

# ○ CONDUCTING COMMUNICATION ASSESSMENTS WITH SCHOOL AGED ABORIGINAL CHILDREN IN THE KIMBERLEY REGION OF AUSTRALIA

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Speech pathology assessment within cross-cultural contexts, where the assessor and client differ in their cultural backgrounds, can create many challenges for assessment usage and implementation. With Australia being home to people from many cultures, this is a particular challenge for speech pathologists working in this country. This paper outlines the development of an assessment specifically for Aboriginal children living in a discrete region of the Kimberley in Western Australia. This assessment was developed in collaboration with local language experts as well as speech pathologists experienced in the area of assessment with Indigenous children. Nearly all parts of the assessment were administered by a local co-worker in the children's first language, Kimberley or Fitzroy Valley Kriol. The paper outlines the specific components of the assessment as well as the approaches taken to ensure fair and accurate assessment of children's communication skills. It highlights the benefits of collaborating with local co-workers and provides those working with Indigenous children in Australia with practical activities to consider.

**KEY WORDS:** Indigenous, language assessment, Kriol, bilingual assessment, cross-cultural assessment

## INTRODUCTION

This paper details the development of a selection of language assessment subtests utilised for a foetal alcohol spectrum disorder (FASD) prevalence study conducted in the Fitzroy Valley region of the Kimberley in northern Western Australia in 2011.<sup>i</sup> A prevalence study is like a 'snapshot' of a disease (its frequency and characteristics) within a cohort of a population at a specific point in time (University of Michigan School of Public Health, 2010). The cohort of children in this study were all children born in 2002 and 2003 (N=108, 85% participation rate), with the majority identifying as Aboriginal<sup>ii</sup> and speaking languages other than Standard Australian English (SAE) as their first language. Subsequently, a novel assessment

approach was warranted to capture the children's (non-SAE) communication abilities as accurately and fairly as possible. Literature regarding language assessments for multilingual children in other countries is more readily available than literature pertaining to Aboriginal and Torres Strait Islander children. Whilst some assessments have been developed for specific parts of Australia, they are not necessarily applicable or appropriate for children living in other areas, speaking other languages. To begin addressing the gaps in this particular evidence base, this paper endeavours to be openly analytical about the strengths and weaknesses of the assessment tasks implemented, so that others may use the information constructively for their own assessment development in the future. Whilst the process of developing and delivering this language assessment is outlined, the specific results data are not provided (this will be reported in a later paper). A considered and thorough process is essential when working within cross-cultural contexts, and this paper aims to reflect this.

## **BACKGROUND**

The impetus for the development of the language assessment arose from a foetal alcohol spectrum disorder prevalence study in the Fitzroy Valley region of the Kimberley. Eighty-five per cent of children aged between 7 and 9 years of age participated in the study (N=108) and were assessed by a number of clinicians including a speech pathologist, occupational therapist, psychologist, physiotherapist and paediatrician.<sup>iii</sup> The brief for the speech pathology assessment was a speech and language 'screener' that would identify any significant articulation and/or language impairment. The total time allocated for each part of assessment was a maximum of one and a half hours, with two children assessed each morning, followed by results interpretation, report writing and case conferencing. Large, time-limited studies such as this can create difficulties in gathering comprehensive and accurate information as they tend to require succinct data within small time frames. Conversely, conducting cross-cultural and cross-linguistic assessments of the type required involves additional attention to gathering data over a prolonged period of time, in a number of different settings and involving a large circle of informants (Department of Education, Training and Employment, 2000; Gould, 2008; Patterson & Rodriguez, 2005; Paul, 2001). All children in the study had their hearing tested prior to the health and development assessments. Otoscopy (viewing of the ear drum for signs of infection/damage), tympanometry (checking the mobility of the ear drum) and pure tone audiometry (hearing screening) were conducted with all children by an audiology team from Sydney. Approximately 50% of children in the cohort were found to have some level of hearing loss in at least one ear, generally in the mild range.<sup>iv</sup> An auditory processing assessment called the LiSN-S<sup>v</sup> was also conducted and nine children did not pass, indicating possible central auditory processing difficulties.

