacity. This enables her to deliver assessment and intervention in many children’s first languages as well as their additional language(s). This ability positioned her as a sought after expert in multilingual speech-language pathology, with many families travelling long distances to seek services in their home language. Previous research has reported increased levels of comfort and confidence in working with culturally and linguistically diverse populations for SLPs who are multilingual (Kritikos, 2003) the current study confirms this finding but also highlights the practical benefits of being able to work across languages.

It is recognised that it is infeasible for all SLPs to be fluent in the languages spoken by the families they work with, it is also acknowledged that linguistic knowledge does not necessarily equate to cultural knowledge. This was demonstrated in other settings which allowed for SLPs to be monolingual in a language that was different from the dominant language of the families they worked with, but still required a high degree of cultural knowledge to inform decision-making in practice. For example site 7, situated in a First Nations community in Canada was managed by a monolingual English-speaking SLP. However, the SLP had spent 18 years working with the community to build trust and relationships with the community and an understanding of their cultural ways of knowing and doing. This knowledge was then used to facilitate the development of culturally relevant programs to support speech, language and communication with children and families in collaboration with the community. The
development of community-based programs within Indigenous communities has been advocated as an important step for facilitating the support of culturally appropriate communication skills by both professionals in the field and communities themselves (Ball & Lewis, 2011). Therefore, it became apparent in this study that it was not just an SLP’s linguistic knowledge that made them culturally competent but also their cultural knowledge.

3.1.3. Mediating artefact.

**Overarching principle: Use of culturally appropriate resources**

*Aligns with International Expert Panel on Multilingual Children’s Speech (2012)*

*position statement: “SLPs generate and share knowledge, resources, and evidence nationally and internationally to facilitate the understanding of cultural and linguistic diversity that will support multilingual children’s speech acquisition and communicative competence.”* (p. 2)

The tools used to mediate practice were diverse and varied between settings. Languages (e.g., Italian, Spanish, Mandarin) were a key mediating artefact as well as a number of assessment and therapy tools ranging from traditional paper-based assessments and toys, to technological instruments. For example, Skype™ was used to overcome cultural, linguistic and geographic barriers in site 6 by delivering services to children who lived in locations where there were no SLPs who spoke their language or specialised in their communication need (see Figure 3).
Figure 3. SLP from site 6 using Skype to provide therapy to a child living in a different country where no services in the child’s home language are available.

Ultrasound has been identified as a useful tool for helping bilingual speakers to map linguistic targets onto articulatory movements (Wilson & Gick, 2006) and for providing visual feedback on production in therapy (Bernhardt et al., 2008). The use of technology observed in this study identified the potential of such technological advances for supporting assessment and intervention with culturally and linguistically diverse children. Ultrasound and electroglossography were used to provide visual feedback to children about their speech production in site 1 (see Figure 4).
Figure 4. An SLP in site 1 holds the ultrasound device under a child’s chin as the child receives visual feedback from the ultrasound machine screen about her speech sound production.

Dynamic assessment and community-developed resources were used to work across linguistic and cultural boundaries. For example, in site 6 dynamic assessment was used to determine children’s ability to learn language skills rather than identifying their current ability in a particular language as traditional assessments do. The SLP in site 6 described undertaking “…a dynamic assessment, [of] his ability to learn language…in terms of language he didn’t have much, but then he had the fundamental ability to imitate and learn.” Researchers have identified dynamic assessment as an approach to assessment that can be used as an alternative to standardised tests, by examining children’s modifiability, or ability to learn new concepts rather than testing their current knowledge which may be based on limited exposure to a language (Peña, 2000; Peña, Iglesias, & Lidz, 2001).

The content from standardised assessments was used in a number of sites for the purpose of testing specific skills to identify intervention targets; however, the norms and standardised scoring which accompany these tests were not used (as they are typically
based on monolingual populations and therefore not applicable to multilingual children). The SLP in site 3 explained “[if] for typical monolingual children…we use a cut off of … -1.25 standard deviation for diagnosis…for children with a bilingual background…the cut off is like a reference for us…we may look into the details of the items that they failed in order to understand their functional language [in] the daily practice…this is [an] adjustment or recommendation for children with bilingual background.” The SLP in site 8 further supported the use of standardised tests as a reference point to identify goals and discuss children’s strengths with their parents, she explained “obviously you know that we can’t use the norms…but I do look them up to let the parents know if they were a monolingual child and they would have been assessed in only the first language this is what they would have quoted as…but if we add the [second language] then this is what they get as a result, and if we add the third language this is what they actually got as their real result. So then the parents kind of go “Oh my God!” So that’s how I use the norms, but I never write them in the report.” In the literature, describing children’s conceptual score, that is, describing their competencies across all languages is described as a more accurate and valid reflection of multilingual children’s language abilities than relying on norms from standardised testing in one language (Bedore & Peña, 2008; Bedore, Peña, Garcia, & Cortez, 2005).

3.1.4. Rules.

**Overarching principle: Consideration of the cultural, social, and political context**

*Aligns with International Expert Panel on Multilingual Children’s Speech (2012)*

*position statement: “Governments, policy makers, and employers acknowledge and support the need for culturally competent and safe practices and equip SLPs with*
additional time, funding, and resources in order to provide equitable services for multilingual children." (p. 2)

The rules that bounded SLPs’ practice with cultural and linguistically diverse children fell into four broad categories: professional, organisational, cultural and language rules. Professional rules were often those enforced by policy, for example, in the school-based sites 11, 12, and 13 SLPs were only permitted to conduct their practice in English under the education policy in the state where they worked. This presented a number of challenges for SLPs and teachers working with children who did not speak English as their first language, including difficulty teaching new concepts in English, when the home language is unable to be used to support language learning. The policy forced professionals to practice in ways that did not reflect their own personal views on supporting multilingualism. One teacher at site 12 lamented, “there is no time for honouring another culture.” Such a policy is in contradiction to contemporary research that indicates support for the development of children’s first or home language can positively impact upon their ability to develop competence in additional languages (Gutiérrez-Clellen, 1999; Kohnert, Yim, Nett, Kan, & Duran, 2005). It also contradicts expert opinion which recommends that SLPs “engage in practice that is culturally inclusive, based upon the languages and culture of the children they work with” (Verdon et al., 2015, p. 61). Such policies are an example of the barriers SLPs can face when attempting to engage in culturally competent practice with diverse populations.

In contrast, one site highlighted how flexibility in rules and policies can enhance practice with cultural and linguistically diverse populations. The SLP at site 7 talked about the way that flexibility within organisational and funding rules facilitated practice which, in this case, allowed her to run a community-based service, and why this approach was essential in an Indigenous community. She stated “I think…the need is
there to be community based…that’s what’s been the advantage of being able to work for the [community] on the reserve land. You know I’m working for the community, within the community, and I don’t have the…same constraints that may have been placed on how I practice or what I do by a board or, you know, an employer who’s expecting me to see X number of kids in a day.” The benefits of community-based models when working with culturally and linguistically diverse families have been identified in a number of studies. These benefits include: increased engagement in services by families who may not otherwise access services; enabling therapy to be conducted in a safe, familiar, and culturally appropriate environment; giving communities a voice in the development of services; and increased exposure to families’ real-world context and culture for SLPs, each of which can facilitate in functional goal setting (Ball & Lewis, 2011; Prathanee, Dechongkit, & Manochiopinig, 2006; Verdon et al., 2015). The opportunities afforded by community-based approaches to practice, particularly in Indigenous communities were supported by the finding of this study.

A number of rules regarding access to cultural and linguistic knowledge were present for those attempting to work cross-culturally, particularly in Indigenous communities. For example, the one SLP from site 14 talked about the sensitive issues around who was able to learn and use particular community languages “there are real efforts at [language] revitalisation…some of it’s tricky, [the community] wanted the [language] classes in the school… they couldn’t do the classes in school if they didn’t open them to everyone, [but] then the [community] were saying but they didn’t want other people learning the language…because the native groups always see the language being an intimate part of religion, so they don’t proselytise, it’s not like Christian religions that you go in trying to find converts.” The diversity of rules found among
different cultural groups in the study further highlighted the need for SLPs to be culturally competent when engaging with families from diverse backgrounds.

3.1.5. Community.

**Overarching principle: Consultation with families and communities**

*Aligns with International Expert Panel on Multilingual Children’s Speech (2012)*

*position statement: “Children are supported to communicate effectively and intelligibly in the languages spoken within their families and communities, in the context of developing their cultural identities.” (p. 2)*

The essential role of SLPs’ relationship with families and the broader community became apparent across many of the sites. The extent of consultation and collaboration with parents differed across the sites. Sites 1 and 2 did not have parents present during therapy, rather the SLPs conducted therapy with children and then talked to parents about goals and progress at the end of the session. In site 8, a private practice clinic, parent involvement was dependent on the temperament of the child, the presence of other siblings, and the wishes of the parent. An artefact collected from site 8 detailed the information provided to parents prior to commencing therapy during a “counselling session” provided by the SLP to give parents the opportunity to learn about speech-language pathology and to co-construct goals for their children in line with their priorities. With younger children in site 8 parents were often not only present but also an active part of the session so that strategies could be learned and implemented in the home environment (see Figure 5). In some cases siblings were also a part of therapy and provided a conversational partner with whom children could play games and practise therapy targets.
Figure 5. The SLP, a father and child in site 8 work together in intervention

In contrast, in site 7, located within an Indigenous community, parents and community members played a key role in the development and implementation of intervention. This site ran a “family enhancement program” which was developed in consultation with the community and aimed to build the capacity of parents to support their children’s communication in everyday interactions. Community-based approaches to practice are supported by previous research with families from Indigenous backgrounds which have found that “an altogether different approach [to practice] is needed that would include taking the time to learn about the specific community, their values, and hopes for their children...” (Ball, & Lewis, 2011, p. 149). The findings of this study highlight the different roles that can be undertaken by parents and communities depending on the cultural context in which practice is situated.

3.1.6. Division of labour.

Overarching principle: Collaboration between professionals

Aligns with International Expert Panel on Multilingual Children’s Speech (2012) position statement: “SLPs aspire to develop partnerships with families, communities,
interpreters, and other health and education professionals to promote strong and supportive communicative environments.” (p. 2)

The need for collaboration between professionals became apparent in the research sites and the nature of collaboration varied across the sites. For example, in site 11, a school-based site, strong communication and collaboration with teachers were seen as essential, whereas in site 8, a private practice run by one SLP, the importance of attending conferences and seeking opportunities for networking with other professionals to keep up with the latest in research and practice was highlighted. Drawing on the strengths of other colleagues was also important for professionals working across cultures. For example, it was discussed in site 14 that if a colleague spoke the same first language as the families on their caseload they could be a useful source of information and support for monolingual colleagues engaging with families from that language background.

In contrast to the emphasis placed in the literature on the role of interpreters’ in practice with culturally and linguistically diverse families (e.g., ASHA, 2004a), the use of interpreters was not observed at any of the 14 sites. However, the frequent use of interpreters in practice was discussed in site 14. There were a number of key reasons why interpreters were not used. In sites 1, 6, and 8, the SLPs were multilingual and were able to provide therapy in the languages spoken by the children, therefore an external interpreter was not needed. In site 2, the primary goal of the SLP was to develop speech and language skills in the dominant language of the context, Italian, while parents provided input in home languages. In the country of site 3 it was stated that the use of interpreters (referred to as translators) was not a common practice “Translator is not very common in Hong Kong and this is why we always hope that the student can manage the clients themselves because it’s not a very common practice to
have translator.” In sites 11, 12 and 13 the policy of the school settings did not allow for the home language to be spoken and therefore interpreters could not be used in practice. Although the use of interpreters was not observed in this study, using other approaches to provide intervention in children’s home languages was seen as key by the majority of SLPs in the sites.

3.2. Tensions between elements

When analysing the different elements of SLPs’ practice with culturally and linguistically diverse populations from around the world three major tensions became apparent. These tensions arose in contradictions between evidence reported in the literature and (1) the practicality of implementing recommendations for working with culturally and linguistically diverse children, (2) parents’ wishes for their children and (3) rules and policies governing practice within sites. Additional examples from the data will be used to illustrate these tensions.

3.2.1 The practicality of implementing recommendations for working with culturally and linguistically diverse children

The impracticality of adopting some research-based recommendations for practice was highlighted. For example, it has been recommended by experts in the field that SLPs record and transcribe whole language samples when working with multilingual children (Verdon et al., 2015). However, one SLP explained that in the reality of clinical practice time was not available for such an approach so instead it was necessary to rely on clinical expertise in conjunction with the broader impressions of language samples to make decisions about children’s communication needs, she stated “We have to be efficient and we have to be logical with our time too. So just like [this child’s] analysis tonight will possibly take me around two hours to do. If I had taped him I would still be here by the time you leave tomorrow. So I can’t do that.” In place of
recorded and transcribed language samples the SLP used functional tasks to elicit language samples and recorded observations of errors during these samples. The International Expert Panel on Multilingual Children’s Speech advocates for SLPs to “be allowed sufficient time to adopt recommended strategies for engaging effectively in practice with multilingual children” (Verdon, et al., 2015, p.61). Both the data collected in the current study and the literature highlight the need for more time to assess and analyse the communication of children from culturally and linguistically diverse backgrounds.

3.2.2 Parents’ wishes for their children

A contradiction arose between evidence for the benefits of supporting multilingual children to develop competency in all of their languages (Adesope, Lavin, Thompson, & Ungerleider, 2010; Tannenbaum & Howie, 2002) and the desire of some parents that their children become monolingual in English. In sites 4 and 6, English was viewed by some parents as the language that would provide their children with the most educational and lifelong success and therefore the need to support the home language was not seen as a priority. For example, an SLP in site 6 stated:

Participant: …because I usually use parent-based therapy…I would ask what [language] the parents are most comfortable with; that’s a really, really big question I have to ask...[and] I would consider the academic needs of the child, so for example, these parents want this child in an English-speaking school, but then the home language was Cantonese.

