Researching Child Language in Indigenous Australia: An ACLA2 Progress Report

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Dec. 11, 2009

ACLA Project details

- *A longitudinal study of the interaction of home and school language in two Aboriginal communities* (ACLA2). Univ. Melb. (Wigglesworth), Univ. Sydney (Simpson).

- Phase two of a longitudinal study funded by the ARC (2008-2012).

- Phase one (ACLA1): "How mixed language input affects child language development: case studies from central Australia" (2003-2007).

Major outcomes ACLA1

- 3 PhD projects, language use in:
1. Dagaragu in the Victoria River District (Meakins 2007);
2. Yakanarra in the Kimberley (Moses 2009);
3. Tennant Creek (Disbray 2009).

- Edited book (2008).

- Database of child-speech and child-directed speech (4 year period).

ACLA2 Aims

Rationale for ACLA2:
- We know about the pre-school language environment (ACLA1).
- After this? Indigenous children have low success rates at school, low levels of literacy and consequently low employment rates.

- Aims: What happens when Indigenous children enter the formal school system?
- Documentation of the language(s) that children take to school with them, and developments as they are exposed to SAE in the school system.
- How Indigenous children manage the major change from a home to school environment.

ACLA2 Aims

Method:
- Participants - children entering the school system (5+).
- Longitudinal (two year) documentation of participants at home and school (classroom, naturalistic - possibly playground).
- Audio and video recordings.
- Transcript analysis (as for ACLA1).

Outcomes:
- Used for informing policy.
- Provide a sound linguistic basis for improving literacy and school participation of Indigenous children.

Work in Progress (discussed today)

- ACLA1/2 overlap.

- ACLA2 NAPLAN programme "National Assessment Program – Literacy and Numeracy".

- ACLA1 Receptive language test (extension to ACLA1/2 communities, 2009, 2010).

- ACLA1 Longitudinal (two year) child-age study, child-speech and child-directed speech in one community.

- ACLA1 Synchronic interlocutor age study, child-speech and child-directed speech, four different aged interlocutors.

NAPLAN: ACLA2

Wigglesworth, Simpson, Loakes

Background - NAPLAN:
- Standardised testing material (annual, began May 2008).
- Literacy & numeracy years 3, 5, 7, 9.

- Indigenous children perform badly.
- Indigenous children in NT perform worse.
- Indigenous children in remote communities perform worst.
- Test based on experiences of primarily monolingual English-speaking children (examples shown today).

NAPLAN: responses

More background, response to NAPLAN results 2008:
Media Release, Julia Gillard.

…
The results show that more than 90 per cent of students are performing at or above the national minimum standard in each of the key areas. About 80 per cent achieved above the minimum standard.

But it remains of great concern that the data shows that Indigenous student achievement is significantly lower than non-Indigenous students in all areas tested and all jurisdictions.
…

NAPLAN: responses

More background, response to NAPLAN results 2008:
- *The Age* "Aboriginal children fail basic school test".

The chief executive of the Australian Indigenous Education Foundation, Andrew Penfold, told *The Age* a combination of low employment and poor social conditions meant children in remote indigenous communities had little prospect of achieving high marks.
…

"With quality teachers, through more funding and training, this actually breaks the circuit and gives these kids a chance."
Tom Arup, Dec. 20, 2008.

| None of these responses mention <u>language</u>. |

NAPLAN: responses

More background, response to NAPLAN results 2008:
- Indigenous education minister Marion Scrymgour announced that the first 4 hours of schooling had to be in English (effectively halving / scrapping bilingual education).

- Decision now "regretted".

NAPLAN: test format
- Tested on reading, language conventions and numeracy, also completion of writing task. e.g. Year 3 reading:

   "Lucy's holiday"
   see http://www.naplan.edu.au/

NAPLAN: analysis

Potential Issues:
- Cultural knowledge many Indigenous children lack (no cinemas, no promotional material).
- Language specific issues:
Reduced passive "new movie directed by…"
Recognition of synonymy of "recommended for all ages" and "suitable for everyone".

Potential problems with questions:
- Q1: Unfamiliar cultural understanding.

NAPLAN: analysis

- Q2: Unfamiliar terminology (e.g. session times, movie ratings).

