

Recognising the SAE language learning needs of Indigenous primary school students who speak contact languages.

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Keywords: Aboriginal and Torres Strait Islander languages, contact languages, English as an additional language or dialect (EAL/D), TESOL, Standard Australian English (SAE), language differences, Indigenous education, primary schools, Elicited Imitation.

Indigenous language contexts

Prior to the British invasion in 1788, Aboriginal and Torres Strait Islander peoples¹ across Australia spoke over 250 languages with around 750 dialects (Dixon, R., 2019). Now, only 12 of these languages are considered strong according to the latest National Indigenous Languages Report (NILS3, 2020). While the use of traditional languages has declined, contact languages have emerged at an increasing pace and are the fastest growing and most widely spoken Indigenous languages in Australia. However, these languages are not widely recognised in Australian society.

Formed from the contact between traditional languages and English, these languages are often described as creole languages, or dialectal varieties of English. Creoles are considered to be languages in their own right and may not be comprehensible to speakers of the lexifier language, in this case, English (Meakins, 2020). Aboriginal English (AE) is a broad term given to varieties of English spoken by Aboriginal people across Australia (Dickson, 2019). Because these Englishes are closely related to Standard Australian English (SAE), they are considered ‘dialects’ rather than ‘languages’ and the two are assumed to be mutually intelligible (Malcolm, 2018). However, this distinction is often arbitrary, and can be politically motivated, or reflect a lack of understanding about the linguistic complexities of contact languages (Angelo, Fraser & Yeatman, 2019). To avoid attempting to distinguish between ‘dialects’ and ‘creoles’, the term ‘contact languages’ will be used broadly and respectfully to describe the language varieties spoken in Far North Queensland by the Indigenous students who are the focus of this study.

¹ The term “Indigenous” is used to respectfully refer to Australian Aboriginal and Torres Strait Islander peoples and their languages.

Many contact languages do not have official names and are often not captured in governmental data collection (Angelo & McIntosh, 2015). They tend to be oral languages and often do not have standard orthographies (Wigglesworth & Billington, 2013). Although systematic, contact languages tend to undergo rapid change and can be difficult to document (Mushin, Angelo & Munro, 2016). Naming and documenting languages contributes to the evolution of print literacy-based communities. This in turn slows the rate of linguistic change as speech communities adhere to the specified grammatical rules, as with standard languages. These factors afford languages a sense of status, recognition, and acceptance in society. While Indigenous contact languages are systematic and highly rule-bound and differ from SAE at all levels of language - phonetically, grammatically, semantically and pragmatically (Eades, 2013), they tend not to be widely recognised or accepted as legitimate languages in Australian society, including in the school systems (Angelo et al., 2019; Sellwood & Angelo, 2013; Tripcony, 2000). Consequently, the term “invisible” has been garnered to reflect this situation (see especially Sellwood & Angelo, 2013).

Indigenous languages and education

Language is vital to a sense of self, to cultural identity and wellbeing (Australian Parliament, 2012). From a sociocultural perspective, children construct meaning and make sense of their worlds using their cultural knowledge and linguistic skills. Consequently, access to education in one's first language, whether a vernacular or contact language, is considered a fundamental right by UNESCO who state that “the best medium for teaching is the mother tongue of the pupil” (UNESCO, 1953, p. 6). Despite this, many students are unable to access the curricula which tend to be dominated by standard varieties in their first languages (Migge, Léglise & Bartens, 2010). In Australia, in the absence of first language instruction, schools are mandated to account for the English language learning needs of students they teach (ACARA, n.d.). Despite this, there is a systematic failure in schooling systems to recognise, or cater for, the linguistic needs of Indigenous peoples for whom proficiency in Standard Australian English (SAE) is crucial to gain equal access to all aspects of Australian society.

In 2008, three changes to the Australian education system were introduced. The first was the National Assessment Program – Literacy and Numeracy (NAPLAN) designed to be administered to all students in Years 3, 5, 7 and 9 to benchmark literacy and numeracy achievement standards nationally. Secondly, the new Australian Curriculum, borne from *The Melbourne Declaration on the Educational Goals for Young Australians* in 2008, included a call for greater representation of Aboriginal and Torres Strait Islander histories and cultures in the curriculum (ACARA, 2016). Thirdly, the Federal Government initiated the *Closing the Gap* campaign – a series of goals designed to improve Indigenous outcomes in the areas of health, education and employment, including halving “the gap in reading, writing and numeracy achievements for [Indigenous] children within a decade” (APH, 2020) with NAPLAN used to benchmark Indigenous students' progress toward this target.

NAPLAN is the same for all students, regardless of whether they come from non-English speaking backgrounds (NESB), or, like many Indigenous children, only encounter Standard English on entry into the school system where their SAE input is only from their teachers (Wigglesworth & Simpson, 2018). In addition, the NAPLAN test has been widely criticized for not taking language background into account (Angelo, 2013; Macqueen, Knoch, Wigglesworth, Nordlinger, Singer, McNamara & Brickle, 2018;) nor the differing cultural knowledges, beliefs and practices of Indigenous students (Wigglesworth, Simpson & Loakes,

2011; Guenther, Bat & Osborne, 2013; Klenowski, 2014). As a prominent measure of “success” used in the Australian schooling system, NAPLAN results position Indigenous students who do not speak SAE as their first language in deficit terms. Words such as “behind” or “below” refer to mean performances, identifying “the gap” between them and their non-Indigenous SAE speaking counterparts and creating a deficit discourse within education and Australian society more broadly:

Within the government agencies of Australia a deficit model of Indigenous children has emerged [as] evidenced by the tendency to develop models which cast non-Indigenous, monolingual, Standard Australian English-speaking children as the ‘norm’, against which difference is problematised as deficit...