### PROFILE OF COHORT

Children involved in the study cohort lived in various parts of the Fitzroy Valley region, which encompasses 45 discrete communities over a large geographical area. The majority of children were born and raised in the remote, predominantly Aboriginal communities within the region, where five traditional languages are spoken: Bunuba, Walmajarri, Nykina, Gooniyandi and Wangkatjanka. Fitzroy Valley Kriol (FV Kriol) (also known as Kimberley Kriol or Kriol) was identified by caregivers<sup>vi</sup> (and the children themselves) as the children's first or subsequent language, and to a lesser degree, varieties of Aboriginal English. When asked about the languages they spoke, the majority of children listed at least two languages and some children named up to five. Most children rated their proficiency in each language using terms like "first one" or "best one" and would also qualify their proficiency ratings by saying things like "I can understand Bunuba but I'm still learning to speak it" or "I speak little bit Walmajarri". It is hypothesised that children's insight into their languages could have been reflective of their schooling using the FELIKS (Fostering English Language in Kimberley Schools) ESL approach, as described in *Making the Jump* (Berry & Hudson, 1997), and supported with teacher training by the Western Australian Department of Education (Purdie, Oliver, Collard & Rochecouste, 2002). Evidence of this ESL approach was observed in classrooms where there were language-tree posters and Kriol-SAE books produced by students. Further evidence was an orthography developed by Kimberley Kriol speakers with the support of the Kimberley Language Resource Centre and Western Australian Department of Education and Training Kimberley District Education Office in 2003 and 2004 (Kimberley Language Resource Centre, 2013; see also Disbray & Loakes, this volume). To varying degrees, children's linguistic diversity seemed to be acknowledged within the school environment.

### SPEECH PATHOLOGY AND CROSS CULTURAL ASSESSMENT

Speech pathologists are trained to assess, diagnose and treat children and adults experiencing communication and swallowing difficulties (Speech Pathology Australia, 2013). Communication difficulties can include stuttering, voice disorders and speech/language problems. Despite Australia being home to diverse and numerous cultures, evidence suggests that speech pathologists are most likely to conduct speech and language assessments in English even if the child is not from an English speaking background (Cahir, 2011; Caesar & Kohler, 2007; Gould, 2008; Salter & McAllister, 2009; Toohill, McLeod & McCormack, 2011; Williams & McLeod, 2012). In addition, assessments used by speech pathologists are frequently standardised to middle-class, monolingual, English speaking children. Standardisation means that the assessments are tested on a large number of children and a bell curve of results is then produced, which creates a range of 'normal' or 'typical' and results above and below this range. The literature indicates that static, standardised,

quantitative, norm-referenced assessment processes are inadequate for children with minimal English exposure (Caesar & Kohler, 2007; Laing & Kamhi, 2003).

Additionally, children may be misdiagnosed with a language delay or disorder (De Lamo White & Jin, 2011), may be withdrawn from their classroom for (unnecessary) specialist intervention, or may feel that their home/community language is not valued or is viewed negatively. It is recommended that alternative assessment procedures need to be developed and implemented (Naudé, Louw & Weideman, 2007; Patterson & Rodriguez, 2005) and speech pathologists need to be trained to implement them effectively (Kritikos, 2003) to uphold the Code of Ethics (Speech Pathology Australia, 2010).

Most professionals acknowledge that test content and administration procedures are invariably culturally bound, with some tests having a higher cultural loading and potential for bias than others (Haitana, Pitama & Rucklidge, 2010). The concept of 'culture-fair' assessments evolved during the twentieth century (Carter et al., 2005) and is essentially an assessment that does not require one group (socioeconomic, cultural, or gender) to have greater resilience, perseverance and competence than another to succeed (Klenowski, 2009). By being aware of personal attributes, beliefs and values that may enhance or inhibit performance (Department of Education, Training and Employment, 2000) this approach is achievable.

### **CONSULTATION AND SEARCH FOR LITERATURE**

As the majority of children in the cohort spoke FV Kriol as their first language, efforts were made to find literature regarding this language. FV Kriol is described as a regional variety of the northern Australian creole known as Kriol (Munro, 2000). Hudson (1981) provides comprehensive descriptive information about FV Kriol and a thorough exploration of the language in the early 1980s. Though this information provided a detailed account of FV Kriol at that time, it was evident from informal observation that language shift had occurred since, with changes in phonology and grammar noticed.<sup>vii</sup> More applied and recent information was found in Kimberley-specific resources (Berry & Hudson, 1997; Hudson, Millar & Jones, 2009). Whilst the speech pathologist had a number of years exposure to Northern Territory Kriol and comprehension of general conversation, she did not have sufficient proficiency or metalinguistic awareness of FV Kriol to be able to create clear assessment criteria or guidelines. No language development normative data were available and there was not time or scope to create them.<sup>viii</sup> It was decided that the norms would be created retrospectively from the assessment results if appropriate.