- Q3: Concepts "recommended for all ages" unlikely to receive reinforcement at home (literacy of parents).

NAPLAN: analysis

- Q5: Unfamiliarity with genre.

Summary of issues:
- ESL - not familiar with reduced passive construction.
- Kriol - no passive.
- Cultural awareness / terminology.
- Little reinforcement at home from literate parents.

NAPLAN: analysis

"Paperboy"
see http://www.naplan.edu.au/

Infer "Gazette" is paper, need to link to image.
"Jutting" = low frequency word, exposure in input unlikely ("poking" – next para - also low freq.)
Infer "box" refers to letterbox, even though concept is unfamiliar.
Remote communities: no fences, no private letterboxes, no newsagencies.
"Stuff & nonsense" highly idiomatic, highly unlikely in input.
Interpreting "papers" as "newspapers" problematic.

NAPLAN: Conclusions

Testing issues:
- NAPLAN tests academic and written aspects of a first language.
- No tests of an ESOL/D speakers knowledge, or stage of development, of English.
- Test materials need to use contexts which will be relatively equally familiar (e.g. a classroom or a kitchen).

Curriculum development required:
- Explicit and systematic ESL teaching (for traditional language speakers).
- Explicit comparison of home language structures with SAE (Kriol / Aboriginal English speakers).

Receptive Language Test: ACLA1

Loakes, Moses, Simpson and Wigglesworth

Study:
- "Developing tests for the assessment of traditional language skill: A case study in an Indigenous Australian community".
- *Language Testing* journal.

- AIATSIS funded research developed through ACLA1 database.
- Carried out in one ACLA1 community, extension (in progress) to other ACLA1 and ACLA2 communities.

Receptive Language Test: ACLA1

- Background:
  Rapidly changing language situation in Indigenous Australian communities - focus on Walmajarri.

  ACLA1 research:
- Children are spoken to in a variety of languages (Kriol / traditional languages).
- Children tend to speak primarily Kriol, but have some understanding of their traditional languages.

- Rationale:
  Minimal research on how best to test children's knowledge of Indigenous languages (esp. in multilingual contexts).

Receptive Language Test: Aims

Aims:

1. Develop an assessment tool to determine how well Indigenous children understand one aspect of their local Indigenous language (lexical items; nouns).

2. Pilot the test in four Australian Indigenous communities.

5. Evaluate the effectiveness of the test.

6. Assess cross-community appropriateness.

Results: Aim1 (development)

Our requirements for an assessment tool:
- One feature of language (nouns) - preliminary test.
- Extendibility to other communities, other languages.
- Ease for field researcher and for future development.

Method / Development Process:
- Recommendations from Caroline Jones who developed a language test to measure Kriol acquisition (also Jones and Campbell-Nangari 2008).
- Including cultural appropriacy of test items, computer-based test, pre-recorded-audio, allow repetitions of audio if necessary, practice examples.

Results: Aim1 (development)

Development Process:
- Frequency of nouns checked in ACLA1 database.
- 47 test items were chosen, pictures developed for each.
- A programmer helped create structure of test.

Test Format:
- Log-in screen.
- 2x2 images - 1 "target", 3 distracters.
- Child hears audio, has to choose correct image.
- Results automatically generated.

Results: Aim1 (development)

Pre-Testing activities:
- Recording of audio (remotely - postage & email).
- Pilot-test of images with SAE speaking children in Melbourne, community input - images / test items.

Final structure:
- 40 test items.
- Classified as H, M, L frequency (10+, 3-9, 1-2 speakers).
- Unequal numbers across H, M & L categories.

Participants:
- 80 participants aged between 4;0 and 12;8.
- 1 community (ACLA1), extended to 3 others.
- C1 (19-ACLA1), C2 (37), C3 (16), C4 (8) - C3/4=C3 (24).

Results: Aim2 (piloting)

- Test presented to participants on a computer in their local school.

- Children chose the target image on hearing the word in Walmajarri.

- Test extended to C2 and C3 because of ease of test administration.