Dixon, S. (2013, p. 302)

The failure to “close the gap” in NAPLAN test scores between Indigenous and non-Indigenous students has been reported annually from 2008 resulting in the negative rhetoric of deficit perspectives extending beyond educational discourse to a public perception of failure by Indigenous students. Thus, while there has been progress in terms of linguistic recognition of community contact and vernacular languages in pockets throughout Australia, it is yet to reach the mainstream where the monolingual mindset (Clyne, 2005) pervades as the lens through which Indigenous EAL/D learners are frequently viewed.

In Queensland, where this study took place, there is a long history of inadequate policy and practice in schools. Luke, Land, Christie, Kolatsis and Noblett (2002, p.vi) found a lack of systematic direction regarding effective English language and literacy instruction for Indigenous students:

Queensland is the only State that has no systematic ESL policy in place that covers either migrant or Indigenous second language/dialect speakers. Relevant Commonwealth funds are allocated to schools and other agencies, but there appears to be no specific state-level mechanism for recognising and supporting Indigenous ESL/ESD speakers in systematic ways.

Ten years later, little had changed. Sellwood & Angelo (2013) coined the term “lingua nullius” arguing that Indigenous languages, particularly contact varieties, remained “invisible” to teachers, schools, the education system and society more generally. This metaphor is still used to describe the current situation (see Angelo & Hudson, 2020; Poetsch 2020; Vaughan & Loakes, 2020).

From 2009-2019, in an attempt to foster community and school recognition of contact languages across the State, Education Queensland’s Language Perspectives team engaged in a process of documenting these languages through the creation of community vernacular language posters (Angelo, Fraser & Yeatman, 2019). The first poster, At da Crick (Language Perspectives, 2009) documented the community-named language, “Yarrie Lingo”. There are now 10 posters which name and illustrate various local contact languages in communities across Queensland and which act to promote Indigenous contact languages as valid and valuable. Yet, this increased recognition does not extend to recent government policy. Traditional Indigenous languages are the focus of the *Many Voices: Queensland Aboriginal and Torres Strait Islander Languages Policy* (The State of Queensland, 2021) introduced in September 2020. Many of the community vernaculars illustrated in the posters remain unnamed and do not feature in The Languages Policy, demonstrating the peripheral position

these languages generally hold and the ongoing discrimination they face (Vaughan & Loakes, 2020).

Learning SAE in the schooling system presents a distinct challenge for speakers of Indigenous contact languages. First, as we have seen, contact languages are not widely recognised in society and, commensurately, nor are the language learning needs of Indigenous students, meaning these needs are not appropriately attended to by teachers in the classroom (Angelo & Hudson, 2018; Malcolm et al., 2020). Fraser, Mushin, Meakins and Gardner (2018, p. 262) have reported that students who speak contact languages “are *not* learning SAE through largely undifferentiated curriculum” whilst Myer and Wigglesworth (under review) comment on a lack of explicit SAE instruction for students, describing any language learning as occurring through “osmosis”. This is exacerbated by the fact contact languages and SAE are closely related, sharing many linguistic similarities but equally many differences. Speakers of Indigenous contact languages can generally make themselves understood and meet their basic communicative needs, which may lead to their proficiency in SAE being inflated, thus masking their status as language learners. Further, because the linguistic distance between two closely related languages is less, the differences are less salient, and therefore more difficult to notice and acquire (Siegel, 2010, p. 120, Winer, 1989, 2006; Wolfram & Schilling-Estes, 1998, p. 287). In response, learners may need their attention directed toward language features to aid acquisition.

Research question

There is growing body of literature describing Indigenous contact languages across Australia which argue the need for education systems and educators to account for students’ language background in their teaching (see Angelo & Hudson, 2020; Vaughan & Loakes, 2020; Poetsch, 2020; Malcolm et al., 2020; Wigglesworth, 2020). In contrast to descriptive sociolinguistic studies, this study sought to quantify aspects of participants’ SAE knowledge to illustrate how language differences might manifest in the classroom to assist teachers to better understand the SAE language learning needs Indigenous students who speak contact languages. The question posed was:

How does speaking an Indigenous contact language impact SAE speech production?

Method

This study is situated within a quantitative research paradigm designed to illustrate and statistically substantiate the impact of speaking an Indigenous contact language on developing SAE oral language ability.

Research site and participants

The research was conducted at three sites with three different participant groups at schools located in the Cairns region of Far North Queensland, Australia, in urban and rural settings. Each school was within a two hour drive of the other two and all were selected based on the language backgrounds of their majority student population. The first group were monolingual native SAE speakers (SAE Group); the second group were Aboriginal and/or Torres Strait Islander students from a variety of language backgrounds, mainly described in the school data as speakers of ‘Aboriginal English’ and ‘TSC/Yumplatok’ (Group 2); the third group were predominantly Aboriginal students from the same language background, a contact

language unique to that community (Group 3). Students were aged from 6 to 12 years. For the SAE group and Group 2 data were collected from students in Years 1 through 6, whereas for Group 3 only students from Years 1, 3 and 5 participated due to school constraints. All students in the designated year levels were invited to participate in the study, however, parental consent was not gained for all students in which case students were not included in the protocol. In some cases, students did not participate due to absences from school despite parental consent.

