



De-voicing my Cognition: The Educational Destruction and Appropriation of First Nations' Languages

Sue Hanson Dip. Teach, Grad Ling.
CEO / Senior Linguist
Goldfields Aboriginal Language Centre



Wangka kanyira ngalipirniku
PRESERVING OUR LANGUAGES FOR ALL OF US



The Struggle for Language to Survive

Current Educational Policy : instruction in English only.

‘The first 4 hours of a school day must be in English’

Educational policy shift occurred 1990.

Premise 1:

If English is the only language for instruction, the children will develop high level English production and reception ability, and the ability to think in English.

Children’s first language labelled ‘home language’.

Children’s first language is their cognitive language.



The Struggle for Language to Survive

Young children learn best when taught through their mother tongue. This commonsense principle has been supported by decades of research on bilingual education for children who don't speak the dominant language.

The research has also shown that there are positive effects on children's cognitive development if they are encouraged to become strong bilinguals.

(Simpson, Caffery and McConvell 2009)



The Struggle for Language to Survive

Premise 2:

Initial literacy and educational instruction in a child's traditional language would compromise the acquisition of the English language.

(Simpson, Caffery and McConvell 2009)

Thinly disguised ethnocentric rhetoric positioning English as the superior language for educational instruction and cognition.



Closing the Gap

1. Social Justice Report 2005.
2. National Indigenous Health Equity Council 2008.
3. Closing the Gap policy initially had 6 targets.
4. Closing the Gap – 19 national socio-economic targets.



Closing the Gap

Target: to halve the gap in reading, writing and numeracy achievement for children within a decade

Outcomes

Outcome 3: Children are engaged in high quality, culturally appropriate early childhood education in their early years.

Outcome 4: Children thrive in their early years.

Outcome 5: Students achieve their full learning potential.

Outcome 14: People enjoy high levels of social and emotional wellbeing.

Outcome 16: Cultures and languages are strong, supported and flourishing.

Closing the Gap

Nationally in 2021, 34.3 per cent of Aboriginal and Torres Strait Islander children commencing school were assessed as being developmentally on track in all five AEDC domains. This is a decrease from 35.2 per cent in 2018 (the baseline year).

*Australian Government Productivity Commission Closing the Gap
Dashboard Sept 2023*

NAPLAN achievement for Year 3 in reading by student background, Australia 2023

| Subgroup | Average NAPLAN score (confidence interval) | Exempt | Needs additional support (NAS) | Developing | Strong | Exceeding |
|----------------|---|--------|-----------------------------------|------------|--------|-----------|
| All | 404.6 (± 1.1) | 1.9% | 9.1% | 22.2% | 48.5% | 18.3% |
| Male | 396.4 (± 1.2) | 2.5% | 10.7% | 24.4% | 46.3% | 16.1% |
| Female | 413.1 (± 1.1) | 1.2% | 7.4% | 20.0% | 50.8% | 20.6% |
| Indigenous | 332.9 (± 2.7) | 2.9% | 30.5% | 31.6% | 30.8% | 4.2% |
| Non-Indigenous | 409.9 (± 1.1) | 1.7% | 7.5% | 21.5% | 49.9% | 19.4% |
| Major cities | 413.3 (± 1.3) | 1.9% | 7.1% | 20.5% | 49.8% | 20.6% |
| Inner regional | 390.4 (± 1.9) | 1.6% | 11.3% | 26.1% | 47.4% | 13.5% |
| Outer regional | 376.0 (± 2.8) | 1.8% | 15.4% | 28.6% | 44.0% | 10.3% |
| Remote | 352.8 (± 9.1) | 1.7% | 24.5% | 28.5% | 37.0% | 8.4% |
| Very remote | 293.1 (± 12.1) | 1.5% | 49.0% | 26.0% | 19.8% | 3.6% |
| Non-LBOTE | 401.6 (± 1.1) | 1.5% | 9.4% | 23.2% | 48.8% | 17.1% |
| LBOTE | 412.5 (± 2.0) | 2.5% | 8.1% | 19.9% | 48.2% | 21.3% |

First Language Acquisition

Piaget

thought precedes language

1. Receptive ability precedes productive ability.
2. Understanding a concept drives the desire for linguistic capability.
3. Language acquisition based on brain maturity.
4. Phases of childhood.
5. Need to explore the world to fuel cognitive ability.
6. Cognitive ability fuels the desire for linguistic input.
7. Language acquisition is communication driven.