Interviewer: So if they were wanting to send their child to an English-speaking school you might focus more on their English?

Participant: Yes.
The prioritisation of the dominant language of a society over children’s home language has also been documented in Singapore and the UK (Cruz-Ferreira & Ng, 2010; Stow & Dodd, 2003). When selecting the language for intervention SLPs play an important role in educating parents about options for language learning, the benefits of supporting multilingual development, and the possible social and academic implications of ceasing home language input (Adesope, et al., 2010; Morales, 2005; Wong Fillmore, 2000).

3.2.3 Rules and policies governing practice

A major tension that was identified in this study was a contradiction between the rules and policy that governed practice in some sites, professionals’ and parents’ aspirations for children, and evidence for supporting multilingual development. Education policies in sites 8, 11, 12 and 13 enforced strict rules about the language that could be used in the school setting. Policies that prohibited the use of some languages and emphasised the use of others were described by an SLP in site 12 as the result of historical political, power and status struggles related to language use in different states and provinces. This tension was highlighted by one SLP who stated “that’s the issue isn’t it?... Actually being allowed to do what you are told you should do.” The SLP in site 11 reflected that abiding by such policies was in contradiction to the content taught in universities (such as site 9) to SLP students in that state about the optimal ways to support multilingual children’s speech and language development. This tension was acknowledged by an SLP from site 14, who stated that such policies were in direct contradiction to research by Viroh and Rosier (1978) which supported the use of children’s first language as way to develop skills in their additional language, in this case, English: “I’m surprised that [policy] is still held up, because … back in the ’60s [they] had a project where they brought Navajo kids in, in kindergarten. Some of the
kids, they switched into English right away, and other kids they kept in Navajo and taught them to read and didn’t switch to English until third grade. And by sixth grade, the kids who had learned to read in Navajo had better English than the kids who hadn’t, and that study got worldwide attention. It’s been cited all over the world. And then [government] came in and said they couldn’t teach in Navajo.” Such contradictions highlight the need for SLPs and their professional bodies to lobby against policies that inhibit their ability to engage in evidence-based practice.

In site 8, parents took a stand against the policies enforced by schools regarding the cessation of input in home languages, as one mother stated: “[at] my daughter’s previous school and this school, there’s a lot of concerns with teachers that children don’t communicate very well and [therefore] should always speak French at home… They insisted on it and I said I refuse, this is my child’s heritage, I am sorry, I can’t take it away from them.” This tension also highlights the previous tension of acknowledging and supporting parents’ wishes for their children and demonstrates that parents can be strong advocates for their children in the face of discriminatory policies.

The contradictions that became evident in this study reveal the reality of implementing the six identified principles of culturally competent practice in the context of cultural, organisational and policy constraints. SLPs play an important role in negotiating each of these tensions. In particular, SLPs need to be activists for initiating and implementing changes to organisational rules to be allowed more time and resources for working with culturally and linguistically diverse children. In turn, the findings highlight the need for parents, SLPs and others involved in supporting children from culturally and linguistically diverse backgrounds to be active in lobbying policymakers to remove boundaries that are enforced upon practice when existing policies are in contradiction to recommendations for evidence-based practice and
therefore do not support the best interests of children.

3.3 Clinical implications

The findings of this study have a number of implications for professionals working to support the speech, language and communication of children from culturally and linguistically diverse backgrounds. The findings of this study offer an holistic view of the multiple facets of practice that need to be considered, particularly when SLPs are engaging with families from a different cultural or linguistic background from their own. The specific examples of approaches to practice documented in this paper provide SLPs with ideas for incorporating cultural considerations into their own practice and reducing the biases that can exist in assessment and intervention planning.

The use of CHAT analysis in the current study was useful for identifying the important role of individual SLPs as advocates for change by highlighting the interconnected nature of all elements within the activity system, in this instance, practice with culturally and linguistically diverse families. This interconnected nature means a change in one aspect of the system will inherently have a flow-on effect of change in the system as a whole. This understanding could potentially empower SLPs who, like the SLPs in this study, have the power and capacity to make large scale changes towards enhancing the cultural appropriateness of practice by changing the way they approach practice in their daily tasks on a smaller scale (Stetsenko & Arievitch, 2004). The findings of this study are congruent with the position statements from the International Expert Panel on Multilingual Children’s Speech (2012) position paper which provide a vision of culturally competent practice towards which SLPs can aspire by adopting the six overarching principles presented in this paper.

3.4 Limitations and future directions

A potential limitation of this study is that at least one participant in each site was
required to speak English in order for the site to be included in the study. It is acknowledged that this requirement potentially limited the diversity of sites that were able to be captured in this research and that the collection and interpretation of findings using English as the medium for communication may have impacted upon the findings of this study.

While the current study focuses on one arm of the evidence-based practice triangle, clinical expertise, further investigation is required to evaluate the scientific evidence to support the clinical outcomes of alternative and innovative approaches to practice with culturally and linguistically diverse children. Furthermore, given the focus of the current paper is on clinical expertise and practice, the voice of the SLP features predominantly in the reporting of data. As interviews with parents and children were also conducted in this study, future research could focus on the third arm of the evidence-based practice triangle, that is, the experiences of speech-language pathology from the perspectives of the children and families themselves.

4. Summary and conclusions

Six overarching principles for culturally competence practice with culturally and linguistically diverse populations were identified in this study: (1) identification of culturally appropriate and mutually motivating therapy goals, (2) knowledge of languages and culture, (3) use of culturally appropriate resources, (4) consideration of the cultural, social and political context, (5) consultation with families and communities, and (6) collaboration with other professionals. The individual approaches being undertaken in the international examples presented demonstrate how the position statements of the International Expert Panel on Multilingual Children’s Speech (2012) position paper are being enacted by SLPs to challenge inequitable and ineffective
practices with multilingual and multicultural children in different contexts throughout
the world.

While the enactment of these principles will vary according the languages spoken,
the cultural context, and the priorities of families, the current study highlights
opportunities for SLPs to incorporate these approaches into their current practice in
ways that are individualised for the children and families they work with. By adopting
and adapting these overarching principles individual SLPs can transform their daily
practice resulting in the collective transformation of practice in speech-language
pathology around the world so that families are supported in culturally appropriate ways
to work towards positive outcomes for their children’s communication and participation
in society.
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*Shared knowledge and mutual respect:*

*Enhancing culturally competent practice through collaboration with families and communities.*
Abstract

Collaboration with families and communities has been identified as one of six overarching principles to speech and language therapists’ (SLTs’) engagement in culturally competent practice with children from culturally and linguistically diverse backgrounds (Verdon et al., 2015a). The aim of this study was to describe SLTs’ collaboration with families and communities when engaging in practice to support the speech, language and communication of children from culturally and linguistically diverse backgrounds. The current study drew upon data from the Embracing Diversity – Creating Equality study conducted in 14 international sites across five countries (Brazil, Canada, Hong Kong, Italy and the US) representing a diverse range of cultural and practice contexts. Cultural-Historical Activity Theory (CHAT, Engeström, 1987), as an heuristic framework for analysis, was used to describe varied nature of collaboration in different cultural contexts, the benefits of collaborating with families and communities, and the tensions that can arise when engaging in collaborative practice. The results of this study illuminate the importance of SLTs’ collaboration with families in order to gain an understanding of different cultural expectations and approaches to family involvement and to build partnerships with families to work towards common goals. Collaboration with communities is highlighted for its ability to both facilitate understanding of children’s cultural context and build respectful, reciprocal relationships that can act as a bridge to overcome often unspoken or invisible tensions arising in cross-cultural practice.

Key words: Collaboration, cultural competence, practice, culturally and linguistically diverse, bilingual, multilingual
Introduction

True collaborative practice requires respect, trust, shared decision making and partnerships (World Health Organization, WHO, 2010). Collaborative practice draws upon the combined knowledge, skills and resources of a range of people, working together to achieve the same outcome (Lasker and Weiss, 2003). However, definitions and interpretations of collaboration can vary among different stakeholders involved in collaboration, resulting in divergent expectations and experiences of collaboration (Chaskin, 2001). This is particularly true when collaborators are from different cultural backgrounds, as culture influences the ideologies through which people interpret the world and plays an important role in their construction of strategies of action towards resolving problems (Swidler, 1986). While the combination of multiple perspectives and interpretations of a task can be seen as a strength of collaboration, the negotiation of tensions arising from different expectations is essential if collaboration is to be efficient and effective in achieving a mutually agreed objective.

In the field of speech and language therapy, collaboration between speech and language therapists (SLTs) and other stakeholders has been highlighted as an essential component of effective practice (ASHA, 1991; 2007; RCSLT, 2010). In particular, collaboration with communities and families is identified as key element for supporting cross-cultural practice (International Expert Panel on Multilingual Children’s Speech, 2012). The ability to engage in effective cross-cultural practice is a fundamental need for SLTs given that the speech and language therapy profession is reported to be largely monolingual, particularly in English-dominant nations, while the populations SLTs serve are increasingly culturally and linguistically diverse (Caesar and Kohler, 2007; Stow and Dodd, 2003; Williams and McLeod, 2012). For the purpose of this study, the term “culturally and linguistically diverse” refers to children and families with multiple
linguistic and cultural influences who are not of the dominant language and cultural background of the broader social context in which they reside.

In order to provide appropriate cross-cultural services to families from culturally and linguistically diverse backgrounds, SLTs need to engage in culturally competent practice. Culturally competent practice is defined as practice that “acknowledges and incorporates—at all levels—the importance of culture, assessment of cross-cultural relations, vigilance toward the dynamics that result from cultural differences, expansion of cultural knowledge, and adaptation of services to meet culturally unique needs” (Betancourt, Green, Carrillo, and Ananeh-Firempong, 2003, p. 294). SLTs have a responsibility to reflect on their own practice and to engage in strategies which enhance the cultural competence of their practice.

Verdon, McLeod and Wong (2015a) identified six key overarching principles to guide SLTs’ engagement in culturally competent practice with culturally and linguistically diverse children. One of these six overarching principles for engaging in culturally competent practice was “consultation with families and communities” (p. 18). Working with children within their natural environment in collaboration with families and communities is a key focus in the field of early intervention (Childress, 2004). This is for two main reasons: (1) so that intervention can be provided in the daily routines and setting of children’s lives and (2) so that families and communities can be embedded in the decision making process around planning and implementing intervention (Hanft and Ovland Pilkington, 2000). However, little has been documented regarding the realities, benefits and tensions of collaborative practice when working with children from culturally and linguistically diverse backgrounds. The current study aims to contribute to the current literature by investigating collaboration with families.
and communities in SLTs’ practice with children from culturally and linguistically diverse backgrounds in a range of different practice contexts from around the world.

**Collaboration with families**

Historically, the speech and language therapy profession was based on a medical model of professional autonomy (Bailey et al., 1992). Assessment, diagnosis and intervention planning were tasks undertaken by SLTs based on their professional knowledge, expertise, training and research evidence. However, in recent decades, a paradigm shift toward family-centred practice has occurred, making the role of families and other stakeholders more prominent (Coufal, 1993). Family-centred practice is based on three key principles: (1) a strengths-based approach rather than an emphasis on deficits; (2) privileging the family’s voice and giving them choice and control over intervention decisions; and (3) the development of a collaborative relationship between parents and professionals (Espe-Sherwindt, 2008).

The family can involve many different people depending on who is actively involved in a child’s life. This includes, but is not limited to, parents, grandparents, siblings and the children themselves. Families are the constant in children’s lives and therefore should be acknowledged as experts on their children (Espe-Sherwindt, 2008). Effective engagement in family-centred practice involves creating collaborative partnerships with families that (1) treat them with dignity and respect, (2) honour their values and choices, and (3) provide support and education to inform choices which strengthen and enhance their functioning as a family (Dunst, Trivette and Hamby, 2007).

Included in family centred-practice is the need to value the voice of the child in planning and decision making (International Expert Panel on Multilingual Children’s Speech, 2012). Often when working with children, their autonomy and capacity to make
decisions regarding their own lives is overlooked and authority is given solely to the therapist or to their parents (Dockett and Perry, 2011). However, children have the ability to make decisions concerning their own outcomes of therapy and this needs to be respected and valued (United Nations Convention on the Rights of the Child, 1989).

For SLTs, engaging in family centre-practiced can be challenging as there is a need to shift from a familiar, therapist-centred clinical focus to creating, negotiating and embedding intervention goals within individual families’ daily routines and settings (Hanft and Ovland Pilkington, 2000). In addition to this, SLTs report many challenges when working with families from cultural or linguistic backgrounds different from their own (Caesar and Kohler, 2007; Stow and Dodd, 2003; Williams and McLeod, 2012). Therefore, the combination of engaging in family-centred practice with culturally and linguistically diverse populations can be doubly challenging for SLTs as differences in cultural understandings, expectations, routines, priorities and ways of viewing the world can act as barriers to the formation of functional and cohesive partnerships (Harry, 1997).

Of particular significance are the differing cultural expectations of the role of the SLT and the expected level of involvement of families in children’s language development and education (De Gioia, 2013; Huntsinger and Jose, 2009). In some cultures the SLT is seen as a medical professional who should work in isolation to resolve children’s speech, language and communication needs. In contrast, in some cultures the family may be expected to be involved in every aspect of speech and language therapy and its transfer to the home environment. Nevertheless, even in contexts where SLTs report engaging family-centred ways, parental involvement in service planning and delivery is often limited (Watts Pappas, McLeod, McAllister and McKinnon, 2008). Therefore, it is important for SLTs to actively seek to include
families in goal setting and intervention planning in order to discuss and establish mutual expectations prior to commencing therapy. Without explicit planning and discussion in regards to service provision, unspoken differences in expectations between SLTs and families can lead to difficulties in effective goal setting and progression towards positive outcomes for children (Harry, 1997).