Table 1

Participant numbers

	SAE Group	Group 2	Group 3
Year 1	9	9	20
Year 2	6	11	
Year 3	7	7	20
Year 4	11	5	
Year 5	7	12	14
Year 6	4	10	
Total	44	54	54

Ethics approval to conduct research with Aboriginal and Torres Strait Islander children was obtained from the University of Melbourne, and the Department of Education, Queensland. During this process, testing materials were changed until they were considered culturally appropriate by an Indigenous advisory panel. At each school with Aboriginal and Torres Strait Islander participants, the study was approved by a senior Indigenous community member who was an employee of the school. Each school provided written consent as did the parent/carer of all participants. Each child provided recorded verbal consent.

Research design

Two tasks were developed, a forward digit span task used to measure short-term memory (STM) informed by psycholinguistic theory, and an Elicited Imitation task (EI) drawn from cognitive interactionist (Second Language Acquisition [SLA]) theory. Participants found both tasks enjoyable.

1. Forward digit span

Speech reproduction, such as in EI tasks, is clearly related to working memory (Gathercole & Baddeley, 1993). The forward digit span test is a widely used and effective measure of STM capacity. Participants were presented with digit sequences from two to nine digits. There were two sets of digits: one set followed by another set. From the two trials, the highest score was recorded as the participant's final digit span score. For example, a participant received '4' as their digit span score if the participant was able to repeat four digits at least once.

2. Elicited imitation

Elicited imitation has been used widely in the field of SLA as a valid measure of language ability (Bley-Vroman & Chaudron, 1994, p. 255; Gallimore & Tharp, 1981, p. 383; Yan, Maeda, Lv & Ginther, 2016). Elicited imitation involves "presenting target-like a stimulus

sentence in the oral mode and asking the learner to repeat the stimulus sentence” (Bigelow & Tarone, 2004, p. 694). The target sentence must be “long enough to exceed short-term memory capacity so that the subject must revert to interlanguage rules stored in long-term memory to re-encode the stimulus sentence” (Bigelow & Tarone, 2004, p. 694) but not so long that it puts too much pressure on attentional resources (Vinther, 2002). Thus, it was crucial to account for participants’ STM in task performance.

Participants were presented with six sentences with variable numbers of syllables (6, 9, 12). There were 18 sentences in all. All were simple sentences targeting the SAE grammatical forms previously described as difficult for speakers of Indigenous contact languages (Berry & Hudson, 1997; Dept. of Ed. W.A., 2012):

- prepositions at-in-on
- plural ‘s’ on nouns
- simple present tense with 3rd person singular ‘s’
- simple irregular past tense.

Sample sentences included: *The dog barks at the cats* (6 syllables), *In the bush, they built houses from sticks* (9 syllables), *He always eats mangoes in the park with his friends* (12 syllables). In addition to the targeted SAE grammatical forms, content familiarity (Cox et al., 2015), serial position effects (Lewandowsky & Murdock, 1989) and gender representation were factors that influenced sentence design. Participant responses were scored according to whether they could reproduce each sentence in its entirety and with each of the targeted SAE grammatical features. Self-corrections and changing the order of prepositional phrases were allowed. When scoring the SAE grammatical features, the knowledge of the rule was graded, rather than the word (for example, “made” was accepted for “built” but “build” was not). This occurred only minimally.

3. Procedure and data analysis

The tasks were created using Paradigm Experiments software and delivered on laptop computers to standardize the procedure. The forward digit span task was delivered in sequence from two digits to nine. For the EI task, delivery of the six sentences at each of the three lengths was randomised. Data were collected in a classroom setting by the first author with an Indigenous adult present with Group 3. Audio recordings of participants’ responses were transcribed and coded for quantitative analysis in SPSS. A one-way between subjects ANOVA was used to determine whether the results from each group differed significantly. For statistically significant results, post-hoc Tukey HSD tests were used. Levene’s test for equality of variances was used to test variance across each of the three groups. When unequal variances were found, Welch’s F test was applied.

Findings

The three groups are compared according to age and STM capacity before their performance in the EI task is presented.

Age

Table 2 shows the participants did not differ significantly by age from each other but differences were significant between Groups 2 and 3. Neither group differed significantly to the SAE group allowing for fair comparisons to be made between both groups and the SAE group. The overall difference can be attributed to the participants in Group 3 in which only

students in years 1, 3 and 5 participated, thus lowering the overall age compared to Groups 1 and 2 which included Years 2, 4 and 6. However, they were not significantly different from the other groups at the individual year level.

Table 2

Participant mean ages

Year level	SAE group			Group 2			Group 3			Mean diff. between groups (ANOVA)
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	
1	9	6.93	.26	9	6.90	.43	20	6.91	.28	$F(2, 35) = 0.026, p = 0.975$
2	6	7.84	.33	11	8.11	.31				$F(1, 15) = 2.914, p = 0.108$
3	7	9.23	.72	7	9.18	.24	20	8.76	.48	$F(2, 31) = 3.122, p = 0.058$
4	11	9.92	.20	5	9.84	.31				$F(1, 14) = 0.405, p = 0.535$
5	7	11.15	.44	12	10.98	.29	14	10.82	.34	$F(2, 30) = 2.256, p = 0.122$
6	4	11.85	.54	10	11.95	.49				$F(1, 12) = 0.116, p = 0.739$
Total	44	9.29	1.70	54	9.55*	1.82	54	8.61*	1.59	$F(2, 149) = 4.338, p = 0.015$

* Mean difference is significant between marked groups determined by Tukey HSD test post-hoc comparison.

Short-term memory capacity

STM capacity is a greater predictor of EI task performance than age (Yan et al., 2016) and as Table 2 shows, there were no significant differences in the STM capacities of participants in any of the groups suggesting that differences in performance between the groups can be fairly attributed to SAE language ability.