First Language Acquisition

Vgotsky *thought becomes verbal and speech rational*

1. Cognitive capability and language ability keep pace.
2. Cognition and language acquired together.
3. Social interaction critical.
4. Socialisation promotes both cognitive and linguistic ability.
5. Language acquisition is social interaction driven.



First Language Acquisition

Chomsky *critical period hypothesis*

1. Language acquisition is genetically driven.
2. Language acquisition is a genetic trait.
3. Children biologically predisposed to acquire language by certain ages.
4. Inherent language acquisition device (LAD).
5. The LAD is running low by late childhood.



First Language Acquisition - agreement

1. Predisposition for intense and uniform language acquisition during childhood.
2. Reduction in innate capability by late childhood.
3. Critical interplay between social interaction and language acquisition.
4. Language acquisition leads to cognitive development and neuroplasticity,



Linguistic Competence and Neuroplasticity

Linguistic Competency

Subconscious knowledge of the rules governing the formation so speech in a language.

Neuroplasticity

The ability of the brain to change, respond, rewire, grow and organise.

Lennenberg

'...first language acquisition relies on neuroplasticity. If language input does not occur in this time, the individual will never achieve full command of language.'

Linguistic Competence and Neuroplasticity

Critical Period

- Lennenberg
- Between 2 and 13 years of age.
 - Input needed in critical period to develop prefrontal synthesis capabilities.
 - Once the critical period is over, prefrontal synthesis development is over.

Prefrontal Synthesis (PFS)

The ability to consciously and purposefully process new mental images in a synchronised manner.

Perform higher order metacognitive functioning.

Lateralisation

The brain's positioning of language syntax within a hemisphere. Possibly complete by age 5 years.



Critical Period for First Language Acquisition

We find that the acquisition of syntax in a first language has a critical period that ends during the first year of life, and children who missed this window of opportunity later show severe syntactic impairments.

Friedmann and Rusou (2015)

Critical Period for Native Language Acquisition

Even around the age of four years, some aspects of a second language are not acquired as native anymore, and the acquisition already resembles that of adults who acquire a second language.

Meisel 2013

Implications for Interrupted First Language Acquisition

1. The critical period for syntactic acquisition is birth to age one year, with birth to four months of age proving to be particularly critical for syntax acquisition.
2. The critical period for developing prefrontal synthesis capabilities is birth to age 5.
3. The lateralization process is complete by age 5 years.
4. A child is hard wired for a first language by age 4 years and any subsequent language will be acquired as a second language.
5. Linguistic neuroplasticity capability for life is determined by age 4-5 years.

What happens to the child's linguistic capability if they do not receive the software programs for their hardwired computer?



Can the child think imaginatively without the software programs being installed?

Can the computer problem-solve only with the hard wiring and without the software programs being installed

