

PRINCIPLES FOR SECOND DIALECT CONSONANT ACQUISITION

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Research indicates that Australian Indigenous children rapidly fall behind their peers in literacy development (Thomson, De Bortoli, & Underwood, 2017) and this trend may relate to their oral language development (Williams & Masterson, 2010). Oral language skills, including phonemic awareness, have a direct impact on children's literacy development (Storch & Whitehurst, 2002). To explore this further, a study was conducted to develop guiding principles (GP) for future phonological programs. The perspectives of practitioners, university academics and Aboriginal community members were explored through semi-structured interviews in order to establish the most effective and culturally appropriate pedagogy to teach Standard Australian English (SAE) consonants to young Aboriginal children. The interviews were coded to identify common themes and substantiated through an analysis of previous research. Results indicated that a solid relationship exists between consonant articulation and literacy. For effective learning, children needed an awareness of both the articulators and the manner of articulation through sensory activities. The GPs developed in this research have the potential to be adapted to a variety of contexts and thereby support teachers and students in a variety of learning contexts.

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INTRODUCTION

Indigenous Australians represent 3% of the country's population (Australian Bureau of Statistics, 2011). There are approximately 120 Indigenous Australian languages spoken today (Marmion, Obata, & Troy, 2014). Thirteen of these are "strong", passed down from generation to generation, whereas around another 100 Indigenous languages are considered severely or critically endangered (Marmion et. al., 2014). The Australian Bureau of Statistics (ABS) (2011) recorded that 33.7% of Aboriginal and Torres Strait Islander children aged 4-14 years of age and 33.7% of Indigenous people over 15 years of age spoke an Australian Indigenous language. Australian Aboriginal English (AAE), which is a dialect of English and the focus of this research, is spoken by approximately 80% of the Australian Indigenous population (Malcolm, 2003). Australian Indigenous languages are spoken languages and little of them has been recorded until recently (Dixon, 2002; Malcolm, 1995). For this reason, Australian Aboriginal people are rarely literate (to read and write) in their own Aboriginal language/dialect.

Young Indigenous children's language acquisition is dependent upon their interaction and exposure to languages, opportunities to use languages, and attitudes toward languages (Patterson & Pearson, 2004). As such, exposure to languages at home has a large impact on children's language acquisition (McLeod, Verdon, & Bennetts Kneebone, 2014). In Australia,

Indigenous children grow up in a variety of language environments. Some are raised in multi-lingual environments, which may include an Indigenous language. Children may grow up in homes where other varieties of English are spoken. Indigenous children could be multi-lingual or multi-dialectal depending on their background. Therefore, as Indigenous children's exposure to Australian English (AE) may differ from non-Indigenous children's exposure, it is important that Indigenous children be supported in their language development during the early years of their school life considering that formal school education in Australia requires knowledge of Standard Australian English (SAE).

Over the last decade in Australia, there has been an increased focus on improving educational outcomes for Indigenous children, particularly in relation to SAE literacy (NSW Department of Education and Training, 2010; NSW Government, 2014). According to the ABS (2015), in 2014, 192,485 Indigenous students attended schools across Australia. To further the literacy development of these children in 2012-2013, the Australian Government committed an investment of 6.1% of all government direct expenditure to services for Indigenous and Torres Strait Islander Australians (Steering Committee of the Review of Government Service Provision, 2014). Despite these efforts, the difference between Indigenous and non-Indigenous students' literacy outcomes have remained the same (Thomson et al., 2017). This is problematic given that the Aboriginal and Torres Strait Islander child population (0-14 years) is projected to increase by 19-31% between 2011 and 2026 (Australian Bureau of Statistics, 2014) and as a result the difference between Indigenous and non-Indigenous literacy will become increasingly more critical to address in the future.