Audio:

(1/2 male speaker, 1/2 female speaker).
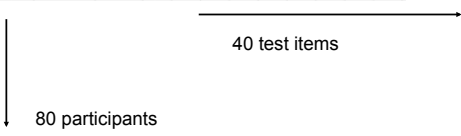
Press "OK" when done.

Child or researcher controlled.

Results: Aim2 (piloting)

Example of auto-generated results:


→ 40 test items

↓ 80 participants

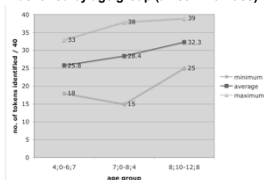## Results: Aim3 (evaluating effectiveness)

- All 40 items identified by at least one child (but no child identified all 40 words).

- 3 items of 40 correctly identified by all children:
1. emu *karnanganyja*
2. fire *warlu*
3. meat *kuyu*

- Other items variable (but natural break in results):
  24 items identified by 72.5%-98.8% children.
  13 items by 23.8-57.5% children.

Results: Aim3 (evaluating effectiveness)

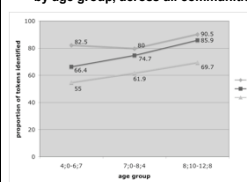**Proportion of L, M & H freq items identified: by comm., all age groups**
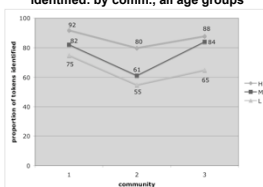
Number and range of items correctly identified by age group (all communities)

Results: Aim3 (evaluating effectiveness)

Proportion of low, medium and high frequency tokens correctly identified: by age group, across all communities

Results dependant on:
1. Community.
2. Child Age.
3. Frequency in input.

- Some results an artifact of our test (some items ambiguous) – especially body parts (elbow, knee, chin).

Results: Aim4 (cross comm. appropriateness)

Neighbouring communities: test worked well, but best in the community the test was developed in.

- Other communities/ languages have been trialled successfully. Easy to alter test recordings and images. Difficulty accessing enough participants.

- Linking results in with children's production abilities gives more accurate overview.

Receptive Language Test: conclusion

- Development of assessment tool successful (aim 1), with necessary collaboration from community members/ programmer.

- The test is usable across four closely related communities (aim 2), and is easily transferable to other communities (aim 4) with language and culture-specific modifications.

- The test is effective for illustrating children's receptive knowledge of nouns (aim 3).

ACLA1: Synchronic, interlocutor age

Loakes , Wigglesworth, Moses and Simpson

Study:

- Conducted in one remote Indigenous Australian community.
- Child-directed speech and child speech:

  Five focus children aged between 2;5 and 4;7.

  Four different aged interlocutor groups (20 total):

  Older children aged 7-12, and three adult groups -> 19-34, 35-50, 51+.

- Primary caregiver (mother) included for each focus child (35-50 year old age group - 4 children, 19-34 - 1 child).

ACLA1: Synchronic, interlocutor age

Background:

- Language acquisition well understood in monolingual societies, little research into multilingual / Indigenous communities.
- In Indigenous Australian communities, children are brought into a "world [which] is highly social, interactive and verbal" (Kral & Marrkkilyi Ellis 2008:156).

Aim:

- Input and speech to primary caregiver as well as other family / community members.
- Provide a snapshot of language use in this community -> effect of *interlocutor*.

## ACLA1 : Synchronic, interlocutor age

Method:

- ACLA1 transcripts (first 100 lines for each interactional pair).
- Participants typically interacting while playing (with blocks / other toys, some general play).
- MLU, MLT, conversational load, TTR, language type.

Results:

- TTR: measure of lexical diversity.
- Ratio - number of unique words/ total number of words.
- TTR of 1 is maximal (all words unique).
- Unintelligible material excluded, names included.

Interlocutor age: TTR results

Type Token Ratio (TTR): focus children compared with interactants (higher TTR = greater lexical diversity)
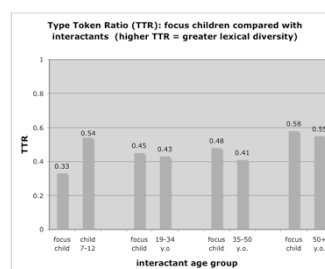
Focus child TTR higher (slightly greater lexical diversity) except with child interlocutors.