Though a number of people were contacted regarding this project (mostly linguists and speech pathologists with experience working in Aboriginal communities), it was key local people who became the primary consultants for the development of the assessment subtests. These local language experts were recruited by various means: three people were recruited

by the study as ‘community navigators’ to assist with cultural guidance, locating families, talking with families about the details of the study to gather informed consent, and providing ideas and information to the non-Indigenous health professionals. Two of these community navigators had studied and worked in English-speaking vocations, as well as being strong speakers of their family traditional language(s), FV Kriol and varieties of Aboriginal English. The fourth local language expert was a trained interpreter who had worked extensively in this role and also as a cultural awareness facilitator. These local language experts were pivotal in guiding the development of the subtests.

The concept of the language assessment was explained to these colleagues and they were shown the standardised language assessment called the Clinical Evaluation of Language Fundamentals (CELF-4) (Semel, Wiig & Secord, 2003), which is arguably one of the most common language assessments used by speech pathologists and one that had been used extensively in similar FASD studies in Canada and the United States. The CELF-4 contains a number of subtests of which the core subtests collectively measure syntax, morphology, semantic classes and metalinguistic awareness of English. These local language workers identified that the CELF-4 was not going to be a fair or accurate measure of the language abilities of the children in the region, even if it were translated. As Carter et al. (2005) observe, simple translation of these tools is exceptionally complex and implies that there is universality in the psychological constructs that underlie different assessments. The local language team themselves found the CELF-4 difficult, particularly the subtests that were more decontextualised such as the Concepts and Following Directions, Recalling Sentences and Word Classes subtests. They referred to some questions and instructions as being aligned to ‘school talk’ or ‘whitefella way’ and appeared genuinely confused about why one would request a child to do such tasks. As Gould (2009) observes, we should move away from these biological, decontextualised methods of assessment and instead consider the cultural belonging of a child as the key factor in determining how, what and why they communicate, which De Lamo White & Jin (2011) refer to as a socio-cultural approach.

Possible non-standard assessment tasks were discussed and explored with these colleagues and they provided significant input into what they felt would be most appropriate. Some previous (formal and informal) assessments specifically developed for Aboriginal children were reviewed, but it was felt that these assessments, though preferable to direct English testing, were still grounded in English norms and more dominant culture methods of assessment, which would not be appropriate for the purposes of the project.

The decision was made to conduct all assessments in FV Kriol, with a local speaker conducting the majority of the assessment process and the speech pathologist being present for scoring and implementation of one subtest. Assessments were framed around the following: descriptive and clinical linguistics literature; past research and experience of the

assessment team; the knowledge and experience of the local language experts; and the skills that speech pathologists use to describe communicative competence in language assessments.

## **METHODOLOGY**

Subtests were developed to measure receptive language, expressive language, reading and writing skills. Each subtest is detailed below with comment on the implementation and perceived relevance and 'success' of each.

### **BANGU DU BAT**

As part of a receptive language subtest, an Aboriginal story called *Bangu the Flying Fox* (Taylor, 1994) was used, as chosen by the local language team from the school library. The story was translated into FV Kriol and pictures were selected by a local language worker, who produced a bound storybook. The task was trialled with two adults who were local to the region and baseline responses were recorded as a rough sample to use as a guideline for children's responses.

The language team wanted to create a naturalistic story-telling situation, whereby the local language expert would read the story to the child and ask them context-specific questions, much like book-reading between adults and children. To address the need for streamlining assessment 'stimuli' as much as possible, the story was recorded on video camera with the voice of a local male language worker in FV Kriol. This video was shown to each child on a laptop computer twice, to ensure overall comprehension of the storyline before interrupting with questions. A potential weakness of the subtest was inclusion of some display questions. Whilst Moses and Wigglesworth (2008) noted in their observation of teacher-student dynamics within the classroom that display questions can create a power imbalance between the adult and child, Moses and Yallop (2008) observed many instances of all types of question forms being asked of young children by their caregivers and peers. Given that the questions were being asked by a local person known to many of the children in the cohort, these question forms were considered appropriate for the purpose of the assessment.