The ABS (2002) states that the difference between Indigenous Year 3 students' (8-9- year-old students) reading results (77%) and non-Indigenous Year 3 students' reading results (89%) in the 2000 national reading benchmark studies could be attributed to English being a second dialect for some Indigenous students. These children may speak Australian Aboriginal English (AAE) as a first dialect and SAE taught in schools, as a second dialect. Butcher (2008) and Eades (1993) support this suggestion and point out that AAE and SAE have considerable differences in phonology. These differences may also vary depending on the particular dialect of AAE. Research has shown that some speakers of AAE do not pronounce the /h/ sound at the beginning of words (Butcher, 2008; Eades, 1993); other varieties of AAE do not distinguish between voiced and voiceless stops (Butcher, 2008); and some do not have the fricatives /f/, /v/, /ð/ or /θ/ and children may substitute them with the stops /p/, /b/, /t/ or /d/ (Eades, 1993). These consonantal differences may cause a breakdown in communication. Butcher (2008) emphasises that there are many different varieties of spoken AAE languages (Butcher, 2008; Eades, 1993; McLeod & McCormack, 2015), raising concerns about children's literacy development, as effective oral language skills have been identified as one of the precursors to successful progression in literacy (Nation & Snowling, 2004; Zubrick et al., 2006). Indigenous children learning to speak using new sounds could struggle to be sufficiently precise in their articulation of SAE. Oral language skills and phonemic awareness underpin literacy development (Frost, 2001; Greaney & Arrow, 2012; National Early Literacy Panel, 2008; Snowling, Lervag, Nash, & Hulme, 2019). The acquisition of SAE requires that Indigenous children need to learn the oral differences between their dialect of English and SAE in order to perceive and pronounce SAE, the official dialect of the school environment. The purpose of this study was to develop guiding principles (GPs) for a consonant phonological program for five- to seven-year-old Indigenous children that could improve their literacy learning.

Research Question

What GPs can be used to support Indigenous children's perception and production of second-dialect consonant sounds in the early years of schooling?

Literature Review

A review of the literature was undertaken to begin the formation of the GPs. A foundational learning theory was established. Vygotsky's (1962, 1978) Sociocultural Theory (SCT) was chosen as learning occurs in social situations, with a more experienced mentor/teacher (Kozulin, 1990; Vygotsky, 1962, 1978), in the Zone of Proximal Development (Lantolf, 2000; Vygotsky, 1962, 1978), where learning is scaffolded (Bruner, 1983; Gibbons, 2015; Walqui, 2006) and both student's first language/dialect and SAE are discussed (metalinguage) and used in language play (Broner & Tarone, 2001; Cummins, 2001; Swain & Lapkin, 2000, 2002). As children play with a language, they learn to pronounce its different sounds (Hoff-Ginsberg, 1997). This playing with sounds within the ZPD with more-experienced others provides help and guidance to learners and enhances learning.

A variety of first and second language/dialect theories were considered. Flege's Speech Learning Model (SLM) (Flege et al., 1997) showed a great deal of promise as a source of theory and practice for the GPs. The SLM is primarily concerned with learning speech, focuses on individual phonemes rather than on contrasts such as minimal pairs, and addresses production. The SLM also supports SCT on a phonetic level. The SLM explains how, when phonetic systems share common phonological space, they will influence one another. The L1 phones that are already learnt and are similar to L2 phones often have an impact on the pronunciation of the L2 phones. The strength of the L1 representations influence L2 production accuracy. For example, an L2 learner may pronounce /d/ instead of /t/ and in so doing say 'had' instead of 'hat' when trying to articulate the latter. According to the SLM, speech sounds in the child's L2 that are different from those in their first language are easier to learn, whereas sounds in the child's L2 that are similar to those of their L1 are more difficult. An example of this would be when a child pronounces /t/ for /θ/, as both sounds have been grouped into one category. It is then difficult for the child to read and write "tooth", as they are likely to use the letter "t" to represent both /t/ and /θ/. Thus, the SLM supports the concept of teaching similar sounds as well as the varying ways letters represent the sounds of SAE.