**Collaboration with communities**

Forming relationships with communities can assist SLTs in gaining an understanding of the context of a family and the cultural influences upon a family’s participation in society (Verdon, McLeod and Wong, 2015b; Zeidler, 2011). Community can be defined both on a basis of geographical location and interconnected relationships (McMillan and Chavis, 1986). For the purpose of this study the term “community” relates to the broader political, social and cultural context of children’s lives. Depending on the context, this can refer to both children’s geographical surroundings and the community of human relationships in which their lives are situated. Community engagement is recognised for its ability to give a voice to the people of a community and allow them to play a central role in achieving health and education development objectives for their own community (Lasker and Weiss, 2003). Consideration of community is particularly important when working with families from culturally and linguistically diverse backgrounds, as an understanding of children’s cultural context is an essential component of SLTs’ engagement in culturally competent practice (Verdon et al., 2015b).

Services that are developed and implemented in collaboration with communities can be beneficial as they offer a safe, convenient and culturally appropriate model to engage with families from culturally and linguistically diverse backgrounds who the literature attests are less likely to access health services (Ball and Lewis, 2011; Peltier,
Reasons for not accessing health services include a lack of knowledge about services, lack of transport, mismatches between professionals’ and families’ cultural approaches to working with children, and feelings of shame and guilt in relation to disability (Harry, 2008; Maloni et al., 2010; Semela, 2000).

However, a number of challenges exist to effective engagement with communities (Israel et al., 1998, Peltier, 2011). These challenges include a lack of trust between community members and outsiders, a lack of respect for the community’s cultural ways of knowing and doing, imbalances in power and control, and conflicting perspectives, priorities and assumptions between communities members and professionals (Israel et al., 1998). To overcome these challenges it is recommended that SLTs take time to build relationships with the communities in which they work and that they be flexible in their approaches to practice in accordance with the needs and desires of a community (Ball and Lewis, 2011; Zeidler, 2011).

In summary, contemporary literature highlights the possibilities for SLTs to engage in culturally competent practice through collaboration with families and communities. However, limited data exist to describe the enactment of cross-cultural collaboration with families and communities in speech and language therapy. The current paper draws upon data from international practices which support the speech, language and communication of culturally and linguistically diverse children, to describe the realities, benefits and tensions of collaborative practice with families and communities. The implications of these findings for SLTs’ engagement in culturally competent practice are discussed throughout.
Aims of the current study

The aim of this paper is to investigate collaboration with families and communities in SLTs’ practice with culturally and linguistically diverse children by answering the following research questions:

1. What are the benefits of collaboration with families and communities in the practice of speech and language therapy with culturally and linguistically diverse children and their families?
2. What tensions exist regarding effective collaboration with families and communities?
3. How can SLTs’ enhance the cultural competence of their practice through engagement with families and communities?

Theoretical Orientation

Cultural-Historical Activity Theory (CHAT, Engeström, 1987) was adopted as the heuristic framework for this study. Using the CHAT framework, SLTs’ practice with culturally and linguistically diverse children is conceptualised as a complex system comprising of different but interconnected elements that are in constant tension with each other (as depicted in Figure 1). These elements are identified as the: object (the goal of the activity), subject (the person undertaking the activity), mediating artefacts (tools used to facilitate attainment of the object), rules (codes of conduct governing the activity), community (the context in which the activity is set) and division of labour (other parties involved in undertaking the activity).
The current study focuses on the elements of community and division of labour to investigate both the benefits of, and tensions arising from, SLTs’ collaboration with families and communities in their practice with culturally and linguistically diverse children. Using this systems-based approach to analysis, the interconnected nature of these two elements within the activity system and their impact on the activity system of practice as a whole can be understood.

From a CHAT perspective, the interconnectivity of all elements means that a change occurring in one element of the activity system (e.g., the division of labour among parties involved in supporting children) leads to a flow on effect of change to the entire activity system. In this way CHAT illuminates the power of the individual to effect change within a larger activity system through small changes to just one element. Thus, if an SLT forms a positive relationship with a family or community in their practice, this has the potential to have a positive impact on practice as a whole. In addition, by considering these two elements in the context of the activity system, the tensions occurring with other elements in the system and thus potential barriers to
collaborative practice with families and communities can be identified and explored. A detailed explanation of CHAT and its application speech and language therapy is provided in Verdon et al. (2015b).

**Method**

**Sites**

The current study draws upon data from the *Embracing Diversity – Creating Equality* study of 14 international sites. Each site was engaged in speech and language therapy with culturally and linguistically diverse children and families. The sites were located in Brazil (*n* = 1), Canada (*n* = 2), Hong Kong (*n* = 4), Italy (*n* = 1), the US (*n* = 6) (see Table 1). Sites were identified using professional networks, online discussion groups and bulletins. At least one professional in each of the sites was required to be a fluent speaker of English to allow for communication with the first author during data collection. The primary contact in each site was an SLT. Some sites were run by individual SLTs, while other sites involved a team of SLTs and other health and education professionals in a variety of contexts including hospitals, schools, private practice, clinics and community-based services. In many of the sites a diverse range of languages were used both in practice and in the community.

Collaboration with families and communities varied between the sites depending on the setting and broader socio-political context. Sites 1 and 2 involved SLTs working alone with children, with feedback and discussion with parents occurring at the end of sessions. Sites 4, 5, 10, 11, 12 and 13 were all based in school settings and therefore parents were not present during sessions but in some sites were consulted outside of school hours by SLTs. Site 9 was a university-based masters program and therefore no collaboration with communities and families was observed at this site. In contrast, sites 4, 6, 8 and 14 all involved parents during sessions with the SLT. Site 7 was a
community-based parent training program that focused on family enrichment in
supporting children’s speech, language and communication development and therefore
has a high level of collaboration with both families and communities.

Table 1.

*International sites included in the Embracing Diversity – Creating Equality study*

<table>
<thead>
<tr>
<th>Site</th>
<th>Country</th>
<th>Setting</th>
<th>Main language(s) spoken by SLT(s) in their practice</th>
<th>Main language(s) spoken in community</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Brazil</td>
<td>University clinic</td>
<td>Portuguese and English</td>
<td>Portuguese</td>
</tr>
<tr>
<td>2</td>
<td>Italy</td>
<td>Private hospital run by adjacent university</td>
<td>Italian</td>
<td>Italian and English</td>
</tr>
<tr>
<td>3</td>
<td>Hong Kong</td>
<td>University with student-operated clinic</td>
<td>Cantonese</td>
<td>Cantonese, English, Mandarin</td>
</tr>
<tr>
<td>4</td>
<td>Hong Kong</td>
<td>International English-speaking special needs school</td>
<td>English</td>
<td>Cantonese, English, Mandarin</td>
</tr>
<tr>
<td>5</td>
<td>Hong Kong</td>
<td>School for the physically disabled</td>
<td>Cantonese and English</td>
<td>Cantonese, English, Mandarin</td>
</tr>
<tr>
<td>6</td>
<td>Hong Kong</td>
<td>University clinic</td>
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<td>English, First Nations language</td>
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<td>7</td>
<td>Canada</td>
<td>Indigenous community-based service</td>
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<td>13</td>
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<td>School-based SLT working in elementary and high schools</td>
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Data collection

The data reported in this study were collected as part of the Embracing Diversity – Creating Equality study (see Verdon, 2015a for a detailed description). Data were collected by the first author who visited each of the sites in the order indicated by the site number. Data collection was undertaken using ethnographic observation of SLTs’ practice with culturally and linguistically diverse children and families in each of the sites. The current paper draws upon two data sources collected during these observations, these were: narrative reflections by the researcher and semi-structured interviews with professionals.

Data analysis

Prior to commencing analysis, all data were confidentialised to protect the identity of participants. Site names were replaced with site numbers and participants were referred to by their site number. While the larger Embracing Diversity – Creating Equality study collected ethnographic data to consider the holistic practice of SLTs with culturally and linguistically diverse children, the current study specifically draws upon a subset of data pertaining to SLTs’ collaboration with families and communities in their practice. To achieve this, the data were analysed in three phases:

Phase 1: Data were coded into individual CHAT elements (i.e., object, subject, mediating artefacts, rules, community, and division of labour) using NVivo 9 software (QSR International, 2010).

Phase 2: Data coded under community and division of labour were selected as the focus for this paper. Data contained within each of these elements were
analysed to derive themes relating to collaboration with families and communities.

Phase 3: Tensions and contradictions were identified in relation to SLTs’ collaboration with families and communities.

As the first author collected the data it was also necessary that the first author undertook data analysis to allow for the contextual understanding that was gained from being physically present in the sites to underpin the interpretation of the data (Silverman, 2011). The second author also considered the data that were collected and made suggestions for coding and the identification of themes within selected elements as well as tensions and contradictions between the elements.

**Results and discussion**

To facilitate discussion around examples of collaboration found in this study the results and discussion will be presented together. SLTs in the study highlighted the importance of effective collaboration with both families and communities when working with culturally and linguistically diverse children. Themes identified in the data regarding collaboration with families and communities are presented separately, followed by a discussion of tensions associated with collaboration with each of these groups. While the themes emerged from the entire corpus of data regarding community and division of labour, illustrative examples have been selected to highlight each theme.

**Collaboration with families**

Two main themes were derived from the data in relation to SLTs working collaboratively with families from culturally and linguistically diverse backgrounds. These were the importance of SLTs: (1) understanding different cultural expectations and approaches to family involvement; and (2) building partnerships with families to work towards common goals.
Understanding different cultural expectations and approaches to family involvement

Expectations and approaches to family involvement in speech and language therapy varied considerably between the sites as a result of different cultural contexts, organisational structures and the needs of individual families. The different cultural expectations and approaches to family involvement observed in the study highlight the need for SLTs to understand how culture can impact upon collaborative practice with culturally and linguistically diverse families.

An example given by an SLT in site 6 (Hong Kong) illustrated the way that culture can impact upon the success of collaboration with families. The SLT described implementing the same type of therapy, using the approach to service delivery, with families from two different cultures. In the cases described, one family lived in the US and the other in China, both were seeking speech and language therapy in their respective home languages (Cantonese and Mandarin). Therapy was conducted via Skype™ with the multilingual SLT based in Hong Kong. The SLT planned to take a parent-training approach to therapy with both families. The SLT found that the parents in the US were enthusiastic about taking a lead role in therapy, while the parents based in China had expected a medical-model approach to therapy in which the SLT would take the lead role and the parents would act as observers. The following example demonstrates how a mismatch between parents’ and SLTs’ expectations for family involvement can cause a barrier to engaging in collaborative practice. When the SLT asked the parents from China to implement the therapy tasks, the parents thought that the SLT was refusing to do the work himself because they had not yet paid for the sessions. In an interview with the SLT he explained:
“When I worked with the American Asian couple, I think they were more westernised in a certain way, they were happy with doing the therapy…very happy to get their hands dirty very early on and [receive] training…When I was working with…the Beijing parents, and I think because there is a bit of a difference between the cultures, the parents just kept talking about “Oh, I need to make sure I pay you money”, which I said “I don’t mind”, and I think they felt that I was trying not to interact with the kid too much because they haven’t paid yet [they thought I was] refusing, stopping therapy because they had not paid yet.”

Similarly, previous research has found that differences in expectations and approaches to practice between cultures can hinder the development of trust and relationships between families and professionals, and thus impact upon the effectiveness of intervention (Banerjee and Luckner, 2014). For example, Harry (2007) found that families from culturally diverse backgrounds can be reluctant to disagree with professionals and often expect one-way (professional-directed) care, rather than reciprocal interactions.

Despite the fact that the SLT spoke the same language as the family, his cultural approach to practice was more aligned with the family from the US than the family from China. This demonstrates the important point that a mismatch in cultural expectations can be present even when SLTs speak the same language as the families they are working with. Therefore, it is essential that all SLTs are aware of different cultural expectations regarding parent involvement and deviations from such expectations need to be discussed and negotiated to allow families to have input and control over the way that intervention is implemented.
Building relationships to work towards common goals

SLTs in the study emphasised the need to build relationships with families in order to work towards common goals. For example, the SLT from site 7 (a First Nations community in Canada) emphasised the importance of listening to parents’ goals and taking them seriously without being judgmental, even if their answers were not what an SLT may expect to hear. She stated:

“[SLTs need to] be prepared for the “wrong” answer you know?...
Like [not passing] judgment on parents who choose potty training over a communication system… [SLTs may think] oh gee…what? potty training?... We’ll ignore that because that’s a silly goal so we’ll just work on what I was going to say anyway.”

This statement reflects upon the preconceived notions that SLTs’ may have about the “right” answer when it comes to parents’ goals for their children. It is important for SLTs to recognise that families may have a different hierarchy of priorities for their children depending on their social or cultural context (Schwartz and Bardi, 2001). The SLT from site 7 stressed the need to value and incorporate parents’ goals for their children into therapy in order to ensure that goals are mutually motivating and can be implemented in children’s daily routines and settings.

Similarly, the SLT from site 6 in Hong Kong described the way that building a relationship helped to overcome the misunderstanding that had arisen from a mismatch in expectations between himself and the parents from China when trying to conduct parent-based therapy over Skype™. He explained:

“I had to do a lot of reassurance to mother [to say] the child was doing okay… I think [because] I had a bit more of a conversation with mum, she felt okay about working with me [she understood]
the whole idea that we’re actually working for the child rather than all the money thing… and we’re very comfortable now.”