Blank's levels of questioning were used as the framework for the questions (Konza, 2011). Marion Blank, an American developmental psychologist, is renowned for her work with language, cognitive development and literacy (Blank, 1974, 1975; Reading Kingdom, 2013). She devised a four level system of questioning for oral language development aimed at children in the early years of education as well as the Preschool Language Assessment Instrument (Blank, Rose & Berlin, 2003), which is widely used by speech pathologists in the United States. Blank's levels of questions were based on her observations of the classroom context and begin with concrete Level 1 questions such as "What's the dingo doing?" to more abstract level 4 questions such as "Why does Bangu sometimes think he's a bird and sometimes an animal?" (see Appendix). Potential limitations in using these levels of

questions as a framework were identified: one member of the language team (a teacher) suggested that the more abstract Level 3 and 4 questions were not typical questions asked by families of children in the Fitzroy Valley region and are ‘school questions’.

In their review of oral language assessments for Indigenous children, Jones and Campbell (2008) made a series of recommendations for consideration in the development of oral language tests. Often in English-based tests, the child is required to produce a full sentence in response to a question, even if this does not fit with general discourse and pragmatics. However, Jones and Campbell (2008) suggest that any response that demonstrates the child has understood the question should be scored as correct, including one-word responses. This was integrated into the subtest.

Discussion with another member of the language team about the way that he scaffolded and supported children to get to an answer in this subtest produced the following response: “You whitefellas ask questions to test kids, but we ask questions to teach kids”. Consequently, these scaffolding measures were built into the assessment marking so that we could comment on the level of assistance that each child needed (Ukrainetz, Harpell, Walsh & Coyle, 2000). Families and teachers could then be provided with useful, practical feedback about strategies that helped the child understand what was being asked. Ultimately, this information was more meaningful to them than the score (though the score was required for the purposes of the study). This kind of process where evaluation is based on the child’s responses to learning, rather than their knowledge, is known as dynamic assessment and has been documented in bilingual assessment literature in the United States (Campbell, Dollaghan, Needleman & Janosky, 1997; Gutierrez-Clellan & Peña, 2001; Kapantzoglou, Restrepo & Thompson, 2012) and the United Kingdom (Hasson, Camilleri, Jones, Smith & Dodd, 2012; De Lamo White & Jin, 2011; Hasson & Joffe, 2007) in particular.

### **NONWORD REPETITION TASK**

In their review of the literature on the use of non-word repetition tasks (NRT) in typically developing children and children with specific language impairment, Coady and Evans (2008) concluded that, although NRT tapped into a number of language processes (thus not isolating specific strengths or difficulties), it was a powerful tool in identifying children with language impairment. Archibald and Gathercole (2007) also detail a number of studies that have found a correlation between poor NRT and impairments of language learning. On the other hand, Munson, Kurtz and Windsor (2005) argue that phonotactic probability strongly influences the performance of children in these kinds of tests and cite vocabulary knowledge as a primary factor. This task was chosen to indicate potential difficulties that would warrant further investigation or could be correlated with performance in other assessment subtests. It is recommended that if this were to be replicated that an appropriate vocabulary test is also used in order to compare the results.

The list of 18 words contained phonemes familiar to the children in the study but some of the phonological sequences were not common in FV Kriol (e.g. the trigraph 'str'). In order to avoid a simple repetition task, the non-words were described to children as the strange names of a group of toy dinosaurs that were presented to them one by one. In a task developed by Dr Judith Gould, the children were required to repeat the name of the dinosaur and could then place the dinosaur on the wooden 'dinosaur land' in front of them.

The task was administered by the speech pathologist, though the initial instructions were provided in FV Kriol by a local language expert. The majority of children seemed to enjoy this task and the combination of speaking and touch seemed to suit the preferences of a number of participants. Stories about the 'dinosaur game' circulated through some classrooms, with children requesting to 'play' it.