Learners need to be able to blend, segment and place sounds in context within the process of learning oral language skills and in learning literacy skills (Ehri, Nunes, Stahl, & Willows, 2001; Nation & Snowling, 2004; Sayeski, Earle, Davis, & Calamari, 2018). The differences between the student's first language/dialect and SAE should guide learning (Toohill, McLeod, & McCormack, 2012) and the learning of consonants requires students to become aware of their pronunciation through sensory activities (Acton, 2015; Acton, Baker, Burri, & Teaman, 2013). For the optimal learning of consonants, it is necessary to establish a match between the learner's prior knowledge and experiences and their concept of relevance (Brophy, 1999). In order for this to occur, assessment data should inform relevant learning (Crevola, 2006).

An important consideration is the valuing of the student's first dialect (Newman & Yasukawa, 2005) as it links closely to children's personal identity (Morgan & Clarke, 2011).

Understanding how Indigenous people learn and what pathways or processes they access during language acquisition is paramount to this research. Teaching through Indigenous pedagogies and preferences supports this research (Scull, 2016; Yunkaporta, 2009) and the utilisation of expert teachers is vital (Scull, 2016).

METHODS

This qualitative study developed GPs that support young Indigenous children's perception and production of consonant sounds in the early years of schooling. Research was conducted through the consultation with the literature and the information provided by community Elders, teachers, and practitioners in the field during semi-structured interviews to develop best practice and the GPs.

Literature Review

The research began with the literature review (outlined above) by seeking out literature on current theory and practice in the field of language learning in social environments to identify the state of knowledge in the following areas: how second- language/dialect learners acquire new sounds; the differences between AAE and SAE; and current relevant programs in the area and suggested pedagogies. Results from these searches were used to assist in the formation of the semi- structured interview questions. Results from all of the investigations subsequently informed the development of the GPs. Each section of the literature review prompted a GP (see Results and Discussion below) for future programs, with a total of 11 GPs initially established.

Interviews

Knowledge on program content, cultural identity, and appropriate pedagogies were sought from relevant authorities. To obtain the most useful information, a wide range of participants were sought (Miles & Huberman, 1994), including early-literacy practitioners, university academics, teachers, Indigenous education practitioners, and Indigenous community Elders/members. Participants were recruited through purposeful sampling, which focused on selecting knowledgeable participants whose contribution was likely to address the questions under study (Patton, 2002). From the 36 individuals contacted, 15 participants volunteered to be involved in semi- structured interviews.

The interviewees came from a variety of backgrounds (see Interviewee attributes in Table 1). The participants came from both Indigenous and non-Indigenous backgrounds, and nearly all had some experience teaching or working with Indigenous children, with some also having expertise in literacy development.

The interviews used open-ended questions designed to collect information relating to each participant's experience with successful phonological activities and pedagogy. Questions were formulated in ways that allowed the participant to elaborate on the information being discussed. This structure allowed for opportunities to pose further exploratory questions to gain additional insights (Galletta, 2013). Interviewees who didn't live locally were invited to participate in the semi-structured interviews and focus-group interviews via Skype, telephone calls, or email (see Appendix for interview questions).

Table 1

Interviewee attributes

Number of participants	Occupation	Indigenous/non-Indigenous
5	Primary teacher	non-Indigenous
3	Aboriginal Education and Engagement Officer	Indigenous
5	University lecturer	non-Indigenous
1	Primary teacher	Indigenous
1	Speech pathologist	non-Indigenous

Data Analysis

The interviews were analyzed by reading through each transcript several times until themes began to emerge. I color-coded these common themes within the transcripts, wrote the transcript information into a table, and color-coded it accordingly.

Each color-coded theme was further refined based on the number of times it had been discussed during the interviews. Using the color coding within the table, I counted the number of times each theme was represented and recorded these findings on an Interview Analysis document. The common themes that were found to be most frequent in the interviews were refined further to ensure that all of the relevant data had been captured in the GPs.

The Interview Analysis document was then compared with the GPs from the literature review. The GPs were further refined through the addition of themes that supported the enhancement of pedagogy, content, and engagement. This resulted in the splitting of one of the GPs into two to ensure that the information within was clearly defined, and the addition of an extra GP to include the use of haptic techniques (activities to link touch, movement and sound). The resulting 13 GPs were established to inform future programming.