Table 3

Participant mean forward digit span performance

Year level	SAE group			Group 2			Group 3			Mean diff. between groups (ANOVA)
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	
1	9	4.78	1.20	8	4.38	2.00	17	4.00	1.84	$F(2, 31) = 0.602, p = 0.554$
2	6	5.17	.98	11	5.00	1.00				$F(1, 15) = 0.109, p = 0.746$
3	6	5.17	.98	7	5.14	.90	20	5.20	.95	$F(2, 30) = 0.010, p = 0.990$
4	9	5.67	1.23	5	5.00	.70				$F(1, 12) = 1.224, p = 0.290$
5	6	6.00	.63	12	5.42	1.44	14	5.07	1.0	$F(2, 29) = 1.400, p = 0.263$
6	4	5.75	.50	9	5.89	1.45				$F(1, 11) = 0.033, p = 0.858$
Total	40	5.38	1.05	52	5.17	1.37	51	4.76	1.41	$F(2, 140) = 2.647, p = 0.074$

Elicited imitation

With the role of age and STM accounted for, the EI task results present a valid and reliable measure of participants’ SAE oral language ability (Bley-Vroman & Chaudron, 1994, p. 255; Gallimore & Tharp, 1981, p. 383; Yan et al., 2016). First, overall results will be presented, followed by each of the targeted grammatical features.

Overall performance

The difference in overall EI task performance between the SAE group and Groups 2 and 3 is both large and significant. The results of the SAE group are frequently twice those of Group 3 and the SAE group outperforms Group 2 by approximately 20% to 35% depending on the year level (note the difference is not significant in years 2 and 6). While not as large, the difference between Group 2 and 3 as a cohort is also significant and at just over 15%.

Table 4
EI task performance

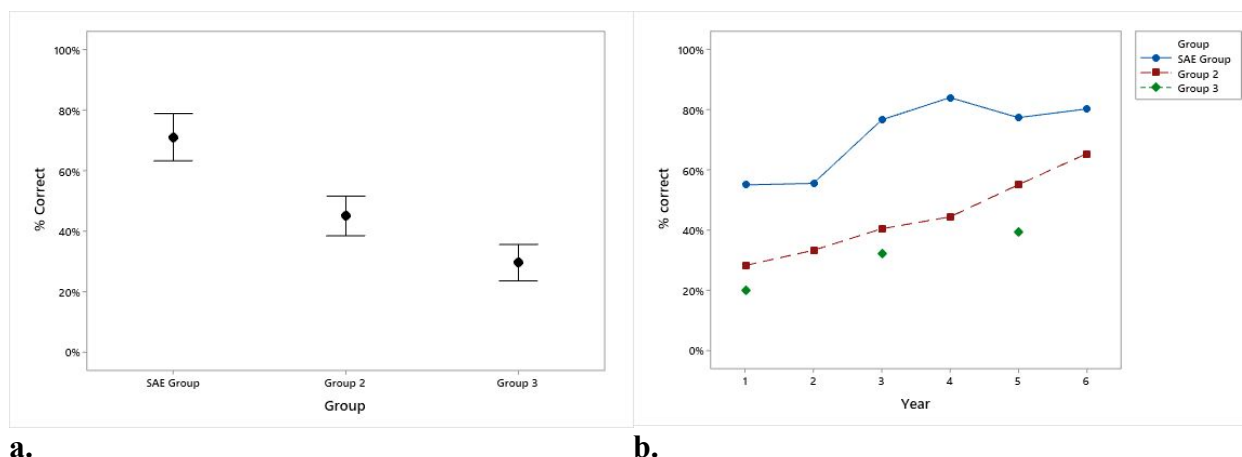
Year level	SAE group			Group 2			Group 3			Mean diff. between groups (ANOVA)
	N	M%	SD%	N	M%	SD%	N	M%	SD%	
1	9	55.1**	23.2	9	28.3	18.4	19	19.8	16.8	$F(2, 34) = 10.738, p = <.001$
2	6	55.6	26.8	10	33.3	22.2				$F(1, 14) = 3.224, p = 0.094$
3	6	76.7**	12.4	7	40.5	27.7	20	32.3	20.7	$F(2, 30) = 10.110, p = <.001$
4	10	84.1**	15.3	5	44.4	23.2				$F(1, 13) = 15.931, p = 0.002$
5	6	77.4**	38.4	12	55.1	12.6	14	39.3	24.8	$F(2, 29) = 5.294, p = 0.011$
6	4	80.3	4.7	9	65.4	21.3				$F(1, 11) = 1.817, p = 0.205$
Total	41	71.1*	24.7	52	45.1*	23.6	53	29.6*	21.7	$F(2, 143) = 36.974, p = <.001$

* Mean difference is significant between marked groups determined by Tukey HSD test post-hoc comparison.

** The mean difference is significantly different to the other two groups determined by Tukey HSD test post-hoc comparison.

Figure 1a shows the mean EI task performance within a 95% confidence interval to illustrate the large and significant difference between each group. Figure 1b shows the gains in SAE language ability made by each group over the years of schooling, and the differences in performance between the groups. These maintained over time.

Figure 1
EI task performance



Simple present tense with 3rd person singular 's'

Of the four SAE grammatical features targeted in the EI task, simple present tense with 3rd person singular 's', showed the most significant differences between the three groups. Third person 's' was particularly difficult for Group 3 who reproduced the form less than 50% of the time. The SAE group showed very high levels of accuracy from Year 1 through 6 where perfect performance was recorded. Consistent growth was demonstrated from Years 1 to 5 for Group 2 and plateaued at Year 6. The differing results for Group 3 suggest that participants' home language does not have this SAE feature with only 32.8% of Year 1 participants reproducing it. While there was sharp growth between Years 1 and 3 this stagnated by Year 5.