Whilst many children performed well in the repetition task, there were some who showed great difficulty and this was reflected in other subtests and parts of the cognitive assessment (generally in working memory tasks).

A reading and spelling component was also added to this subtest, with children required to read some more non-word names of dinosaurs and then spell them (utilising words from the Queensland University Inventory of Literacy [Dodd, Holm, Oerlemans & McCormack, 1996]). Although this task favoured children who were frequent school attendees, the testers took this into consideration and found that some children still had significant difficulties with encoding and decoding information, sound-symbol relationship knowledge and word attack skills. The results in these two tasks varied greatly, much more than the oral NRT task.

### **DINGO AND CROW**

There was some initial thought and discussion that a subtest consisting of a narrative retell could be a valuable component of the overall language assessment, given that story-telling is common across many, if not all cultures. The ability to produce a coherent narrative is a complex linguistic task that requires the storyteller to plan and execute their production of the story's plotline by using appropriate vocabulary, grammar, and syntax (Heilmann, Miller & Nockerts, 2010). It was discussed, however, that a retell task, whereby the adult tells the story and instructs the child to retell it, would not provide a very rich language sample and there would be difficulties in engaging the children in the task.

Instead, it was decided to provide the participants with a sequencing and storytelling activity. The Jackal and Crow (Knappert, 1985) story cards selected were originally developed as a socio-cognitive task to be used by linguists with people from various cultural groups. It was anticipated that these cards could also be used for the purposes of the language assessment and would provide a more natural context for children to tell a story, though still with some constraints.

This task was conducted with two children at the same time and was introduced by a local language expert who described the story as being about a dingo and crow. The children were then requested to order the cards in their preferred sequence (no right or wrong order). This entire task was video or audio recorded and children's negotiation with each other was transcribed for language sampling purposes. Once the children were happy with their sequencing they were requested to tell the story. When they had finished telling the story they were instructed to play the role of the dingo and the crow and tell the story from the perspective of those characters, which added a varied language demand.

The effect of doing a paired task was marked, with children being more animated and talkative than during the solo tasks. Many of the children appeared to enjoy ordering the cards and negotiating with one another and some acted out the story without prompting. It was observed over time that the presence of the speech pathologist (SP) seemed to result in children trying to tell stories in their best SAE (they may also be accustomed to narratives from their classroom experiences). An adjustment in instructions was made to instead 'practise' the story while the SP went and did some computer work. The rehearsal of the story with the local language expert gave a richer sample of the children's preferred language (mostly FV Kriol) and this was also recorded and transcribed.

This task provided the main source of language sampling but was probably not large enough to draw any major conclusions. As Gould (2008) mentions, the use of picture cards can affect the elicitation of useful language data for analysis. What was gathered, however, did seem to highlight children who were having significant difficulties when considered in light of their performance in other subtests.

## OBSERVATIONS

It was originally planned that children would be filmed in small groups participating in 'free play' in between assessment sessions. Initially this occurred and some basic language samples and general observations were made of children's communication with their peers. Unfortunately, the sequencing of the assessment sessions changed, leaving no time to continue with this process, or to observe children within the classroom. Ideally, these observations would be a core component of language assessment.

## TEACHER AND CAREGIVER REPORT

Based on the literature, in the absence of observation of children within the school and home context, two separate questionnaires were developed for completion by classroom teachers and caregivers (see Bedore, Peña, Joyner & Macken, 2010; Cahir, 2011). The teacher questionnaire asked a range of questions about the child's speech and language within the classroom, as well as broader questions about the languages used by the child in the classroom. Interestingly, many teachers rated the children from an SAE perspective and

identified the children as speaking SAE in the classroom, though some brief classroom observations found that children were not speaking SAE (they were often speaking FV Kriol). As a generalisation, typical features of Kimberley Kriol were viewed as problematic and one teacher referred to a child's perceived poor articulation skills as "very Kriol". This perception of teachers viewing the use of creoles and dialects within the classroom negatively is described in a number of papers (Godley, Sweetland, Wheeler, Minnici & Carpenter, 2006; Purdie et al., 2002; Siegel, 2008). There appeared to be some deficit thinking around the children who were stronger Kriol speakers, although these children often displayed strong communication skills during the assessment process and were very engaged.