This finding demonstrates the benefits of open communication and building trusting relationships when collaborating with families to move forward with therapy goals. Similar findings have been noted in previous studies, where the importance of engaging in open conversation to build trust and respectful relationships has been identified as key to effective cross-cultural collaboration between parents and SLTs (Beverly and Thomas, 1999; Zeidler, 2001).

**Tensions arising in collaborative practice with families**

Despite the recognition of its importance, a number of tensions were identified in SLTs’ collaboration with families. Furthermore, number examples of SLTs finding solutions to overcome tensions were observed in the study. In terms of understanding different cultural expectations and approaches to family involvement, the SLTs’ from site 14 shared their experiences of developing understanding about the differences between working with Native American and Hispanic families as opposed to families from a the dominant US cultural background. One SLT explained how she came to recognise that her practice with parents from a different cultural background to hers was not culturally appropriate and how she overcame this tension by taking classes to increase her cultural competence:

“The native and Hispanic families would all be very polite, speak to me very nicely and I thought they were going well … then the family would come back in, and you’d discover they hadn’t done anything you’d said, …[In contrast] whenever we’d see families [of the dominant US culture] … [the] sessions didn’t go well, because the families would challenge me, “How do you know?”,” “I don’t
believe you, I’m taking my child for a second opinion”, but the families [of the dominant US culture] would end up doing what I said, even though they gave me a hard time, and that drove me to taking classes… [because] it was like ‘What’s going on here?’…”

This example highlights the importance of SLTs engaging in self reflection to identify their own understanding of different cultural approaches to engagement in therapy. The need for SLTs to be aware of their own culture and how this influences their views, beliefs and attitudes towards parental engagement in therapy has been identified as an essential starting point to overcoming tensions that can arise as a result of cultural mismatches between professionals and the families they work with (Verdon, 2015b).

The SLT in the study demonstrated cultural competence in her practice by reflecting on her own lack of cultural understanding and taking the initiative to seek further training. A growing body of literature (e.g., Banerjee and Luckner, 2014; Cheng et al., 2001; Harry, 2008; Leadbeater and Litosseliti, 2014) supports the actions of the SLT in this example by emphasising the need for pre-service training and continuing professional development to increase cultural competence among professionals working with culturally and linguistically diverse children and families.

In addition to the tensions arising from cultural differences, the broader social and political context was found to create a tension for SLTs attempting to engage in collaborative practice. For example, school-based SLTs in sites 10, 12 and 13 worked in a state where many of the families they served were of a Spanish-speaking background, while the use of Spanish in schools was forbidden under the state’s educational policy. The SLTs commented that while parents didn’t approach the school to overtly complain about this policy, they knew that it was not always conducive with the parents’ wishes for their children. The SLT from site 10 commented that many parents from Spanish-
speaking homes were unable to complete forms that were sent home since the forms are only available in English, and often when parents are asked the main language at home they say English because they believe that is the correct answer given the political context of the educational system. The language barrier created by this policy made it difficult for parents to be well informed about their children’s speech and language therapy and silenced the voices of the parents in these sites making it difficult for SLTs to engage in family-centred practice.

In some cases, to overcome such barriers, SLTs engaged in “rule bending” behavior (Edwards, et al., 2009, p. 22) in an attempt to allow parents to make a valuable contribution to their child’s speech, language and communication development. For example, the SLT from site 13 independently sought input from the parents by engaging in home visits to build relationships with parents and to mutually develop goals for therapy, ensuring they were functional and motivating. Previous research has found that when SLPs engage with parents in home visits and provide specific coaching strategies, an increase in parental involvement in therapy can be seen among culturally and linguistically diverse families (Cambray-Engstrom and Salisbury, 2010). Rule bending behaviours such as these demonstrate the power of the individual SLT to work outside the constraints placed on their practice by political or organisational rules which are not in the best interests of the children and families they serve (Edwards et al., 2009).

On the other hand, it is important to recognise that in some cases the tensions identified in the study may have arisen from the families themselves not wishing to take a lead role in family-centred practice. For example, the Chinese family from site 6 expected that the SLT would undertake therapy without parental input. However, due to the fact that services were being delivered via telehealth, the role of the parent in
facilitating generalisation of skills between sessions was essential to successful therapy outcomes and therefore negotiation of roles was needed to facilitate the collaboration.

Furthermore, students in site 9 learned that parents from an Hispanic background were less likely to be involved in therapy or to question the decisions of SLTs as it was seen as culturally inappropriate to interfere or appear to be rude. Therefore, it is possible that parents from some cultural backgrounds did not want to participate in session despite SLTs’ desire for them to do so. An Australian study of parental involvement in speech and language therapy for children with speech sound disorder revealed that parents had limited involvement in goal setting and intervention, but that they were satisfied with their level of involvement and allowing the SLT to be the primary decision maker (Watts Pappas et al., 2008). Thus, if practice is to be truly “family-centred” the right of families to not be involved also needs to be respected if practice is also to be culturally appropriate

**Collaboration with communities**

The value of collaborating with the communities of culturally and linguistically diverse children was highlighted in the study, particularly by SLTs in sites 7 and 14 who engaged in practice with Indigenous communities. The key themes that were identified regarding collaboration with communities were the need for SLTs to (1) understand the cultural context of communities and (2) build respectful, reciprocal partnerships with community members.

**Understanding the cultural context of communities**

A key finding from the study was the importance of SLTs’ understanding the cultural context of communities. Collaboration with communities allows SLTs’ practice to be grounded in the cultural context in which children participate on a daily basis (Zeidler, 2011). For example, the SLT from site 7, a First Nations community in
Canada, emphasised the importance of gaining an understanding of a community’s history, traditions and teachings and working with the community to align therapy with such teachings. Additionally the SLT discussed the importance of accepting critical feedback from community members about whether ideas for therapy were culturally appropriate. She gave the example of a parental education program, which likened parent communication styles to local animals and their meaning to the community. She explained the importance of: “making connections with the [community] cultural centre and…looking at [whether] there are traditional teachings that…support [therapy]… I’m looking at…the bear parent, and the bear is the one that’s connected and focused on the kids… I think it’s culturally appropriate… [but] you have to be able to be at a point with the people you’re working with for them to say actually I think that’s a bad example of using the bear, I think we should use something else”.

This example raises the importance of cultural humility (Tervalon and Garcia, 1998) when collaborating with culturally and linguistically diverse communities. That is, being able to reflect on potential biases that may be unconsciously applied to practice when working cross-culturally and being able to accept the dominant approach is not necessarily “right” but that that there are other ways of knowing and doing (Harry, 1997).

**Building respectful, reciprocal partnerships with community members**

A second dominant theme regarding collaborating with community was the need for SLTs to build respectful reciprocal relationships with community members. The SLT in site 7 described the need to understand how people in the community perceive the role and purpose of the SLT in order to build strong working relationships with communities. She stated: “I learned through those years of dealing with parents that they sometimes saw me as the next door neighbour to a social worker.” In this quote she
meant that parents were worried that the SLT was there to judge their parenting behaviour and report back to the authorities about their children’s well-being. This fear of being judged made it difficult for parents to open up and trust the SLT in her work until she was able to understand their perspective and the concept of “cultural safety, be aware of who you are, [how] people see you…” In this quote the SLT is referring to the concept of culturally safe practice, which is defined as practice with “a person or family from another culture, [that] is determined by that person or family” (Nursing Council of New Zealand, 2005, p. 4).

The SLT explained that through spending time and engaging in conversation with the community she was able to gain an understanding of what the community wanted and how to provide a service that was appropriate to their needs: “[I realised] I had never asked people what they saw in a health service provider, that was important to them, and…the first thing that came out of a lot of people’s mouths is non-judgmental and I would have never thought that”. Harry (2007) describes the importance of understanding that perceptions and belief systems are relative to individual experiences. Therefore, if community members have had negative experiences with professionals from outside the community in the past, SLTs need to take time to establish trust and relationship so that practices are respectful to a community’s past experiences and so that families feel safe to engage with the SLT (Peltier, 2011).

As a result of conversations with the community about past experiences, the SLT in site 7 collaborated with community members to train them as speech and language therapy assistants by combining her skills as an SLT and their knowledge of their local culture and children. The role of the assistants was to be “an arbiter of their own culture in dealing with largely non-Aboriginal speech-language pathologists.” The SLT in site 7 believed that through time, commitment and building relationships with communities,
real collaborative progress could be made for children’s outcomes. She also emphasised the need to document effective practices that arise from collaborations with the community, stating that “the problem is unfortunately if it’s not documented it isn’t carried on because it’s all practical knowledge but nothing is written”.

The examples from the Embracing Diversity – Creating Equality study strengthen the existing literature, which emphasises the importance of taking time to listen and build relationships in order to engage effectively with culturally and linguistically diverse communities (Zeidler, 2011). Furthermore, these findings support existing research which highlights the need to shape practices around the suggestions of community elders and members to ensure that approaches are culturally safe and relevant for children and families (Ball and Lewis, 2011; Peltier, 2011).

**Tensions arising in collaborative practice with communities**

Tensions were identified in collaborating with the community members to support children’s speech, language and communication in relation to power imbalances in intervention planning and implementation. The SLT in site 7 described a situation where collaboration with a community-based speech and language therapy assistant challenged the practices that were being used by an SLT in the community:

“an SLT was in [the community] school and was doing some kind of sequencing test and so put out the pictures of the school bus, and the breakfast, and getting dressed, and asked the child…what did you do when you got up this morning?...[but] it didn’t go very well and the child said nothing...So [the SLT’s assistant from the community] went up to the child after the SLT had left and said ‘so tell me, what did you do this morning, you didn’t want to talk about it’, and the little boy said ‘well I didn’t have breakfast, I slept in my
clothes and I turned on the TV and watched it until the school bus came’. So none of those examples were relevant for him. To the community member, that’s a no brainer, but that community member could have explained or, you know, provided some support to help the SLT.”

This example demonstrates the potential benefits of gaining insight into different cultural perspectives by working alongside members of the community and how collaboration can act as a bridge to overcome cultural differences between SLTs and the children they work with. However, in order for this collaboration to be successful, the role of the community SLT assistant needed to be recognised as equivalent to the SLT so that session could be planned collaboratively before engaging with the child, rather than having the community SLT assistant rectify the situation after the fact. Shared decision-making in the planning of services, as opposed to a therapist-driven model, can assist in balancing the power in collaborative partnerships by giving each person an opportunity to voice concerns and critique existing approaches to practice prior to their implementation in a particular community (Hanft and Ovland Pilkington, 2000; WHO, 2010).

The issue of imbalances in power and control in partnerships with community members was also highlighted by the SLTs in site 14. They described an incident where elders had been interviewed by a woman outside their community to assist in the development of content for a government funded program to support Indigenous children.

“It had been her job to interview the elders [in the community], to get their stories and to then…write them down to be used in [the program], she… then went back [and] realised she had been cutting little parts out,
because she thought it didn’t relate to the story. As part of that, she came up [with] lots of materials… [that] were inappropriate.

[The funding body had thought] the [the tasks the elders suggested] were way too complex for five year olds. And [the elders responded] “Our three year olds are doing these”.

This example demonstrates the way that information and cultural knowledge can be taken from a community, while giving communities little control over how the information is used (Israel et al., 1998). This example also highlights the dangers of making assumptions about what is important, as the true meaning of the elders’ stories were lost by the interviewer selecting the parts she felt were important based on her own cultural lens. In doing so, the interviewer, perhaps unconsciously, showed a lack of cultural humility by giving primacy to her own cultural views over those expressed by the elders in the community (Tervalon and Garcia, 1998).

**Collaboration with children**

Additionally, the literature suggests that it is important to include children in decisions that affect their lives, including goal setting for intervention (Söderbäck, Coyne and Harder, 2011; United Nations Convention on the Rights of the Child, 1989). SLTs in sites 6 and 8 both commented that when working with adolescents, there was consultation with regards to goals and the selection of the language for intervention. However, aside from this, there was little evidence of children being included in decision making. Söderbäck et al. (2011) reflects on the need to differentiate between applying “a child perspective” (p. 100) to practice, that is an adult’s perspective of what is best for their individual child and applying “the child’s perspective” (p. 100), that is, the child’s own perspectives, beliefs and priorities. The findings of the current study suggest that while some international practices have shifted towards a family-centred
approach which incorporates the views of adults, and a child perspective, less is being done to incorporate the child’s perspective in intervention planning and goal setting.

**Conclusion**

Crais, Roy and Free (2006) stated that “the key to providing family-centered services is not to identify the perfect set of practices but to recognise the family’s role in helping decide on those practices” (p. 365). Therefore, family-centred practice does not necessarily involve families engaging in the enactment of practice, but rather it involves listening to the desires and expectations of families and identifying pathways to practice that respect their views. Regardless of the extent to which families wish to be involved in children’s speech and language therapy, opportunities need to be provided for open and fully informed discussion between SLTs, families and communities (using interpreters and translated materials if necessary) so that expectations of therapy from all parties can be made explicit. Engaging in such conversations with families and communities can help to ensure that practice is culturally appropriate and tailored to the needs of each individual family so that SLTs can move forward in accordance with these wishes.