RESULTS AND DISCUSSION

Upon completion of the literature review and the analysis of the interviews with experts, 13 GPs were established. See below Table 2: Guiding principles. Data analysis demonstrated that interviewee responses agreed with the GPs developed in the literature review. Participants discussed the value of haptic techniques in the teaching of oral language and found them to be an attractive teaching tool. The importance of phonological awareness teaching was reinforced and the involvement of expert teachers with extensive theoretical and practical knowledge was considered vital.

Table 2

Guiding principles

Guiding principle number	Guiding principle
1	Language/dialect is learned from interaction with a more experienced person in a social context
2	Using metalanguage while in the Zone of Proximal Development will enhance language/dialect learning.
3	Use of structured play is a preferred approach for successful language/dialect acquisition.
4	Scaffolding of learning and communication are useful strategies to build capacity.
5	Sounds that are similar in the child's first and second dialects should be explicitly taught together.
6	Blending and segmenting sounds, along with placing sounds in context, should be used in the process of teaching.
7	Phonological differences between AAE and SAE should be used to guide learning.
8	Assessment highlights relevant learning and assists in the development of program design that builds on students' prior knowledge.
9	Ongoing affirmation and valuing of a child's first language/dialect is crucial.
10	Indigenous children should be taught in a manner that uses the senses to support understanding, uses narratives to enhance learning, and suits their learning preferences.
11	Indigenous children should be taught using the process of modelling/demonstration, joint and/or supported activities and individual activities where learning works from wholes to parts.
12	Modelling sounds using a haptic approach makes learning fun and enhances retention in both short-term and long-term memory.
13	Expert teachers with extensive knowledge of SAE pronunciation, who value Indigenous language and cultural practices, and provide multiple levels of support, is vital.

Results highlighted a number of contextual factors that may impact Indigenous children's education. First, the data revealed that Indigenous children's education has been affected by disadvantage induced by attitudes, social circumstances or economic limitations of students' families (Vinson, 2009). This can impede educational progress in circumstances such as children living in other situations such as out-of-home care (OOHC), and being absent from school. Being aware of the background and situation of each individual Indigenous student assists in providing appropriate learning. This can be a challenge for any teacher, but research (Preston, Claypool,

Rowluck, & Green, 2017) indicates that positive attitudes and beliefs shown by significant adults such as teachers can have a dramatic effect on helping Indigenous children attain higher learning outcomes. GP 1 and GP 13 are designed to address these issues.

Programs developed based on the GPs need to take individual children's circumstances and needs into consideration and ensure provision is made for them to extend their learning. It is when these practical contextual factors are addressed in new contexts, and coupled with the GPs embedded in individualised programs, that Indigenous children have the greatest opportunity to learn SAE consonant articulation.

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Carolyn Pogson is a primary school teacher and Assistant Principal in Australia. She became interested in linguistics during her 28-year teaching career.

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APPENDIX: Interview Questions

1. Is there a relationship between consonant articulation and learning? Please explain
2. What do you think is the most effective method to teach consonant sounds?
3. From your observations and experience what have you found to be the most productive method to teach consonant sounds to young children? Please elaborate
4. Could you give an example of this method?
5. Do you think the oral positioning of your mouth and vocal movement helps children

learn consonant sounds? Why/why not

6. How do you teach consonant sounds at the moment? (*Teacher question*)
7. Do you believe there are more effective methods of teaching consonant sounds to young Indigenous second dialect learners? If so, could you please elaborate on them and give an example of each one.
8. Are you aware of any differences between AAE and SAE particularly in phonology?
9. What implications do you think these differences have for teachers?
10. In your opinion how should teachers address these implications?
11. What do you believe would be the most effective/engaging method of delivering a consonant program to young Indigenous children?
12. Could you give an example of this method?
13. What do you think would be the most effective and culturally appropriate method to teach consonant sounds?
14. Could you give an example of this method?
15. Based on your knowledge and experience which consonants do you think should be the focus of the program and why?
16. Do you know of anything else that would assist in the program's development?