Slightly higher - fewer function words.

Focus child TTR remarkably similar to interlocutor TTR for all adult groups.

7-12 & 51+ appear similar, but 51+ tend to use 1-2 word utterances consisting of unique words, 7-12 year olds use much longer utterances.

Individual variation: mostly accords with community averages, more variation in 19-34/ 35-50 groups.

* Repetition a feature of majority of child-directed speech, as occurs elsewhere.

Interlocutor age: Language results

Language use by focus children (% morphemes)

	Walmajarri	Kriol	English
child (7-12)	0	99.7	0.3
19-34	2	95.7	2.3
35-50	1.5	96.6	1.9
50+	16.1	82.8	1.1
average	4.9	93.7	1.4

Focus children: primarily Kriol.

Use of traditional language increases with age of interlocutor (low levels overall).

Language use to focus children (% morphemes)

	Walmajarri	Kriol	English
child (7-12)	1.5	97	1.5
19-34	2.1	97.2	0.7
35-50	8.1	89.5	2.4
50+	33.2	66.1	0.7
average	11.3	87.5	1.2

Interlocutors: mainly Kriol, but variable across groups.

Youngest (to 34): very little traditional language.

Oldest: 1/3 trad. language.

Traditional language use increases with age of interlocutor.

Interlocutor age: interlocutor summary

Conclusions (all data, MLU & MLT included).

- Clear trends in the way that different aged interlocutors direct speech toward young children.
- Child interactants (7-12) tend to use most complex sentences (MLU), and longest utterances (measured through MLT) compared to adult groups.
- Oldest interactants (51+) opposite pattern: least complex sentences, shortest utterances.
- Other adults (19-34, 35-50) pattern together, more individual variation compared to 7-12 and 51+ groups.

Interlocutor age: interlocutor summary

• Focus children are exposed to various styles of input.

• Lexical diversity: trends across groups; interlocutors use a relatively large amount of repetition.
• Language Type: Kriol used overwhelmingly by younger participants, also common amongst the older participants. Traditional language use increases with age of interlocutor.

• <u>Clearest trends:</u>
7-12 year olds: little to no concession for lower language capacity of very young children (relatively long & complex utterances). Oldest participants: more instructive style, more use of traditional language.

Interlocutor age: focus children

• Focus children (within-speaker): remarkably similar complexity with all interlocutors (slightly higher with 19-34 year olds, and fewer turns overall with 7-12 year olds).

• Lexical diversity matches interlocutor (but slightly higher), except with 7-12 year old children (much lower).

• Language type: mainly Kriol, but dependant on interlocutor.

• Focus children (between-speaker): complexity of language use dependent on developmental level of child (2;5 - 4;7 age range).

ACLA2: Future directions

• ACLA studies to date drawing together language use by and to (primarily) pre-school aged children, now turning to school-aged children, bringing in language in education.

• Priority: ACLA2 data collection in classrooms / homes, subsequent analysis for overall project aims.

• Language test to be used in other communities (collection in progress).

• Other work: Prosody of child-directed speech. Lower pitch than other interactions in the communities and than typical baby talk (esp. children talking to younger children). May be related to speech act. Complicated by narrative style.

Indigenous Education in the Current Climate

• Worse situation than when ACLA2 began (start 2008).

• Seen on *Four Corners* documentary Going Back to Lajamanu: Should Aboriginal Children in Remote Schools be taught in their own language or in English? (14/09/09).
• Link still available (next slide).

• Recently reported (29/10/09) on ABC Radio:

"As I talk to teachers in remote communities pretty much all of them say the same thing" … "They say after four hours there are no children left in the classroom." (Professor Charles Grimes)

ACLA2: Further information

Project website:
http://www.linguistics.unimelb.edu.au/research/projects/ACLA2/
• Information about project / researchers.
• Links to recent publications, ACLA1 theses (Meakins, Moses) - Disbray hardcopy.

Links:
• Four Corners (watch online):
http://www.abc.net.au/4corners/
• NAPLAN:
http://www.naplan.edu.au/
(we have shown samples, full 2008/09 tests available online).

References

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