The data presented in this study provide a rich description of various enactments of collaboration with families and communities in international contexts to support children’s speech, language and communication. The findings highlight the importance of collaboration when working across cultures to assist in the negotiation of tensions that may exist due to different cultural understandings or expectations. Each collaborator has the potential to enhance children’s communication and participation in their various contexts including the home, school and community. Therefore, a lack of recognition of the strengths of people involved in children’s lives (including children themselves) can deny a child an important and unique contribution to their
development. It is acknowledged that the types of collaboration used to support children’s speech, language and communication will vary depending on the social, cultural and political context of practice. However, this paper provides an overview of the importance of consultation with families and communities, a critique of the enactment of collaboration in different international contexts and the potential benefits and tensions of collaboration that can arise in SLTs’ practice with culturally and linguistically diverse children. The findings of this paper demonstrate how respectful, reciprocal working relationships with families and communities can enhance SLTs’ practice by facilitating the development of culturally appropriate, mutually motivating goals to support the speech, language and communication needs of cultural and linguistically diverse children.

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Enhancing practice with culturally and linguistically diverse families:
Six key principles from the field.

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**Abstract**

Australia is a highly culturally and linguistically diverse nation. In order to support all Australians to develop their speech, language and communication skills for positive lifelong outcomes, SLPs need to engage in culturally competent practice. This article draws upon an international study investigating practice with culturally and linguistically diverse families in 14 sites across four continents and five countries. The findings of this research have identified six key principles from the field that are useful for enhancing the current practices of SLPs working with families from culturally and linguistically diverse backgrounds. These six principles are: (1) getting to know yourself (2) knowing and forming relationships with families and communities (3) setting mutually motivating goals, (4) using appropriate tools and resources (5) collaborating with other key people and (6) being flexible: one size does not fit all.

**Key words:** cultural diversity, multilingual, practice, children
Australia, like many other English dominant countries, is highly culturally and linguistically diverse. What makes Australia unique is that there is no dominant second language or culture, but rather Australia is made up of people from many different backgrounds. According to the 2011 census 27% of the population are first generation Australians, meaning that they were born overseas and have migrated to Australia, while 23.2% of Australians report that English is not the first language spoken in their home (Australian Bureau of Statistics, 2012a). In addition to diversity arising from migrant cultures and languages, the Aboriginal and Torres Strait Islander people of Australia make up approximately 2.5% of the Australian population (Australian Bureau of Statistics, 2012b). As a result of the high degree of cultural and linguistic diversity in Australia, speech-language pathologists (SLPs) are likely to engage in practice with families who speak various different languages and are from different cultural backgrounds.

**Working across cultures**

Every person has a culture, defined as the sum of beliefs, rituals, customs, and practices that guide thinking, decisions, and actions (Spector, 1985). Culture is not rigid and unchanging among distinct groups but varies among individuals (Gray & Thomas, 2005). Culture is an essential component of how explanatory models for illness, difficulties, and disabilities are formed. An explanatory model is a belief system by which a person or people from a cultural group explain, diagnose, and identify possible treatments for an illness or disability (Kleinman, Eisenberg & Good, 1978). From a western cultural standpoint, often the cause of illness or disability is deemed to be of an anatomical or physiological nature and therefore medical or professional intervention is needed to remediate the issue. Other cultural standpoints may identify the cause of illness or disability as being related to spirituality, religion, or family history and
therefore may identify other means of overcoming the issue (Nuckolls, 1991; Vukic, Gregory, Martin-Misener & Etowa, 2011). A mismatch in the cultural background of SLPs and the families they serve means that both parties may be approaching the same situation from a very different viewpoint. A lack of cultural understanding can result in a communication breakdown between SLPs and families leading to ineffective and culturally inappropriate practice. To avoid such communication breakdowns, SLPs are encouraged to engage in culturally safe practice, a philosophy of practice that originated in nursing and is defined as practice that with “a person or family from another culture, and is determined by that person or family” (Nursing Council of New Zealand, 2005, p.4).

The challenges of cross-cultural practice have been well documented in the literature (Caesar & Kohler, 2007; Jordaan, 2008; Kritikos, 2003, Stow & Dodd, 2003; Williams, & McLeod, 2012) with the major challenges identified as a lack of culturally appropriate tools for assessment; limited developmental norms for linguistically diverse populations upon which to make a differential diagnosis; and insufficient professional support and training for working with families from different cultural backgrounds. The mismatch between the cultural diversity of SLPs and the cultural diversity of the Australian population means that it is essential that all SLPs need to develop cultural competence in order to engage in culturally safe practice (Verdon, McLeod & McDonald, 2014).

**Cultural competence**

Culturally competence practice is defined as “practice that “acknowledges and incorporates, at all levels, the importance of culture, assessment of cross-cultural relations, vigilance toward the dynamics that result from cultural differences, expansion of cultural knowledge, and adaptation of services to meet culturally unique needs”
(Betancourt, Green, Carrillo & Ananeh-Firempong, 2003, p. 294). Culturally competent practice demonstrates an understanding of, and respect for, cultural and linguistic differences among individuals and responds to these differences in a culturally sensitive and appropriate manner. Developing cultural competence is an ongoing process that requires SLPs to actively seek new knowledge about the families they work with and to reflect upon their own practice to ensure it is respectful and inclusive so that the services are effective, useful and relevant to the needs of the families they serve (International Expert Panel on Multilingual Children’s Speech; 2012; Verdon, McLeod & Wong, 2014).

SLPs need strategies to support their practice with culturally and linguistically diverse families to ensure the effective communication of purpose, ideas, beliefs, and desired outcomes. To identify practical pathways for supporting culturally and linguistically diverse families, this article draws upon research undertaken in the Embracing Diversity, Creating Equality study (see Verdon, 2014 for more information). The Embracing Diversity, Creating Equality study investigated international practices with culturally and linguistically diverse children in 14 sites on four continents in five countries including Brazil, Italy, Hong Kong, Canada and the US. The sites were based in many different settings including private practice, pre-schools, schools, hospitals, universities, and community-based settings, representing the diversity of SLPs’ practice around the world. From the vast amount of data collected and analysed regarding practice with culturally and linguistically diverse families, six key principles for SLPs in translating these findings into practice were identified. These were: (1) getting to know yourself (2) knowing and forming relationships with families and communities (3) setting mutually motivating goals, (4) using appropriate tools and resources (5) collaborating with other key people and (6) being flexible: one size does not fit all (see
Figure 1). As every individual has their own unique culture, these six principles are useful in guiding practice with all families. The importance of each of these key principles, their application in individual contexts and resources to support enactment of these principles (where appropriate) are explored below.

**Figure 1: Six key lessons for culturally competent practice.**

**Getting to know yourself**

The important first starting point for culturally competent practice is for SLPs to engage in self-reflection (Tervalon & Murray-Garcia, 1998). It is necessary that SLPs know who they are, what they believe, and how this impacts upon the way they view the world and engage in practice. To facilitate self-reflection, SLPs can ask themselves some key questions such as:

- What is **my** culture?
- What are my beliefs, values and attitudes?
- Why do I have these beliefs, values and attitudes?
• What are my attitudes towards people of different gender, race, language background, sexual orientation, and level of ability?
• What biases do I bring to my practice?

Through self-reflection comes self-awareness. Such awareness can help SLPs to understand when a barrier between themselves and a family is present and what may be the cause of this barrier. An important part of overcoming barriers is cultural humility, whereby all cultures, belief systems and explanatory models are valued in clinical decision-making, rather than simply adopting the cultural approach to practice valued by the professional or dominant society (Tervalon & Murray-Garcia, 1998).

Resources: The American Speech-Language-Hearing Association website provides resources to facilitate reflection on professional practice, service delivery, and policies and procedures. These can be accessed at http://www.asha.org/practice/multicultural/ and include:

Personal reflection activity for professionals:

Activity for reflecting on organisational policies and procedures:

Activity for reflecting on service delivery with culturally and linguistically diverse clients:
**Knowing and forming relationships with families and communities**

Taking time to get to know and build trusting relationships with the families is key to engaging in culturally competent practice. By taking time to get to know families, SLPs are better informed to make decisions about diagnosis and appropriate ways to proceed with intervention if necessary. It is important that SLPs gain an understanding of the home environment; for example, what is the main language used in the home, what other languages are spoken, when and where these languages are used and what languages the family want to work in (De Houwer, 2007). This will help with understanding the linguistic influences upon speech and language when planning assessment. A complete case history of the family’s cultural and linguistic diversity will assist in making an accurate and well-informed diagnosis. Knowledge of the languages spoken is also important for planning intervention as multilingual speakers have been found to benefit most from intervention provided in their primary language, with the potential for positive generalisation of effects to occur in their additional language(s) depending on the nature of the communication need (Gutiérrez-Clellen, 1999; Kohnert, Yim, Nett, Kan, & Duran, 2005).

Engaging in western health practices may be an unfamiliar concept for culturally and linguistically diverse families so it is important that SLPs explain the purpose of their service to ensure families have a clear understanding of what the service can do and what their participation in the service will involve. Some cultures may have different approaches to speaking with people in authority, therefore SLPs need to be aware of potential cultural differences and provide sufficient opportunity for dialogue and questioning so that families feel their voice is being heard and valued. One way that SLPs can strengthen relationships between themselves and the families they work with is to demonstrate that the family’s language and culture are valued and respected.
Greeting families in their home language and making an effort to learn some words and concepts demonstrates that SLPs are willing to work outside of the comfort of their own language and culture and are respectful of the other linguistic and cultural influences in the lives of diverse families. It has also been found that when SLPs are willing to try speaking in another language, regardless of how accurate their use is, families feel more comfortable to speak in English with less fear of failure and embarrassment about imperfect command of the language.

**Resources:** SLPs can take opportunities to learn more about the languages and cultures of people on their caseload by accessing online resources available at the Multilingual children’s speech website [http://www.csu.edu.au/research/multilingual-speech/languages](http://www.csu.edu.au/research/multilingual-speech/languages).

The website includes information about many different languages.

**Setting mutually motivating goals**

In order for a service to be useful, relevant, functional and culturally appropriate it is important that SLPs engage in discussion with families to gain an understanding of their priorities and needs and set mutually motivating goals. SLPs need to establish why the family has accessed a service and whether they believe there is a problem. It is possible that the family has been referred by a third party and is not sure why they have been referred or what the service can do for them. Conversely, it is possible that families have a well formed explanatory model of what the problem is, why the problem is occurring and what should be done to remediate the problem. It is then necessary for SLPs to determine whether they believe there is a need for services and to negotiate mutually motivating and achievable goals in conjunction with the family.

When making a diagnosis it is important to consider the impact of using labels to identify a problem. While the use of labels to identify health conditions is commonplace
in western cultures, it can be detrimental to families from diverse cultures leading to blame, guilt, or shame for the family depending on their explanatory model and beliefs about the causes of illness and disability (Bedford, Mackey, Parvin, Muhit, & Murthy, 2013; Maloni, Despres, Habbous, Primmer, Slatten, Gibson, & Landry, 2010). In these situations rather than using a label, it may be best to identify a person’s strengths, while also describing what they find difficult and explaining ways that support from a professional can help to develop these skills. It is then necessary to engage in discussion to find out what help the family would like to receive. Through these discussions the family’s ideal outcome of intervention can be identified and goals can be built around achieving this outcome to ensure intervention continues to be motivating and relevant to the daily lives of those involved.

Resources: The Australian Raising Children Network provides valuable information for parents about supporting multilingual children in an English-dominant context


Using appropriate tools and resources

The use of appropriate tools and resources is important for accurate differential diagnosis of whether a need is truly present or absent, and to conduct culturally appropriate intervention to support communication if needed (McLeod & Verdon, 2014). Assessing the speech, language and communication of people from culturally and linguistically diverse background requires a different approach from the assessment of monolingual people of the dominant culture. Many assessments commonly used by SLPs have been developed and standardised based on western, monolingual English-speaking populations and therefore are not culturally appropriate tools for the assessment of diverse populations (McLeod, 2012). Some western assessment tools can be used with culturally and linguistically diverse populations as a qualitative measure to
identify existing skills and areas for improvement based on their English language knowledge. However, the scoring of these assessments is not applicable or appropriate for people outside of the population upon which the test was normed (McLeod & Verdon, 2014). There are a number of assessments available in languages other than English (for example speech assessment, see McLeod and Verdon, 2014), but a limited number of tests have been developed for bilingual or multilingual speakers and the assessment of just one language does not provide accurate information about a multilingual speaker’s speech, language and communication abilities.

One alternative approach to assessment is to assess a person’s ability to learn, rather than their current knowledge. This approach is known as dynamic assessment and follows a test-teach-test model. First the a specific skill is tested and if this is found to be an area of difficulty, the skill is taught, then the skill is re-tested to determine whether the person has been able to learn the new skill (Gutiérrez-Clellen, & Peña, 2001; Lidz, & Peña, 1996). Dynamic assessment has been described as a less biased approach to the assessment of people from culturally and linguistically diverse backgrounds as it tests the potential to learn new concepts rather than current knowledge which can be dependent on level of exposure to a language (Peña, Iglesias, & Lidz, 2001). Another alternative approach to assessment is contrastive analysis. This can be useful as a way of contrasting a person’s speech, language, and communication with a target communicator from the same language and cultural background. In this form of assessment the contrast acts as normative information to identify if errors in communication are genuinely in need of intervention or if such differences are typical due to the linguistic influences upon a person’s speech (McGregor, Williams, Hearst, & Johnson, 1997)
Resources: There are a number of free online materials available to support practice with culturally and linguistically diverse populations including free online books in multiple languages and lists of assessments in languages other than English are available at the following links:

International children’s digital library
http://en.childrenslibrary.org/

Children’s Books Online by the Rosetta Project
http://www.childrensbooksonline.org/

Children’s books forever
http://www.childrensbooksforever.com/

Links to speech assessments in available in many languages
http://www.csu.edu.au/research/multilingual-speech/speech-assessments

The Intelligibility in Context Scale, a screening tool available in English with accompanying translations into many of the languages spoken by Australian families
http://www.csu.edu.au/research/multilingual-speech/ics

Collaborating with other key people

Professional collaboration is important for providing holistic services to culturally and linguistically diverse families. If the family is not fluent or confident in English it is important to collaborate with interpreters to ensure that families are fully informed at all times (Campinha-Bacote, 2002). Additionally, cultural brokers, that is support workers from the family’s cultural background, can be used to create a bridge of understanding, familiarity and trust between SLPs and families from different cultural backgrounds (McElroy & Jezewski, 2000). If a cultural broker is not available it may be worthwhile consulting a trusted member of the community to build trust and mutual understanding so that families feel comfortable and safe when accessing services. When working with
children, collaboration with teachers and parents during assessment is important to gain a holistic picture of children’s communication and interaction as these are the people who spend the most time with the child and see them in every day settings. Collaboration with parents and teachers is also important during intervention with all children to ensure follow through between the home school and clinical contexts.

