

LANGUAGE ACQUISITION IN INUKTITUT-ENGLISH BILINGUALS

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Consequences for a Multilingual Society
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OVERVIEW

Guiding Question: Is stable bilingualism possible in an aboriginal language context with encroaching majority languages?

1. Current Language Situation

- demographics, strong L1 acquisition, future prospects

2. Preschool Simultaneous Bilinguals

- code mixing, cross-linguistic influence

3. School-Aged L2-Learner Bilinguals

- L1 proficiency after school onset, language use choices

4. Long-Term Prognosis

- depends on language use choices made at home and school

**PART 1:
CURRENT LANGUAGE
SITUATION**

ESKIMO-ALEUT LANGUAGE FAMILY

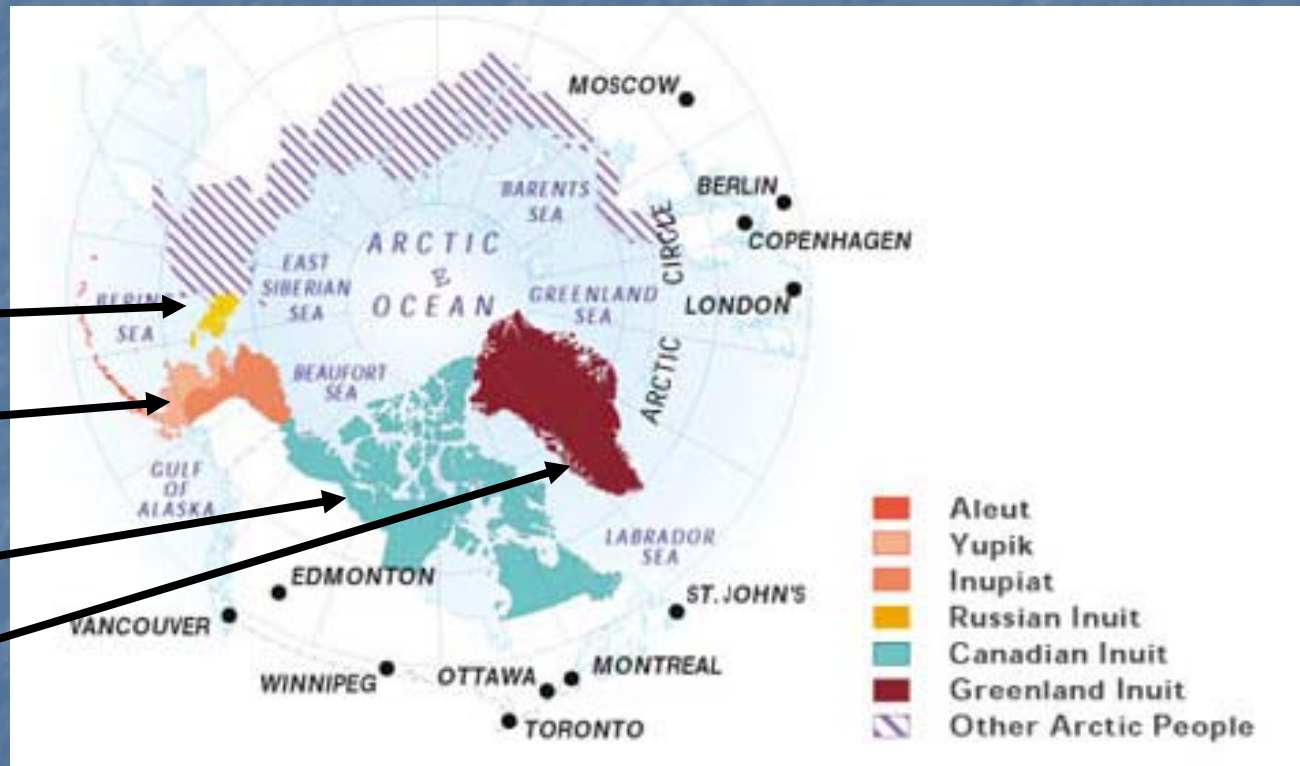
- spoken in Siberia, Alaska, Canadian Arctic, Greenland
- 8 main languages, many dialects
- 137,000 speakers overall; 29,000 in Canada (2001 census)