Table 5

EI task performance - simple present tense with 3rd person singular

Year level	SAE group			Group 2			Group 3			Mean diff. between groups (ANOVA)
	N	M%	SD%	N	M%	SD%	N	M%	SD%	
1	9	88.9**	16.9	9	57.1	35.9	19	32.8	26.4	$F(2, 34) = 13.184, p = <.001^a$
2	6	82.4	21.8	10	58.9	29.7				$F(1, 14) = 2.823, p = 0.115$
3	6	97.2*	6.8	7	68.6	23.5	20	53.5*	23.7	$F(2, 30) = 9.454, p = 0.001$
4	10	97.2	6.0	5	73.3	20.2				$F(1, 13) = 12.658, p = 0.056^a$
5	6	94.4	13.6	12	86.1	9.6	14	58.7**	31.3	$F(2, 29) = 7.368, p = 0.013^a$
6	4	100	0.0	9	86.4	20.2				$F(1, 11) = 1.781, p = 0.209$
Total	41	93.1*	13.7	52	72.3*	26.3	53	47.4*	28.6	$F(2, 143) = 41.016, p = <.001^a$

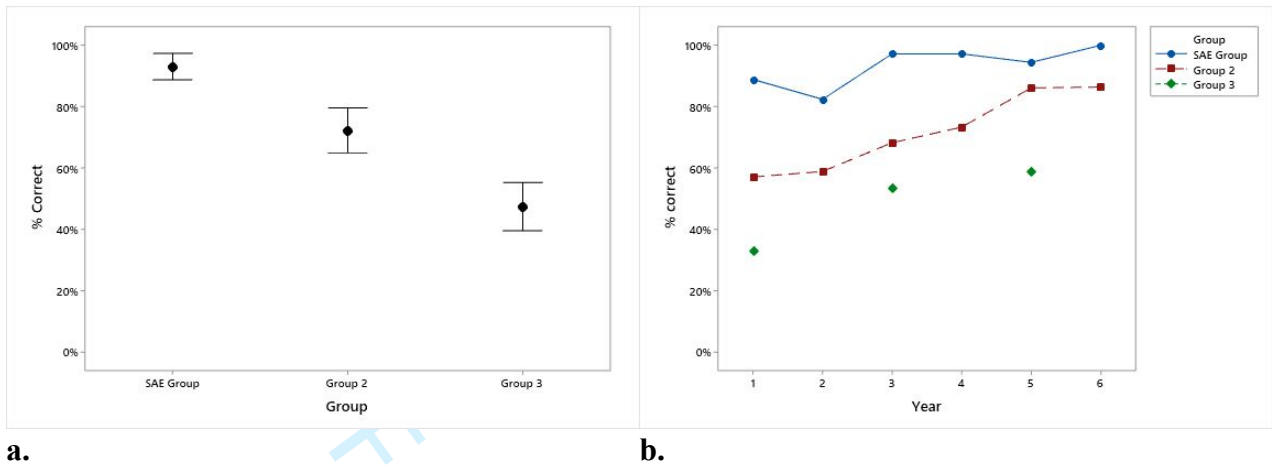
a. Welch's F test used for unequal variances.

* Mean difference is significant between marked groups determined by Tukey HSD test post-hoc comparison.

** The mean difference is significantly different to the other two groups determined by Tukey HSD test post-hoc comparison.

Figure 2

EI task performance - simple present tense with 3rd person singular



Simple irregular past tense

Table 6 and Figure 3 shows the difference between the three groups was less pronounced for the simple irregular past tense. All groups improve over the primary years but the differences at year levels were not significant (bar Year 4) although the performance of the SAE group overall is significantly better than the other two groups.

Table 6

EI task performance – simple irregular past tense

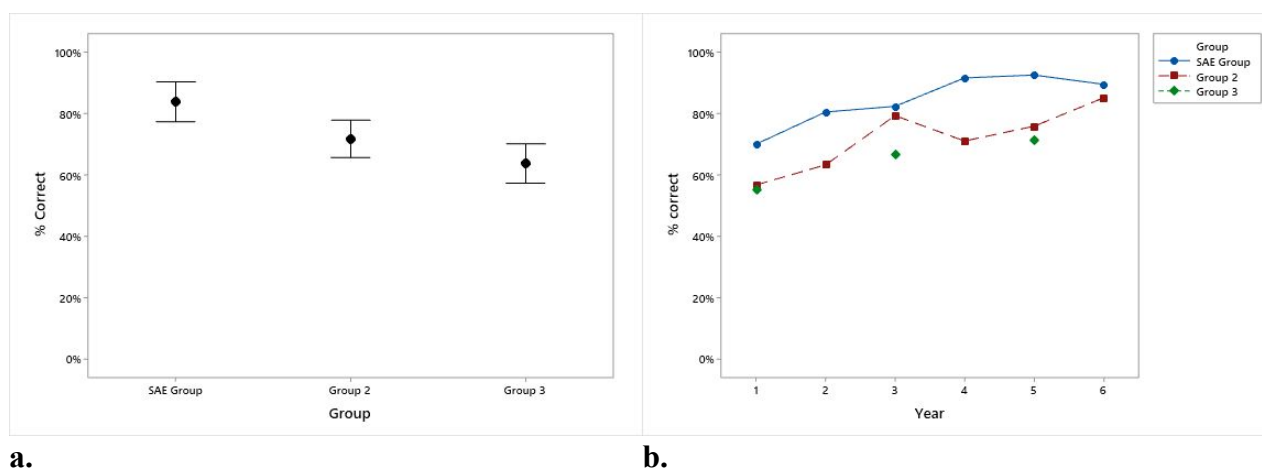
Year level	SAE group			Group 2			Group 3			Mean diff. between groups (ANOVA)
	N	M%	SD%	N	M%	SD%	N	M%	SD%	
1	9	70.0	28.1	9	56.8	27.5	19	55.1	28.2	$F(2, 34) = 0.912, p = 0.411$
2	6	80.6	17.8	10	63.3	21.6				$F(1, 14) = 2.685, p = 0.124$
3	6	82.4	20.0	7	79.4	21.7	20	66.7	17.1	$F(2, 30) = 2.308, p = 0.117$
4	10	91.7*	10.9	5	71.1*	16.9				$F(1, 13) = 8.320, p = 0.013$
5	6	92.6	18.1	12	75.9	14.6	14	71.4	21.2	$F(2, 29) = 2.785, p = 0.078$
6	4	89.6	20.8	9	85.2	18.4				$F(1, 11) = 0.147, p = 0.709$
Total	41	83.9**	20.6	52	71.8	21.8	53	63.8	23.3	$F(2, 143) = 9.635, p < .001$