It is also important to consider whether families would benefit from the input of other professionals (such as physiotherapists, occupational therapists, social workers, dieticians or psychologists etc.). Once a trusting relationship has been established with a professional they can act as a bridge to learning about and accessing other services for the family. Additionally, the knowledge and skills of colleagues and co-workers may be useful if they speak other language or have experience in diverse cultures that could be drawn upon to support practice. Collaborating with more knowledgeable others is a vital component of ongoing professional development and developing cultural competence.

**Being flexible: one size does not fit all**

A dilemma in health practice is that often a generalisable “one size fits all” approach to practice can be sought and applied. In contrast, the most important component of culturally competent practice is recognising that each individual is different and therefore will require a unique approach to practice. This approach is will be based on the individual’s language, culture, beliefs, interests, and goals. Engaging in culturally competent practice does not require SLPs to do away with current practice and start again, rather using the principles described in this article SLPs can adapt existing practice to ensure that it is culturally responsive and meets the needs of families from culturally and linguistically diverse backgrounds.
Applying these principles to individual contexts

The application of the six principles described above will be different depending on the context in which SLPs practice and backgrounds and individual perspectives of the families they serve. Services based in settings such as schools, hospitals, universities, community health services, and private practice will each have their own barriers and facilitators to adapting aspects of practice to ensure that services are culturally competent. A key starting point is to reflect upon current practices both at the individual and organisational level at the stages of referral, assessment, intervention, collaboration, and discharge to identify possibilities for incorporating aspects of cultural competence into existing practices (Verdon, McLeod & Wong, 2014). Once these possibilities have been identified, achievable changes can be implemented to enhance practice with culturally and linguistically diverse families. Larger changes may challenges the existing practice of an organisation and therefore require more planning, thinking, and negotiation.

Be a boundary pusher: Challenge existing practices

SLPs can play a key role in enacting both bottom-up changes to practice through their daily activities, and advocating for top-down changes at the organisational level. Individual SLPs have the power to make smaller changes in their own practice which can have positive flow on effects for larger changes to practice in their workplace. It is important for SLPs to have a vision of ideal practice and to actively make steps towards achieving this ideal by taking an activist stance towards promoting and enacting culturally competent practice. Oftentimes creating positive change requires SLPs to push the boundaries of existing practices when new evidence or more efficient approaches to practice are identified. SLPs can use the principles outlined in this article think outside of existing practice and identify opportunities to enhance their current
practice. If every professional incorporated these principles into their individual practice with culturally and linguistically diverse families, positive steps could be taken towards supporting all people with speech, language and communication needs to reach their potential as competent communicators and active participants in society.

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References


Part 2: Summary and Conclusion

Often in research, a divide exists between theoretical recommendations for optimal practice and the reality of practice as it is enacted in everyday situations. In presenting Part 2 of this thesis the aim was to bridge this divide by first exploring the aspirations and recommendations of expert researchers in the field (in Paper 5) and then investigating the practice-based reality of working with culturally and linguistically diverse children (papers 7, 8, and 9). Comparing the findings of these papers demonstrates the ways that expert researchers can inform practice in a top down manner. But just as importantly, the findings of the papers demonstrate that expert practitioners engaged in the reality of daily practice can challenge, create, and innovate to inform practice in a bottom up manner. Engeström, the founder of CHAT, refers to this as the dialectical roles played by idea-driven visions for the future of practice (experts’ aspirations and recommendations) and practice-driven approaches to re-designing practice, in this instance the practice of speech-language pathology with culturally and linguistically diverse children (used by participants in the Embracing Diversity – Creating Equality study) (Engeström, Virkkunen, Helle, Pihlaja, & Poikela, 1996).

The purpose of taking a systems-based approach to analysis, such as CHAT, for Part 2 of this thesis was to ensure that the activity under investigation was considered holistically and from multiple viewpoints to enable consideration of all elements at play in the system. Analysis of the system of practice as a whole facilitates the identification of sources of tension and the implementation of appropriate plans of action to remove them (Roth, 2004). Part 2 provides an holistic understanding of how practice could be enacted in an ideal world based on the best available knowledge in the field to date. However, the true contribution of Part 2 is that it then builds on this knowledge by
providing key overarching principles to facilitate the achievement of these aspirations and recommendations in all facets of practice and supports the overarching principles by illustrating them with real-world examples of their enactment in individual cultural and organisational contexts around the world.

The section concludes by bridging the divide between research and practice by translating the findings of Part 2 into an article for a practice-based journal for Australian SLPs (Paper 9). It was important to translate the research from Part 2 for Australian SLPs since Part 1 addressed the cultural and linguistic diversity of Australia and the need for culturally appropriate services for culturally and linguistically diverse children in Australia. Paper 9 describes steps that can be taken by all SLPs in their daily practice to enhance their work with culturally and linguistically diverse children and their families.

Two key themes that became evident in Part 2 of this thesis were: (1) the importance of building strong working relationships and (2) the power of the individual practitioner to overcome the many barriers to providing culturally competent services to diverse families. Paper 7 highlighted the need to develop and maintain strong working relationships with all stakeholders involved in children’s lives. This includes professional relationships with teachers, allied health workers and interpreters as well as relationships with parents, families, communities and the children themselves across children’s entire range of social, personal and educational contexts. Such relationships are essential to ensure an holistic and contextually appropriate approach to cross-cultural practice. The important role of relationships with families and communities emphasised in Paper 8 reinforces the notion that medically-based models of practice that focus narrowly on the interaction between the SLP as the professional and the child as the patient are not appropriate or effective when working with culturally and
linguistically diverse families. Rather, there is a need to create trusting, respectful and reciprocal relationships with families and communities to support children’s speech, language, and communication development in ways that are culturally and linguistically relevant to the individual child.

The power of the individual practitioner was a key theme identified in part 2 as the findings identified opportunities for SLPs to overcome the dominant rhetoric that suggests the challenges to culturally competent practice are systemic and beyond the control of the individual practitioner. Through the use of CHAT as an analytical lens, practice was able to be viewed both holistically and as a construction of a number of elements. The interconnected nature of these elements highlighted the possibility of the individual to affect change within a large system by enacting change within one element of the system, which would inherently lead to changes within the system as a whole. For example, if an SLP (subject) changes from using a story book written in English to using a book from a child’s home language (mediating object) to work on the goal of asking and answering questions (object), respect and value are given to the family’s home culture (community). By using the book in the parents’ home language parents are now able to participate in therapy and gain the skills to continuing the same activity at home (division of labour). In the same way a negative aspect of the system, such as SLPs failing to understand families’ home communities and culture can have a negative flow on effect to every other aspect of practice, making services less effective.

References
Conclusion to the thesis

This thesis has contributed to the literature by increasing current knowledge regarding culturally and linguistically diverse children’s language use and maintenance, and ways to support their speech, language and communication development. The contributions include: describing non-Indigenous and Indigenous children’s linguistic diversity and language maintenance in Australia (an English-dominant context with multilingual diversity); identifying service distribution and need using mapping technology; presenting expert opinion regarding aspirations and recommendations for practice; and exploring international practice with culturally and linguistically diverse children to illuminate pathways for enhancing practice by embracing diversity and creating equality.

The thesis included a diverse range of innovative research designs to answer complex research questions, each designed to fill an identified gap in the literature in this field. The mixed methods design of this doctoral research drew upon both the breadth provided by large-scale quantitative research and depth of understanding provided by qualitative approaches to inquiry (Denzin & Lincoln, 2011). Part 1 (Paper 1) drew upon a large-scale nationally representative longitudinal data set to document Australian children’s linguistic diversity in the early years. In Paper 2, personal and environmental factors that facilitate culturally and linguistically diverse children’s home language maintenance were identified. These include: parental use of home languages, generations since migration, type of childcare attended, and parents’ perceived support and understanding from teachers/educational environments. Part 1 also presented language data from the largest known longitudinal study regarding Indigenous children in the world (Paper 3). Such a contribution takes significant steps to demonstrating how large-scale longitudinal datasets can provide valuable information regarding Indigenous
language learning and revitalisation not only for Australia but for other English-dominant countries seeking to support and safeguard their Indigenous knowledges, languages, and culture. Finally, Paper 4’s innovative research design drew upon two key datasets and utilised mapping software to visually report these data. In doing so, areas of need in Australian speech-language pathology service provision for culturally and linguistically diverse children were identified.

In Part 2, the application of CHAT contributed to the literature by providing a new lens through which tensions and possible solutions to the well-documented challenges to the practice of speech-language pathology with culturally and linguistically diverse populations. It appears that, this the first holistic application of CHAT to the field of speech-language pathology and thus has been used as a tool to expand conventional thinking regarding practice, moving from a narrow focus on specific elements of practice to an all-encompassing way of understanding the interconnected nature of every element within the practice system. As a result, the aspirations and recommendations provided by international experts (in Paper 5) were recognised for their potential to inform and change practice. At the same time, the application of CHAT illuminated possible limitations of these perspectives, as it was acknowledged that the fulfilment of an aspiration in one area (such as SLPs engaging in community-based approaches to practice) may be hindered by the realities of practice in another (such as organisational rules binding where SLPs can conduct services).

The design of the Embracing Diversity – Creating Equality study further contributed to the literature through its scale, the diversity of practices documented, and the cultural sensitivity of its flexible research design. The study used ethnographic observation and multiple forms of data collection to gain a rich and broad understanding of approaches to practice with culturally and linguistically diverse children in 14 sites.
The findings of the Embracing Diversity – Creating Equality study progress the literature by moving beyond the documentation of challenges to practice or the focus on a single aspect of practice to provide an holistic overview of ways to enhance SLPs’ practice as a system.

Furthermore, the use of CHAT in this study has made visible the potential power held by individual SLPs who have often been disempowered by the seemingly insurmountable challenges to practice documented in previous literature. Without naively minimising the very real challenges inherent in practice, the study’s use of CHAT demonstrates that all aspects of a practice system are inextricably linked, and therefore SLPs can become aware that making even a small change to one element of practice in their daily routine can have flow on effects for enhancing practice on a larger scale and promoting positive interactions and outcomes with culturally and linguistically diverse families.

**Summary of findings in reference to research questions**

1. *What is the linguistic diversity of Australian children aged between 0-5 years?*

   *(Papers 1 and 3)*

The findings of this research, which drew upon longitudinal data from the nationally representative LSAC study, indicated that Australian children are linguistically diverse with individual children in the study speaking up to four languages. At 0 to 1 years, 10.8% of children were spoken to in a language other than English at home. By age 4 to 5 years of age approximately one in six children (15.3%) were reported to speak a language other than English. Similar to findings regarding the Australian population as a whole, no dominant second language was identified among Australian children. The main languages spoken by Australian children other than
English were Arabic, Italian, Greek, Spanish, and Vietnamese. Indigenous children from Aboriginal or Torres Strait Islander backgrounds in the LSIC study were found to speak up to six languages. Around one fifth (19.3%) of children aged between 3 and 5 years in the study spoke an Indigenous language and nearly half (43.1%) of the children were reported to speak Aboriginal Australian English.

2. **What patterns of home language maintenance and loss are occurring among both Indigenous and non-Indigenous Australian children?** *(Papers 2 and 3)*

Among children in the nationally representative LSAC study, the use of home language was found to reduce over the first 5 years of childhood with 86.6% of children who spoke a language other than English maintaining the language through to 4 to 5 years of age. Patterns of language maintenance were found to vary among different language groups. For example, of children who learned to speak Arabic from birth, 86.0% maintained speaking Arabic across the first 5 years of life. Those who ceased speaking Arabic began to speak other languages (e.g., Assyrian and Mandarin). In contrast, just 52.0% of children who learned to speak Italian from birth were reported to maintain Italian across the first 5 years of life. Children who ceased speaking Italian were found to have a language shift towards English. In the LSIC study, 76.3% of the Aboriginal or Torres Strait Islander children who learned an Indigenous language from birth maintained speaking an Indigenous language across early childhood.

3. **What are the personal and environmental factors associated with home language maintenance among Australian children in early childhood?** *(Papers 2 and 3)*

For children in the LSAC study, parental use of a language other than English in the home, type of childcare setting (i.e., family-based care was more likely to result in
increased occurrence of language maintenance), generations since migration (i.e., first and second generation migrants increased maintenance), and parents’ perceived level of support from teachers and educational settings (i.e., less perceived support increased maintenance) were all found to be significantly related to language maintenance in early childhood. For Aboriginal and Torres Strait Islander children in the LSIC study, the use of an Indigenous language by a primary caregiver and living in a remote region of Australia were both significantly associated with Indigenous language maintenance.