The caregiver questionnaire was very brief (only 6 questions) and was conducted in person by the speech pathologist, occupational therapist or physiotherapist depending upon time constraints and availability (generally in the absence of a community co-worker due to other responsibilities). The number of questionnaires completed was not high and for some interactions it appeared that the caregiver was giving the 'right' answers in order to be helpful. Jones and Campbell (2008) also acknowledge similar difficulties in parent report, where without first establishing rapport, it can be difficult to gather in-depth information. The speech pathologist found that if children were assessed prior to speaking with caregivers, it helped to give clear examples of their strengths and weaknesses and generate more valuable and detailed discussion with the caregivers.

### **ADULT SAMPLING**

Because the cohort included nearly every child in the region aged 7–9 years it was not possible to trial the assessment subtests using a control group in this age range. This would have created bias due to familiarity with test items. Trialling the subtests with younger children or older children was also not a readily available option (due to consent and time constraints).

Although it is known that children and adults vary in their vocabulary knowledge and sentence length/complexity (Paul, 2001), fundamental syntax structures are developed in children roughly by the age of five (Fromkin et al., 2009). It was therefore decided to record some samples of adults completing the subtests to provide a benchmark of performance for the children in the cohort. This gave the team an indication of the types of responses that the subtests may elicit from the children and provided some rough guidelines of what to expect. In retrospect, the adult sample should have comprised the parents of the children in the study, as this would be the language that the children were exposed to and would better represent their language learning.

## INTERPRETATION OF RESULTS

Analysis of data was generally conducted by the speech pathologist with varying involvement of local language experts, depending on their availability. Almost all of the assessments were video- and/or audio-recorded for reference. For more complex children the SP ensured that a local language expert was involved in the analysis. Raw data was recorded and in conjunction with observations, teacher and parent report, an overall rating of the child's receptive and expressive language ability was made, generally using the terms 'mild', 'moderate' and 'significant impairment' if difficulties were evident. This became easier over time as more children were assessed and a typical range began appearing. The clinicians in the team participated in daily case conferences to discuss results, developmental concerns and to make a diagnosis. This provided an opportunity to compare speech and language results with other components of the assessment and comparison with the cognitive assessment was particularly useful due to some crossover in subtests.<sup>ix</sup>

Actual results of the children's performance for each of the subtests are not available at this time.<sup>x</sup> Overall, the aim of identifying children with a significant level of language impairment was achieved, though the time restrictions and limited number of subtests meant that the assessment was probably not as sensitive to varying degrees of difficulty as other assessment protocols that have strict scoring criteria.

Co-worker feedback regarding the assessment primarily acknowledged and valued the fact that the subtests were conducted in the children's first language. It was the co-workers' perception that the children would not have participated as readily if the assessment had been in English. As one co-worker put, rather simply but starkly, "It's good that the assessment is in Kriol because the kids...speak Kriol".

## CONCLUSIONS

Developing new assessment approaches for Aboriginal children that adequately measure their speech and language abilities is a challenging task. Though there is existing literature from abroad, there is little available evidence detailing the extent to which people have implemented these within the Australian Indigenous context. This project, with its limitations acknowledged, aimed to not only fulfil the requirements of the study, but also contribute to the evidence base for other clinicians. The strengths of this study were the close collaboration with local language and cultural experts, the implementation of the assessment in the children's home language, the use of more naturalistic subtests and the paired task. Providing children with an opportunity to demonstrate their communication abilities in their first language was acknowledged

and commended by community members, with people suggesting that assessments should also be developed in other languages spoken in the area. Speech pathologists have a responsibility to provide fair and appropriate assessment to Aboriginal and Torres Strait Islander and it is hoped that this challenging task will be continued by others in the field.