* Mean difference is significant between marked groups determined by Tukey HSD test post-hoc comparison.

** The mean difference is significantly different to the other two groups determined by Tukey HSD test post-hoc comparison.

Figure 3

EI task performance - simple irregular past tense



Plural 's' on nouns

The performance of the SAE group in plurals was significantly different to the other group/s at almost every year level and overall. This SAE grammatical feature had been largely acquired prior to Year 1 by the SAE group. In contrast, students in Group 2 and 3 appeared to be acquiring this grammatical feature over the primary years and growth begins to plateau in the upper years.

Table 7

EI task performance - plurals

Year level	SAE group			Group 2			Group 3			Mean diff. between groups (ANOVA)
	N	M%	SD%	N	M%	SD%	N	M%	SD%	
1	9	89.6*	16.6	9	61.3	28.2	19	59.0*	31.8	$F(2, 34) = 3.869, p = 0.031$
2	6	87.1	12.5	10	76.0	16.3				$F(1, 14) = 2.010, p = 0.178$
3	6	99.2**	1.9	7	70.6	22.4	20	70.2	19.6	$F(2, 30) = 5.930, p = <.001^a$
4	10	97.5*	3.8	5	81.6*	8.8				$F(1, 13) = 25.034, p = 0.013^a$
5	6	96.7*	8.1	12	85.1	13.2	14	73.6*	22.9	$F(2, 29) = 3.832, p = 0.033$
6	4	98.8*	2.4	9	86.1*	9.5				$F(1, 11) = 6.716, p = 0.025$
Total	41	94.5*	10.4	52	77.1*	19.2	53	67.1*	25.7	$F(2, 143) = 21.707, p = <.001^a$

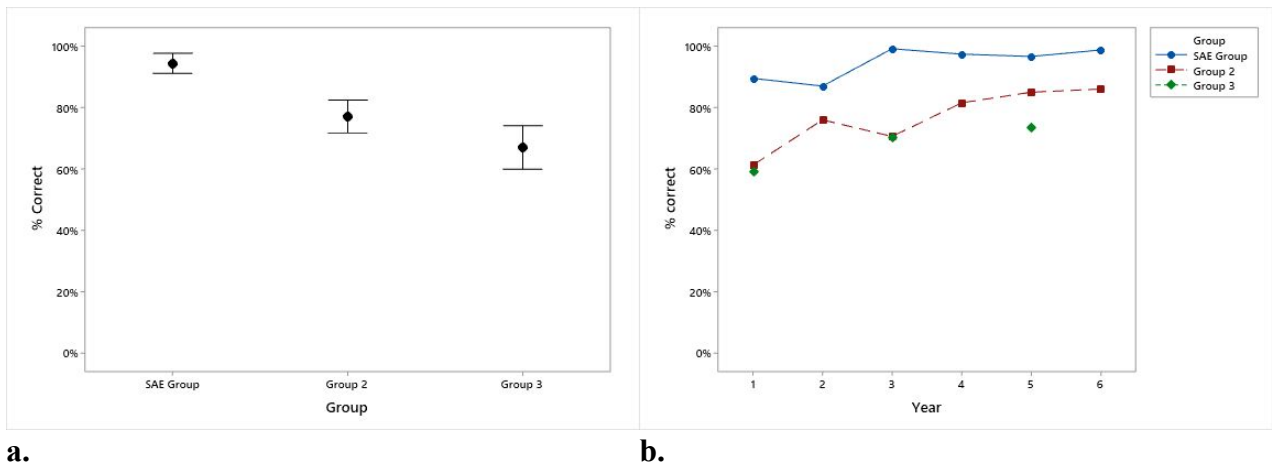
a. Welch's F test used for unequal variances.

* Mean difference is significant between marked groups determined by Tukey HSD test post-hoc comparison.

** The mean difference is significantly different to the other two groups determined by Tukey HSD test post-hoc comparison.