4. What speech-language pathology services are available to support culturally and linguistically diverse children in Australia? (Paper 4)

A mismatch was identified between the location of, and languages in which, multilingual services were offered, and the location of, and languages spoken by Australian multilingual children. This mismatch indicated the need for SLPs to be culturally competent to engage in effective practice with children from language and culture backgrounds that are different from their own.

5. What are international experts’ aspirations and recommendations for practice with culturally and linguistically diverse children and their families? (Paper 5)

The aspirations of the International Expert Panel on Multilingual Children’s speech were that:

- SLPs will engage in practice that is culturally inclusive, based upon the languages and culture of the children with whom they work
- SLPs will increase confidence regarding working with multilingual children by gaining broad knowledge of diverse languages and cultures
- SLPs will use culturally and linguistically appropriate tools for holistic assessment
- SLPs will explore possibilities of technology to improve practice
- The academic community will accept more varying forms evidence to increase
knowledge of multilingual populations

- Organisational rules will allow for flexible approaches to practice
- SLPs will engage in community-based approaches to practice
- All professionals will be culturally competent.

The recommendations of the International Expert Panel on Multilingual Children’s speech for achieving these aspirations were that:

- Consideration will be made of the functional impact of children’s communication upon participation and interactions in context
- Training will be provided for working with multilingual children, transcription of speech across languages, and working with interpreters
- The ICF-CY (WHO, 2007) will be adopted to facilitate holistic practice
- Linguistic and background information will be collected from numerous sources including parents, children, and direct assessment
- All languages spoken by children will be assessed
- Interpreters and bicultural support workers will be utilised to aid in bridging cultural and linguistic barriers
- SLPs will be allowed sufficient clinical time to adopt recommended strategies for assessment, analysis, and intervention
- SLPs will engage with the child’s community to earn trust, and build relationships and to enable parents to feel heard and valued.

6. How can SLPs’ current practices be re-considered using qualitative methodologies to support more effective engagement with culturally and linguistically diverse children and their families? (Paper 6)

Qualitative approaches provide a lens through which existing practices can be viewed to create new understandings of both professionals’ and families’ experiences of
practice to identify potential opportunities to optimise these experiences. The application of a theoretical framework, such as CHAT, allows for practice to be viewed in its entirety to facilitate consideration of all elements that impact upon the activity and to allow for the identification of both tensions and opportunities for improvement within an activity system. Qualitative approaches, such as ethnography, can empower practitioners and researchers to focus on a single site or practice in detail, from multiple viewpoints, and critically reflect on practice to gain insight into areas of strength as well as areas for improvement to support the best possible outcomes for people with communication needs.

7. What current practices are occurring to support culturally and linguistically diverse children with speech, language, and communication needs? (Paper 7)

The analysis of current practices from 14 international sites in the Embracing Diversity – Creating Equality study identified six key overarching principles for supporting children with speech, language, and communication needs from culturally and linguistically diverse families.

They are:

(1) identification of culturally appropriate and mutually motivating therapy goals;
(2) knowledge of languages and culture
(3) use of culturally appropriate resources
(4) consideration of the cultural, social, and political context
(5) consultation with families and communities and
(6) collaboration with other professionals.

The application of these principles in individual practice contexts can assist in the development of stronger relationships between SLPs and families, with the aim of
facilitating positive outcomes for culturally and linguistically diverse children with speech, language, and communication needs.

8. How do SLPs collaborate with families and communities to support culturally and linguistically diverse children with speech, language, and communication needs and what are the realities, benefits, and tensions of collaborative practice? (Paper 8)

SLPs’ collaboration with families and communities varied greatly in the study depending on the social, cultural and political context of the sites. The analysis of SLPs’ collaboration with families highlighted the importance of gaining an understanding of different cultural expectations and approaches to family involvement and building partnerships with families to work towards common goals. Collaboration with communities was highlighted for its ability to facilitate SLPs’ understanding of children’s cultural context and for building respectful, reciprocal relationships which draw upon the combined skills of the SLPs and the cultural knowledge of community members. A number of tensions to engaging in collaborative practice were identified and the development of cultural competence among SLPs was seen as an essential step to overcoming the often unspoken or invisible tensions arising in cross-cultural practice.

9. How can SLPs demonstrate cultural competence and enhance their practice to facilitate positive outcomes for culturally and linguistically diverse children with speech, language, and communication needs? (Paper 9)

The attainment of cultural competence is not an endpoint, but rather an ongoing process and career-long aspiration. The findings of this thesis highlight that cultural competence can be gained in two main ways (1) internally; for example, through self-reflection and increased understanding of one’s own beliefs, values, and potential biases and (2) externally; for example, through professional training or taking time to build
relationships with people from culturally and linguistically diverse backgrounds. SLPs can enhance their practice by applying the six overarching principles identified in research question 7 to their work with families from culturally and linguistically diverse families.

**Implications for policy and practice**

Integration of the findings of the nine papers included in this thesis reveal the significance of the contribution made by this body of research. The findings of Part 1 have important implications for the planning of both health and education services in Australia, and may be of interest to other English-dominant countries that have multilingual populations. The research found that approximately one in six Australian children do not speak English as their primary language at the age of formal school commencement. This has significant ramifications for both individuals and society more broadly, given that the language of instruction in Australian schools is English. If health and education policies are not designed to support children to develop skills in their home language as well as the dominant language required for academic engagement in educational environments this may have long term impacts for their personal and academic success, their sense of identity, as well as their ability to participate in their families, communities, and broader society.

The findings of Part 1 have already been recognised for their potential to influence and inform policy. Significantly, the findings of Paper 4 were cited in the 2014 Australian Government Senate Inquiry into the prevalence of different types of speech, language, and communication disorders and speech pathology services in Australia and the final report from this Senate Inquiry made recommendations that mapping (such as that used in the current research) be used as a research design to further advocate for service provision and appropriate service planning in Australia.
(The Senate Community Affairs Reference Committee, 2014). It is hoped that the findings of Part 1 will continue to be used to inform service planning and provision in Australia.

The findings of this research also have a number of implications for practice in speech-language pathology. The findings call upon SLPs to reconsider current approaches to practice with culturally and linguistically diverse families. Guided by the six overarching principles identified in Part 2, SLPs can reflect upon opportunities for enhancing practice to ensure that it is culturally appropriate and tailored to meet the specific and functional needs of individual children and families. This research empowers SLPs by demonstrating that using a systems-based approach to understanding the activity of practice it becomes clear that all elements are interconnected and by making a small change to just one element of practice, SLPs can impact other areas of the system and engage in the transformation of practice as a whole. The findings of Part 2 have already been recognised for their potential to influence and inform SLPs’ practice. The author of this thesis was invited by Speech Pathology Australia to present these findings in a national webinar during February 2015, to encourage SLPs to reflect upon and enhance their practices with culturally and linguistically diverse populations. Additionally, the author has been invited to oversee the revision of Speech Pathology Australia’s position statement and practice guidelines for working in a culturally and linguistically diverse society. Other invitations are outlined at the beginning of this thesis. It is hoped that the findings of Part 2 will continue to be used to inform SLPs’ practices in the future.

Limitations

There are a number of limitations that may have impacted upon the findings of this doctoral research. Specific limitations for each paper are outlined within the
individual papers; therefore, in this section broader limitations to the research as a whole are discussed. Firstly, the use of secondary data analysis from LSAC and LSIC in Part 1 meant that the researcher had no control over what and how information was gathered. This meant that the current research was limited to the questions asked in the study regarding language acquisition and maintenance, and further clarification of responses from participants was unable to be sought. In future large-scale data collection, it would be beneficial to ask additional questions about children’s language acquisition and use, such as the age at which children began learning each language (to inform whether they were sequential or simultaneous language learners), children’s primary language, children’s level of proficiency in each language, and the contexts in which each language was being learned.

In Part 2, the depth of information collected was limited by the amount of time spent in each site. This was restricted by the availability of participants to host the researcher at their site. Additionally, as practice sites were the focus of the investigation, not individual participants, limited background data were collected regarding the individual participants’ training, years of experience and cultural influences upon their practice.

It is also acknowledged that the inclusion of an Australian site in the Embracing Diversity – Creating Equality study would have enabled an important link between the findings of Part 1 and the realities of practice in Part 2. A number of Australian sites were contacted. Some declined and others were unable to participate during the allocated period of data collection due to unanticipated organisational and structural changes. Additionally, attempts were made to recruit sites that were lead by an educator or other professionals to investigate inter-professional practice in education-based settings from the perspective of educators. Again, no sites were able to be recruited that
met these criteria during the period of data collection. However, the 14 sites visited were in diverse locations, including in educational settings, so some inter-professional practices were able to be observed.

Furthermore, as is inherent with qualitative methodologies, it is impossible to remove ‘the self’ from data collection and analysis and therefore the interpretations of this study are influenced by the personal experiences, understandings, beliefs, and attitudes of the author (Johnson, 1997). When working cross culturally, it is also important to recognise the potential for power imbalances between researchers and participants. Even if a power balance is not perceived by the researcher, the hidden presence of a power imbalance as perceived by participants can impact upon feelings of obligation to participate and give the “right” answer (Marshall & Batten, 2004). While the potential presence of power imbalances between the researcher and the participants was accounted for as much as possible during the development of information and consent forms it is possible that this issue still impacted the findings of this research. It is also recognised that there are boundaries to the extent to which an outsider can gain access to another cultural context or setting. The very presence of the researcher impacts upon the interactions that are observed and the behaviours of those participating in the research (Pope & Mays, 1995). Nevertheless, the research design attempted to account for this by using multiple methods of data collection to gain as much information about the sites as possible and to facilitate the triangulation of findings between different sources.

**Future directions**

Both the findings and the innovative research design of this doctoral research have potential as foundations for future research in this field. The benefits of using large-scale data sets to describe and identify speech, language, and communication needs
among children have been identified in the literature (Tomblin, 2010). In Part 1, the potential of large-scale longitudinal datasets to provide important information about children’s language development and use is demonstrated. Future research could draw upon the longitudinal nature of the data in these studies to continue investigation of children’s language use patterns across childhood, adolescence, and into adulthood. Such longitudinal research could also consider changes in the personal and environmental factors which support or inhibit language maintenance as children grow older, for example: gender, educational setting, peer attitudes towards home language use, or personal preference. Additionally, the mapping of services in Part 1 has potential to become a powerful tool for policy planning and the prioritisation of funding to areas in most need of services. Interest in this method of analysis has already been expressed by the Australian Government and could be of use to governments and policy makers around the world.

The International Expert Panel on Multilingual Children’s Speech intends to use the aspirations and recommendations presented in Paper 5 as a building block for informing practice among multilingual populations. Future research among this group could involve a series of tutorials to demonstrate practical steps for SLPs to effectively and realistically achieve the aspirations and recommendations outlined in this paper.

Research building on the Embracing Diversity – Creating Equality study could use the existing methodology to investigate practice in Australian sites and in inter-professional sites from the perspectives of others involved in the support of children’s speech, language, and communication (e.g., educators). Further research could investigate the application of the six overarching principles for practice identified in this research in settings where challenges are experienced when working with culturally and linguistically diverse populations. This could be enacted through professional
development workshops and subsequent follow up with participants to understand the impact of learning about the application of the six principles identified in the study on their daily practice. Alternatively, the implementation of the overarching principles for practice could be enacted using an action research methodology in selected sites.

**Theoretical contribution**

The findings of the Embracing Diversity – Creating Equality make a theoretical contribution by allowing SLPs to re-conceptualise their own role in the provision of services to culturally and linguistically diverse children and families. The use of CHAT as a theoretical framework to underpin this research foregrounds the holistic and interconnected nature of all elements within the activity system of practice. In doing so, the individual SLP is empowered through the realisation of their own agency and ability to affect change within the system. The findings of this thesis illuminate opportunities for SLPs to make changes to their everyday practice, guided by the six overarching principles described in Papers 7 and 9.

The concept of individual power and autonomy in the context of a larger system is directly in opposition to the rhetoric of contemporary literature which, in some cases, positions the SLP as a powerless individual working against insurmountable challenges arising from difference and diversity between themselves and the families they serve (e.g., Jordaan, 2008; Kritikos, 2003). Whilst not denying these challenges, this doctoral research aims to progress the literature beyond the identification of individual challenges and obstacles by providing guidance for viewing practice holistically. In doing so, the research identifies potential solutions to the challenges that have been reported while at the same time acknowledging the reality of structural, cultural, and political challenges to achieving changes to practice.
Much of the evidence upon which practices in the speech-language pathology profession are based has been developed and trialled in controlled clinical settings (e.g., Baker & McLeod, 2011). Therefore, the generalisability of these practices to “non-standard” populations, such as children and families from culturally and linguistically diverse backgrounds is often unknown or not supported by evidence. Additionally, the application of such practices to diverse, non-clinical, practice contexts (such as schools, community-based settings and inter-professional practice contexts) has limited evidentiary support. The Embracing Diversity – Creating Equality study addressed these issues by drawing upon practitioner expertise and observations from real-world practice contexts to inform the development of overarching principles to facilitate re-thinking of existing practices and to guide SLPs’ practice and in diverse contexts with culturally and linguistically diverse children and families.

Furthermore, in order to move beyond the challenges of working with culturally and linguistically diverse families, the findings of this research highlight the importance of SLPs looking inward as well as outward. Looking inward involves SLPs engaging in self-reflection and becoming aware of the influences of their own culture, views, and biases upon their practice. On the other hand, looking outward requires SLPs to think beyond the clinical context and acknowledge the diversity of the broader community in which they practice, considering the ways that children and families’ communication, attitudes, and actions are influenced by their cultural context. This means moving away from a prescriptive one size fits all approach to “best practice” and towards the development of unique approaches to practice designed to meet the specific needs of each individual family they serve.
Reflections of the researcher

At the beginning of this doctoral research I set out to create a series of documents to inform the work of professionals in providing “best practice” speech-language pathology services to culturally and linguistically diverse children. However, in the very process of working towards this goal I have concluded that in fact the situation is far more complex than can be held in a series of concrete and prescriptive documents. Reflecting upon my experiences as an SLP I can track my own movement along a continuum of cultural competence (see Figure 4).