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## APPENDIX

## INTERACTIVE STORY TELLING SESSION (BANGU)

Name: \_\_\_\_\_ DOB: \_\_\_\_\_

Date of Assessment: \_\_\_\_\_ Film/tape ref: \_\_\_\_\_



Pg	Question	1	2	3	4
3	What's that bird called? (eagle) RR: Q: <i>Wot dai korlim dijun bird? (eegool)</i>		X	X	X
4	What's the dingo doing? (eating something) RR: Q: <i>Wot det dinggoa doowimbud? (Ee eedimbut sumding.)</i>		X	X	X
5	Why does Bangu sometimes think he's a bird and sometimes an animal? (has wings like a bird and fur like an animal) RR: Q: <i>Wodfor det Bangu sumdiem reginimselp bird en sumdiem reginimselp anumool? (ee wooleewun liek kangaroo en ee guddim wing lieku bird en ee guddim feis liek u dorg)</i>	X	X	X	
6	What's happening? (emu biting bird, bird biting porcupine) RR: Q: <i>Wod yoo regin dijjud (dislod) anumool doowimbud? (Dem biedimbudself orlimbudself)</i>	X		X	X
7	Why do you think Bangu changed over to the animal side? (so he would win each time) RR: Q: <i>Wodfor yoo regin Bangu bin tjainjimselp oabu lungu anumoolsied? (cos orlu anumool bin win en ee liekim wining sied)</i>	X	X		X
8	Why do you think the birds and animals were angry? (because he kept changing sides) RR: Q: <i>Wodfor yoo regin dem bird en anumool bin ged wield lungu im? (cos ee bin tjainjimbudself orlu tiem)</i>	X	X		X

8	What do you think the birds and animals will do? (any reasonable response) <i>Wod yoo regin dem bird en anumool guddu doo nu?</i> RR: Q:	X	X	X	
9	Look at the can on his head. Where do you usually find cans? <i>Loogim det kan lu is hed. Weye yoo fiendim kan?</i> RR: Q:	X		X	X
1 1	How do you think Bangu feels? (sad, upset) RR: Q: <i>Wot kien yoo regin Bangu bin feel? (noagood, ee madwun)</i>	X	X		X
1 2	What can you see in the sky in this picture? (moon, stars) RR: Q: <i>Wod ken yoo see lu dis pitju?</i>		X	X	X
1 3	Look at Bangu. What do his wings help him do? (fly) RR: Q: <i>Look lu Bangu. Wod ee yoosim is wing blu?</i>	X		X	X
1 4	What is another reason why your friends would get angry at you? (any reasonable response) RR: Q: <i>Wod kien ting yor maitmait miet ged wield guddu yoo?</i>	X	X	X	
<b>Total /9</b>					

Overall score: /36
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Scoring:

- 3 – complete answer
- 2 – mostly correct but not specific enough
- 1 – partial but incomplete answer
- 0 – incorrect answer

Prompting:

- Minimal (some repetition/rephrasing)
- Moderate (frequent rep/rephrasing)
- Significant (rep/rephrasing every Q)

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## ENDNOTES

- i For a detailed background of the project, including ethics approval and grant details, please see: Fitzpatrick J. P., Elliott, E. J., Latimer, J. et al. (2012). The Lirilwan Project: study protocol for a population-based active case ascertainment study of the prevalence of fetal alcohol spectrum disorders (FASD) in remote Australian Aboriginal communities. *BMJ Open*, 2(3). <http://bmjopen.bmj.com/content/2/3/e000968.full?sid=a71bfbd9-f16b-471f-b297-054b706bc6ee>.
- ii Whilst all but two children in the study identified as Aboriginal, there are Torres Strait Islander people living in this region of the Kimberley. Whilst they are acknowledged, the Indigenous people of this region will be subsequently referred to as 'Aboriginal'.
- iii This assessment period ran for 6 months with the team travelling to various communities in the region.
- iv See [http://www.hearing.com.au/digitalAssets/5952\\_1208216247343\\_child-mild-hearing-loss-final08.pdf](http://www.hearing.com.au/digitalAssets/5952_1208216247343_child-mild-hearing-loss-final08.pdf).
- v See <http://capd.nal.gov.au/lisn-s-about.shtml>.
- vi During the project's consent phase of the study.
- vii A much higher usage of fricatives was observed (/s/, /sh/ and /f/) than is detailed in Hudson's work. The use of the continuous form 'embud' was relatively absent in children's language samples and it appeared that this marker had been lexicalised, with almost all children using the form in the word 'eedimbud' (eating) but using the English form 'ing' in all other words.
- viii This would require a large sample size of children the same age of the children in the cohort, but the children in the cohort could not be used for this purpose due to test practice bias. The SP had a handful of weeks in the community prior to the project commencing.
- ix This will be discussed in more detail in a future paper.
- x Until the FASD prevalence data are published, the more specific assessment data cannot be released.