Figure 4

EI task performance - plurals

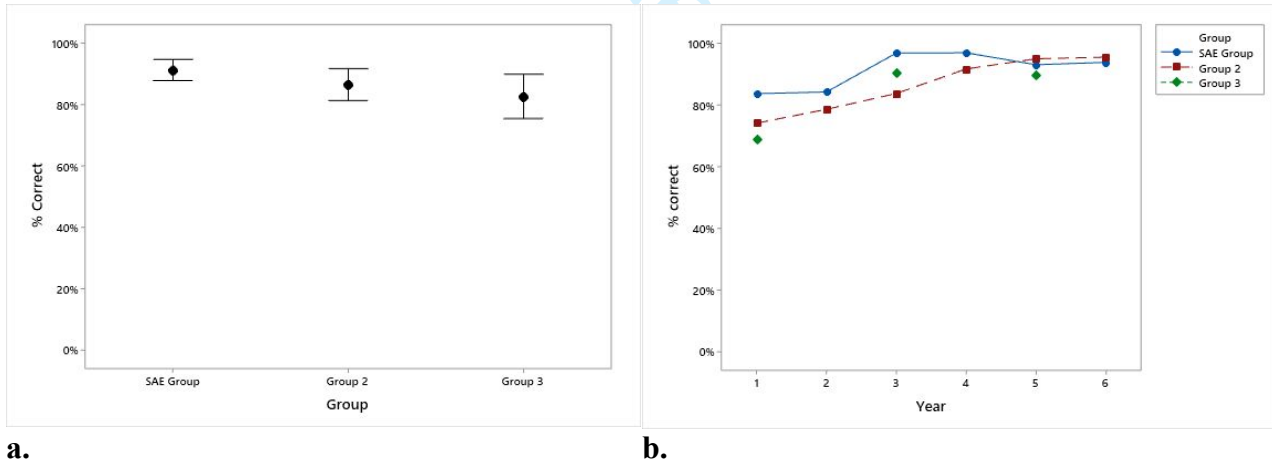


Prepositions at-in-on

In contrast to the other SAE grammatical features, performance was similar across all groups for prepositions in the EI tasks as shown in Figures 5a and b. There was also minimal growth present with very high levels of performance recorded for all. This finding suggests that either the tested SAE prepositions had largely been acquired by all groups or that there is little difference between these SAE prepositions and those in the Indigenous contact languages spoken by the students in Group 2 and 3. While an empirical question, this is beyond the scope of this paper.

Figure 5

EI task performance - prepositions



Discussion

Below we discuss the results of this research and consider its contributions to our understanding of the English language learning needs of Indigenous speakers of contact languages and offer some suggestions for improving how these needs are met. We argue for improved educational recognition for speakers of Indigenous contact languages, including developing an understanding of the linguistic features of contact languages versus SAE and the impact of different language learning environments. This requires targeted teacher

professional development alongside training for bilingual Indigenous teachers and teaching assistants.

Recognition

The “invisibility” of speakers of Indigenous contact languages in the Australian schooling system has been tied to the languages they speak and the social, historical and political contexts in which their languages have evolved. As discussed above, contact languages are largely undocumented, unrecognised in schools and society generally, and their lexical similarities with SAE can lead to greater challenges (Vaughan & Loakes, 2020). Angelo and McIntosh (2009) point out that teachers may view students’ language as deficient due to factors including low socioeconomic status, cultural differences, and differing literacy practices, and may not acknowledge students as legitimate SAE language learners. One goal of this research was to make the EAL/D learning needs of many Indigenous students clearly visible: a crucial step toward greater recognition. It was demonstrated that there were no differences between the STM capacities of the three groups, suggesting that all groups have equal ability to process intake. But there was a significant difference in SAE language ability. It is crucially important for educators and educational systems to become aware of this and to attend to the SAE language learning needs of speakers of Indigenous contact languages.

These findings are based on simple sentences as test items; the educational implications of this are considerable. The SAE linguistic demands of everyday schooling and assessment regimes, such as NAPLAN are considerably more onerous than the EI tasks, so these results understate the students’ language learning needs. From their first day of school onwards, speakers of contact languages are expected to engage in classroom learning as if SAE were their first language. This research clearly shows that Indigenous students living in urban regional centres such as Cairns do not speak SAE. Further, while students’ SAE language ability improves over the years of schooling, it does not reach the level of their monolingual SAE speaking peers. As Cummins (2001) argues, their improvement in SAE language ability is not commensurate with the increased SAE linguistic demands of schooling which occurs over these years. When these learners do not meet these demands, they are frequently positioned as deficit (Dixon, S., 2013) and the gains that have been made, as shown in this research, are not recognised. We have documented quantifiable differences in the SAE language ability between speakers of Indigenous contact languages and native SAE monolinguals. These are compounded in the context of the high-level SAE linguistic demands of schooling and assessment regimes.

Linguistic features of SAE

Indigenous contact languages across Australia have been observed and documented (e.g. Eades, 1995, 2013; Hudson, 1983; Malcolm, 1982, 2018) and the linguistic features of various contact languages compared with SAE have been identified as focus points for teaching (Berry & Hudson, 1997; Dept. of Ed., W.A., 2012). Given variation in contact languages, it is not always known which SAE features or differences are most salient for their speakers. In Group 2, participants came from a range of language backgrounds limiting the inferences that can be drawn about the relationships between their linguistic background and their SAE production. In Group 3, all participants spoke the same community vernacular as their primary language, allowing for greater inferences to be made about the linguistic differences as well as the features common to both.

For both groups, the prepositions at-in-on were the easiest, followed by plural 's', simple irregular past tense and simple present tense with 3rd person singular. Participant performance in the prepositions did not differ significantly across groups, suggesting there is little need to focus instruction on these grammatical items; rather instruction should target the three other linguistic features. For Group 3, simple present tense with 3rd person singular was most difficult and their performance in the EI task differed significantly from the other two groups with little improvement recorded from Years 3 to 5. This suggests that this is a particularly stubborn and difficult SAE feature for the speakers in Group 3 to acquire and students would require targeted instruction with extensive opportunity to practice this form orally (Winer, 1989).