Figure 4. A journey of cultural competence

Beginning as a novice with limited understanding of cultural and linguistic diversity I have become more comfortable and have developed confidence in working cross-culturally with families from diverse backgrounds. I recognise that cultural competence is an ongoing journey, rather than a final goal to be obtained. In each new experience and encounter with a family I gain more insight about the diversity of humanity and am continually heartened by the fact that it is this diversity that makes a society strong. It has been said that “diversity is the art of thinking independently
together” (Forbes, 2015) and therefore the ability of a society to embrace diversity is what makes it collectively greater than the sum of its parts.

In the process of completing this doctoral research I have come to know that while all children are created equal, all children are created differently. In adopting this as an absolute reality, the implication of this reality on service provision is that all children deserve equitable services: of equitable quality and equitable access, but each child requires different services depending on their unique culture(s), languages(s), life experiences, and their social, political, and environmental context. Therefore, instead of prescribing a one size fits all model of “best practice”, I have examined the practice of SLPs with culturally and linguistically diverse children as a complex and highly varied activity and provided overarching principles to guide holistic consideration of children, taking into account their individual needs and their individual contexts. By embracing the cultural and linguistic diversity of the children and families we work with, I believe that collaborative practice in speech-language pathology too can be greater than the sum of its parts.

**Concluding remarks**

This thesis presents important and previously unknown information regarding culturally and linguistically diverse children’s home language acquisition and maintenance in the English-dominant context of Australia. The findings of this research inform service planning and provision to assist in achieving the United Nations’ and Council of Australian Governments’ goal of providing every child with the best possible start to life regardless of their cultural background or the language they speak (Council of Australian Governments, 2009; United Nations, 1989). Further to this, the use of CHAT as a theoretical framework for understanding practice not only facilitates the identification of tensions in practice systems, but can also be used to advocate for
members of the activity system (in this case, SLPs) to take an activist stance in resolving such tensions (Stetsenko, 2008). The findings of this research are potentially empowering for SLPs as they highlight possibilities for SLPs to effect large-scale changes to current practice through the implementation of small-scale changes in their daily activities. SLPs are called upon to challenge existing practices that are not in the best interests of the children and families with whom they work. In doing so, SLPs are encouraged to reflect on and re-evaluate their own skills and knowledge, discarding less effective ways of thinking and integrating new knowledge to adopt different approaches to practice, which better meet the needs of the children and families they are seeking to serve.

References


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LETTER OF INVITATION – SITES
Celebrating and supporting cultural and linguistic diversity in the provision of services for multilingual children with speech sound disorders

This study will be conducted by:

Sarah Verdon (+61)263384420, sverdon@csu.edu.au
Chief Investigator, Speech Pathologist, PhD student
Charles Sturt University, Bathurst, Australia

Professor Sharynne McLeod (+61)263384463, smcleod@csu.edu.au
PhD Supervisor, Charles Sturt University, Bathurst, Australia

Dr Sandie Wong (+61)263384437, swong@csu.edu.au
PhD Co-supervisor, Charles Sturt University, Bathurst, Australia

Dear xx,

Australia’s children are linguistically diverse, and many speak and understand more than one language. It is essential to support young children’s linguistic development and communicative competence in the language(s) they speak prior to school in early childhood education and care, speech pathology and integrated services. Throughout the world there are many innovative practices taking place to support the speech development of multilingual children. This study aims to investigate and collate examples of quality practices from diverse sites around the world to develop a model of early childhood education and care and speech pathology services for supporting multilingual children with speech sound disorders in the Australian context. Your service has been identified as a site that engages in quality, evidence based and/or innovative practices with multilingual children and is invited to participate in this study.

The goal of the study is to answer the following research questions:

1. Within a speech pathology setting, how are services (referral, assessment and intervention) effectively provided in culturally appropriate ways to ensure positive outcomes for multilingual children with speech sound disorders?
2. How do innovative practitioners develop and maintain cultural competence within a clinical and/or educational setting?
3. How do integrated services support multilingual children’s communication development?

Procedure
The study will be carried out as follows:

1. The researcher (Sarah Verdon) will attend your site each day for one working week (5 working days) to observe the typical practice of a nominated professional within your site (e.g. therapy sessions, group activities, outdoor games, and interactions).
2. During the observations, data will be collected in various forms including written field notes, photographs, audio and video recordings and documentation of artefacts such as case history information and resources used in the centre. Where appropriate, these artefacts will be de-identified so that the site and participants are not identified.

3. Following observations, semi-structured face-to-face interviews will be conducted with early childhood professionals/speech pathologists. The purpose of the interviews will be to discuss what has been observed to create a shared understanding of the practices that take place at the site, gain further information about practices, and to check participants’ agreement and satisfaction with the data that has been collected. These interviews are anticipated to take approximately 20 minutes but may vary in length depending on what has been observed and the content of the conversation.

4. Semi-structured face-to-face interviews with multilingual children and their families (where applicable) who consent to participate in the study will also be conducted. These interviews will be carried out to provide further insight into how services meet the needs of multilingual children and their families from their own viewpoint. Questions will be asked with regards to aspects of the service that support/facilitate multilingual children’s learning and what else could be done to meet the needs of these children. Interviews with family members are expected to take 10-30 minutes, and interviews with children 5-10 minutes. It is anticipated that up to 5 children (and a member of their family, where applicable) from each site will be interviewed.

If you consent to participate in this study, you will be asked to do the following:

Before the visit
- Email Sarah (sverdon@csu.edu.au) to say that you are interested in participating in the study.
- Identify whether ethics approval is required to conduct research within your site, and if so forward the details of how approval can be obtained to the chief investigator, Sarah Verdon.
- Nominate one or more professionals from your site whom you believe engages in quality, evidence based and/or innovative practices to participate in this study. Please note, the nominated speech pathologist or early childhood education and care professional must have at least a functional level of proficiency in English.

During the visit
- Allow the researcher to attend and observe the services provided by the nominated professional/s at your site for one week
- Allow the researcher to access background information about children at your site such as enrolment/referral forms, previous assessments etc.
- If possible, set aside a room for the researcher to carry out interviews with professionals, children and their families who agree to participate in the study.

Please note that the researcher has a current Australian Working with Children Check. If any other documentation is required at your centre, please notify the Sarah before consenting to participate.
Ethical Considerations

This study has been approved by the Charles Sturt University’s Ethics in Human Research Committee. Please notify the Sarah Verdon if further ethics approval is required in order to conduct research at your centre/practice. If this is necessary, please send details of the process that is required for ethics approval to be gained. Confidentiality of participants will be protected during the reporting of the data collected in this study. Measures will be taken to ensure that participants’ identity will not be revealed by the use of names or specific contextual information that may identify a centre/practice or individual participants.

In the collection of audio data, names will be omitted from transcripts and pseudonyms will be used in their place. When reporting visual data faces will be obscured in video and photographs unless consent is explicitly given by participants for these data to be used in reporting and presentations. Written material from case file etc. will be de-identified with names and other identifying information blacked out. Participants will have the opportunity to review data that has been collected before consenting to its use in future publications or presentations. If a child appears upset or distressed by the presence of the researcher, observations of that session will cease.

Your site, and nominated professionals within the site, should in no way feel obliged to participate in the research if they do not wish to and are free to withdraw at any time without having to give a reason and without consequences.

Further Information

Charles Sturt University’s Human Research Ethics Committee has approved this study. I understand that if I have any complaints or concerns about this research I can contact:

Executive Officer
Human Research Ethics Committee
Office of Academic Governance
Charles Sturt University
Panorama Avenue
Bathurst NSW 2795
Phone: (02) 63384628
Email: ethics@csu.edu.au

Please do not hesitate to contact me - Sarah Verdon, chief investigator – ((+61)2 63384420, email sverdon@csu.edu.au), or one of my supervisors - Professor Sharynne McLeod ((+61)263384463, smcleod@csu.edu.au) or Dr Sandie Wong ((+61)263384437, swong@csu.edu.au) - if you are interested in participating or if you have any queries and/or would like further information about the study.

Thanking you in advance for your time and assistance,

Sarah Verdon BHlthSc(SpPath)(Hons)
PhD Candidate, RIPPLE, Faculty of Education, Charles Sturt University
Professor Sharynne McLeod
Charles Sturt University, Bathurst, Australia
Dr Sandie Wong
Charles Sturt University, Bathurst, Australia
APPENDIX B

INFORMATION SHEET – CHILDREN

Celebrating and supporting cultural and linguistic diversity in the provision of services for multilingual children with speech sound disorders

This project will be conducted by:

**Sarah Verdon** ((+61)263384420, sverdon@csu.edu.au)
Chief Investigator, Speech Pathologist, PhD student
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PhD Supervisor, Charles Sturt University, Bathurst, Australia

**Dr Sandie Wong** ((+61)263384437, swong@csu.edu.au)
PhD Co-supervisor, Charles Sturt University, Bathurst, Australia

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**Information about the study**

Lots of children, like you, can speak more than one language (for example: list child’s languages). When you speak more than one language you need to learn how to say more sounds than children who only speak one language. This can be tricky and sometimes you need extra help from an adult to teach you about talking and making your sounds correctly. Sometimes the adults you work with find it hard to know which sounds to practice and what activities you should do to help with your language. This is because some adults only speak one language or because they don’t speak the same languages as you. I heard that your teacher/speech pathologist has been using some good activities to help you with your talking. I would like to come and watch you working together so that I can learn about your activities. I want to teach other adults how to help children who speak more than one language to work on their talking.

**Procedure**

If you say yes, this is what I would like to do:

1. I (Sarah Verdon) will come to your child care centre/speech pathology practice for one week and watch the activities that you do with your teachers/speech pathologist/group (e.g. work time by yourself, group activities, and outdoor games).

2. While I watch your activities I will be writing down notes, taking photographs and recording videos and sounds so that when I leave I can remember all of the activities that I saw.
3. When your activities are finished I would like to ask you some questions about what I saw. I will show you some pictures and/or recordings that I have taken and ask if it is ok that I keep them. I will ask you about how your teacher/speech pathologist helps you with your talking and what parts of the activities you like and what parts you don’t like.

If you say yes to working with me, you will need to:

- Let me come and watch your activities at child care/speech pathology
- Talk with me for about 5-10 minutes at the end of your activities so that I can ask you some questions.

**Ethical Considerations**

I work for a university and they have given me permission to come and work with you if you say it is OK.

When I am writing about all of the things I have learned about good talking for children who speak more than one language from watching your activities I won’t use your name so that you don’t have to worry about anyone knowing that it was you who I worked with. Do you want to choose a different name that I can use when I talk about you?

Before I use any of the photographs or videos that I take when I am looking at your activities I will show them to you so that you can give me permission to use them. If you don’t like them you can say no and I won’t show them to other people.

If you don’t want me to come and watch your activities and talk with you that is ok. Sometimes children like to work alone with their teacher/speech pathologist and not have other adults watch so you are allowed to say no.

If you would like me to come and work with you then you can say yes by writing your name or drawing another picture/symbol that gives your permission on the other piece of paper called the assent form. If you change your mind after you say yes then you can stop working with me at any time and that will be ok.

**Further Information**

If you have any more questions please talk to me by telephone or email ((+61)2 63384420, sverdon@csu.edu.au). If you would like to talk to one of my supervisors instead you can call or email Professor Sharynne McLeod ((+61)263384463, smcleod@csu.edu.au) or Dr Sandie Wong ((+61)263384437, swong@csu.edu.au)

Sarah Verdon BHlthSc(SpPath)(Hons)
Chief Investigator, Speech Pathologist, PhD student
RIPPLE, Faculty of Education, Charles Sturt University, Bathurst, Australia

Professor Sharynne McLeod
Charles Sturt University, Bathurst, Australia

Dr Sandie Wong
Charles Sturt University, Bathurst, Australia
ASSENT FORM – CHILDREN
Celebrating and supporting cultural and linguistic diversity in the provision of services for multilingual children with speech sound disorders

<table>
<thead>
<tr>
<th>Your name</th>
<th></th>
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<tbody>
<tr>
<td>Centre’s name</td>
<td>(details can be completed by an adult)</td>
</tr>
<tr>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>Phone number (inc. mobile)</td>
<td></td>
</tr>
</tbody>
</table>

- I agree to working with the researcher
- I understand the reason that the researcher wants to work with me
- An adult has read the information sheet to me and I understand what I will need to do with the researcher
- I understand that I can stop working with the researcher if I change my mind
- I understand that the researcher won’t use my name in her work or share any information about me without my permission
- I understand that I will be allowed to look at the pictures/recordings that the researcher takes while watching activities and can say yes or no to them being shown to other people.
- I understand that the researcher will use the information to write and talk about helping children who speak more than one language with their talking.
- I give permission for the researcher to use the information in other projects

I understand that if I have any complaints or concerns about this research I can contact:
Executive Officer
Ethics in Human Research Committee, Charles Sturt University
Private Bag 99, BATHURST NSW 2795
Telephone 02 - 63384628

Signed by:

_______________________________ (Child)  Date__________
_______________________________ (Parent/guardian)  Date__________
_______________________________ (Parent/guardian name)  Date__________

RETURN TO: Sarah Verdon, Charles Sturt University, Panorama Ave, Bathurst NSW 2795 sverdon@csu.edu.au