Interrupted Language Acquisition Model

| Age | Place and manner of articulation | Phoneme (English graphemes) | IPA |
|-------------|---|-----------------------------------|--|
| 0-6 months | Open vowels Long vowels | oo, ee, aa | u:, a:, ʊ |
| 6-12 months | labial Front-back vowels Nasal Plosive Fricative approximant | m, n | m, i:, ʌ, |
| 1-2 years | -Initial stops -Voiced replaces voicing e.g. thank becomes fank -Velar fronting e.g. tar-car -Palatal fronting e.g. sh-s -De-affrication e.g. sh-s | b, m, n, t, d, p a, e, i, o, u | p, b, d, t, ə, ʊ, æ, i, l, u, ε, e, o, a |
| 2-3 years | -voicing -stops -velar fronting -palatal fronting -back consonants -consonant clusters | ng, w, k, g | m, n, p, b, d, t, k, f, g, w, r, j, au, ou, ɜ:, ɔ: |
| 3-4 years | -fricatives -approximants | s, f, y, h, ny | h, ʌ, ɲ, s, l, v, ʃ, y, ɔɪ, eə, eɪ |
| 4-5 years | -palatisation | sh, ch, j, z, l, v, s | r, aɪ, ɪə |
| 5-6 years | -gliding -voiced and unvoiced | r, th, zh | θ, ð, z, t, tʃ, dʒ, ʊə, |
| 6-7 years | -retroflexed phonemes | rt, rl, rn, consonant clusters | ɹ, ʒ, ð θkw, θpl, θpr etc |

Consequences of Interrupted First Language Acquisition

1. The children are neurologically conditioned for input in their first language.
2. The children on entry to school at age 3 to 4, are past the period for native syntactic acquisition of a second language.
3. The lateralization period is closed or near closing by school age and the brain has set in place the first language defense processes thereby rejecting the possibility of native-like second language acquisition.
4. The children have been neurologically conditioned for neuroplasticity in their first language.
5. At age 5, a child is not cognitively prepared for second language acquisition.

Second Language Acquisition

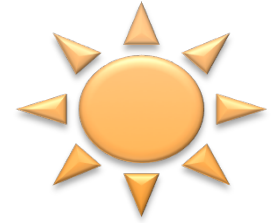
First language acquisition birth to age 4 is an *intuitive process*.

Second language acquisition after age 4 is a *cognitive process*.

'...meaning of the new language (L2) is attained via already existing knowledge from the native language (L1) serving as a mediator and memory aid.'

Steber and Rossi 2021

To Acquire a Second Language



5. The capability to acquire a second language through cognitive processing.
4. Well developed metalinguistic and metacognitive abilities.
3. Linguistic neuroplasticity.
2. High functioning prefrontal synthesis capabilities.
1. A fully acquired first language's syntactic structure.



First Language Acquisition Serve and Return Social Interaction

The tool by which children acquire linguistic data.

Rich social interaction required.

Deficit leads to poor formation of the brain's architecture and lifelong learning and behavioural difficulties.

Second Language Acquisition Serve and Return Social Interaction

Places a cognitive strain on the learner.

Children over age 4 are assumed to use innate learning capabilities to acquire a second language.

The child's brain is hard wired for their first language

1. *The child's computer is not hard wired for English.*



2. *The child's computer is hard wired for the first language and is waiting for software programs in that language, in order to work.*



3. *The child's computer is hard wired for the first language and there are no slots left to insert another drive.*



4. *The child's computer is programmed in their first language and English software is very complex to install. Partial installation may be the result.*



5. *The child's computer is built and hard wired but now needs specific software installed to ensure functionality.*

Results of an Interrupted First Language Acquisition

1. Reducing the child's chance of acquiring a full phonemic, morphological, semantic, syntactic, sociolinguistic and discourse inventory in their first language.
2. Reduced prefrontal synthesis capabilities.
3. Reduced neuroplasticity.
4. Reduced capacity to be aware of, and in control of one's mental processes and adaption capabilities.
5. Reduced capacity for second language acquisition.



The Educational Appropriation of Australian Languages

The English-only instruction policy disavows First Nations children's linguistic rights and the ability to continue their linguistic and cognitive development.

Then the first language is introduced as a school subject.

You are not permitted to speak or think in your first language to learn, but once you've lost it, we will teach it back to you.

Solution

Provide an educational environment that starts with the child's first-language and provides opportunity for the child to develop their full first-language linguistic capability which will in turn optimize their cognition.

Goldfields Aboriginal Language Centre Abor. Corp.

2 Burt St, BOULDER WA 6432

info@wangka.com.au

(08)9021 3788

Wangka Youtube

www.wangka.com.au

FB: <https://www.facebook.com/Wangka.com.au/>

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Artwork by Chela Raman