The results showed partial similarities to features of AE previously documented for teaching as well as similarities and differences between the two groups. These findings highlight the fact that, while there are similarities between some contact languages that teachers could attend to in their teaching, there are significant differences which need to be identified to best teach Indigenous students taking into consideration their language backgrounds. For educational settings where students have the same L1, such as the children in Group 3, EI tasks provide the ability to identify prominent dialect differences to teach SAE purposefully. It is also possible to expand the EI task to include more SAE grammatical items to gain a fuller understanding of which features should be the target of instruction and when, to ensure that SAE language teaching is relevant and purposeful.

Language learning environments

The school environments of Groups 2 and 3 differed significantly. Participants in Group 2 were drawn from diverse linguistic, cultural and geographic backgrounds. The school was located in an urban regional area and as a consequence, they were likely to have greater exposure to SAE and presumably greater opportunities for learning the language. In contrast, the Group 3 was a more homogenous group; their primary language was the same contact language, and all resided in the same community. While in both school environments students' SAE language abilities improved, Group 2 significantly outperformed Group 3 in some test items, or in other cases performed similarly to the SAE group when Group 3 differed. This suggests there is a difference between the language learning environments of the two groups, but it is unclear how much of this difference can be attributed to the broader language learning environment or the schooling context.

Methodological approaches may impact results. In a setting similar to Group 3, Fraser et al. (2018) tracked individual student's acquisition of SAE determiners as they progressed from Years 1 to 3. Their 70 hours of recorded classroom talk showed students were not acquiring the SAE features under analysis, which led them to conclude "these students are *not* learning SAE through largely undifferentiated mainstream curriculum²" (p. 262). In contrast, the findings from both Group 2 and 3 showed that students *are* learning SAE, and especially in Years 1 to 3. These findings are not necessarily incompatible with those from Fraser et al. (2018), as the methods and the SAE grammatical items under investigation differed. Fraser et al. (2018) recorded naturally occurring classroom speech and only examined the use of SAE determiners. This study specifically tested participants' ability to produce specific SAE forms

² The Australian Curriculum or "mainstream curriculum" should be differentiated to meet the learning needs of all students. In this case it should have been differentiated to meet the learning needs of students for whom English is an additional language or dialect, but was not.

in the EI task. It is conceivable that between Year 1 and 3, students became more able to produce SAE forms when asked to but did not do so in their naturally occurring speech. Alternatively, it may be that improvement did not occur for SAE determiners between Years 1 and 3 which are notoriously difficult to acquire and may be considered communicatively redundant. Findings from Myer and Wigglesworth (under review) support the later conclusion.

Myer and Wigglesworth (under review) also analysed the naturally occurring speech of students in Years 1 and 3 and 5. They examined various phonological and morphosyntactic features of AE specific to the variety of AE in the south-west of Western Australia. In contrast to Fraser et al. (2018), they found that instances of SAE increased in children's classroom data, while AE decreased. However, AE use decreased less between Years 3 and 5 than between Years 1 and 3. In this schooling context there was no formal recognition or explicit teaching of AE, the authors concluded that students were acquiring SAE by "osmosis", that is, without explicit bidialectal education. These findings, and the results of the current study suggest that students who speak contact languages *are* learning SAE through their experience of schooling, but after large initial SAE language gains in Years 1 to 3, first language features persist in students in Year 5. Several reasons have been put forward to explain this, including linguistic similarity which can cause negative transfer and persistent errors (Winer, 1989, 2006), communicative redundancy (Long, 2007), and that language use might be a function of cultural affiliation or cultural resistance to the standard language (Malcolm & Koningsberg, 2001).

Teacher professional development

Teachers need to understand how language works and how language is learned to be able to appropriately teach mainstream curriculum content to English language learners, especially for speakers of Indigenous contact languages whose language learning needs might not be immediately recognized or well understood. These skills are not easy to acquire, especially for teachers who already have heavy responsibilities. Initial teacher education (ITE) programs are the obvious and logical place to begin and the study of language and language learning should be included in all ITE programs (Fraser et al. 2018, p. 263). But ITE should not carry the sole responsibility for professional development and learning. The numbers of pre-service teachers in ITE programs are low when compared with the large teaching population already in schools. These teachers must receive appropriate professional development in this area (Gilmour, Klieve & Li, 2018). Given the immense focus on literacy learning outcomes in Australian schools, it seems seriously misguided to leave teachers ill-prepared to teach the language of instruction with a focus on oral language. Further, in Indigenous community settings with large L1 speech communities, the role of bidialectal teachers cannot be understated. Bidialectal teachers are required for their skills and knowledge in both languages, and their ability to act as role models for students (Feller & Vaughan, 2018). Every effort should be made to train and support bilingual/bidialectal Indigenous peoples to become teachers in Australian classrooms.

Limitations

This study is limited to a narrow range of SAE language features, which are used to highlight some significant differences between the groups but does not provide a comprehensive understanding of SAE language ability or learning. It is also limited to primary school years,

and it would be useful to know how participants SAE knowledge continue to develop in the older years.

Conclusion

It is clear speakers of Australian Indigenous contact languages have specific, and often unrecognised, SAE language learning needs which will impact their learning in SAE speaking classrooms. To provide a fair and equitable education for all, teachers should attend to language differences in their instruction to ensure the Australian Curriculum is accessible to students for whom SAE is not their first language. Key recommendations are training and employing bilingual educators with knowledge of local language ecologies alongside teacher professional development in this area. Further research is required to establish effective pedagogical practices for Aboriginal and Torres Strait Islander students who speak contact languages.

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