Siberia

Alaska

Arctic Canada

Greenland



ESKIMO-ALEUT LANGUAGE HEALTH

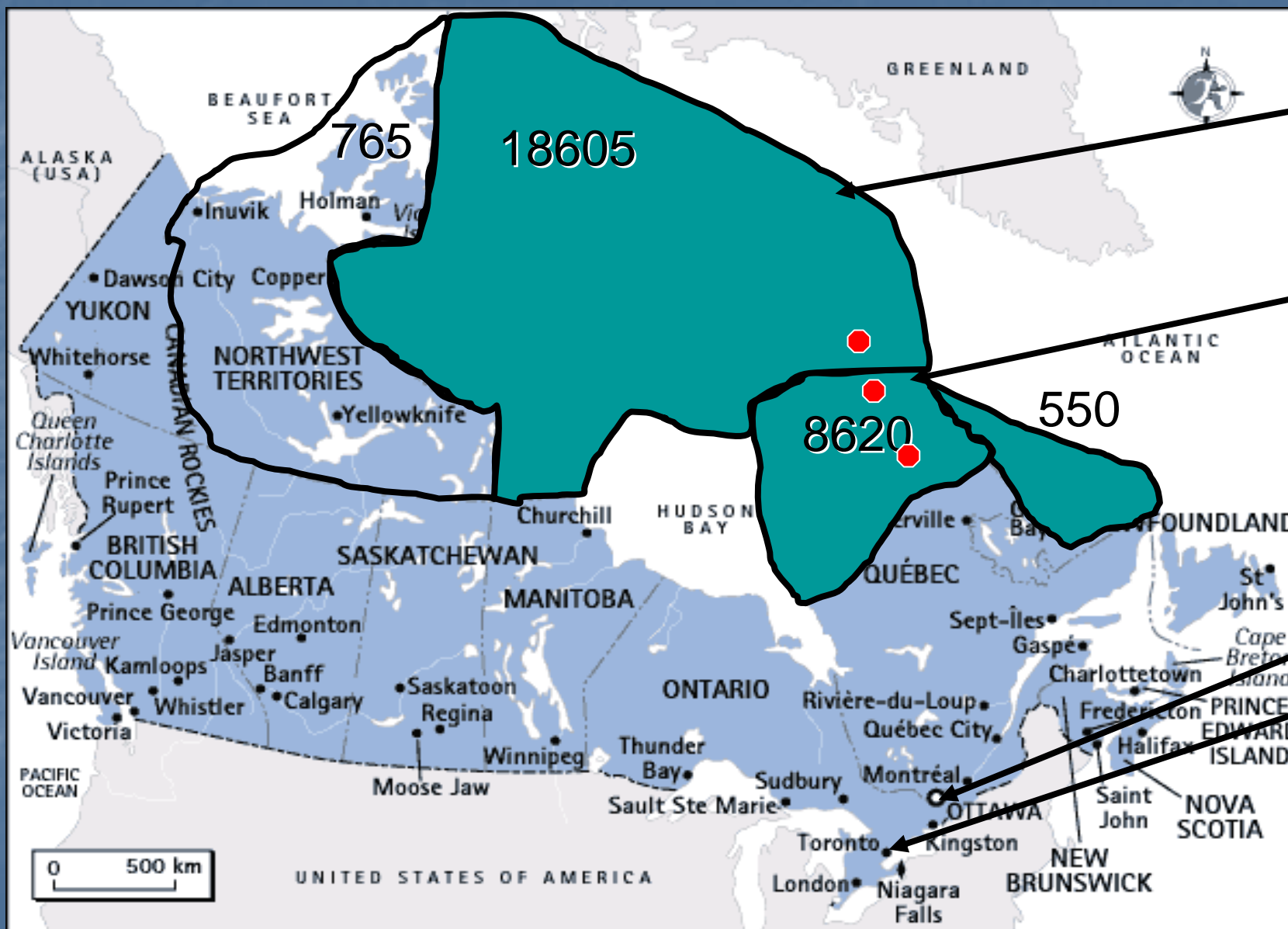
	% Inuit Population who are Speakers
Siberia	very few
Alaska	26% - 48%
Western Canada	25%
Eastern Canada	■ 99%
Greenland	98%

Factors Involved:

- development of writing system and literacy
- L1 support in schooling

(Dorais 1990, 1992; Statistics Canada 1996)

INUIT LANGUAGES IN CANADA (2001)



Nunavut

Nunavik
(N. Quebec)

Montreal
Toronto

CANADIAN INUIT LANGUAGE HEALTH

% of Inuit who...	All Inuit		Children age 2-15	
	1996	2001	1996	2001
Have Inuktitut as first language	78%	77%	74%	73%
Use Inuktitut at home	68%	64%	68%	64%
Can understand/speak Inuktitut	90%	90%	90%	90%
Can converse in Inuktitut	82%	82%	80%	80%

- highest rates of any Canadian aboriginal language
- one of few aboriginal languages with chance of long-term survival
- high L1 proficiency in Nunavik preschoolers (Allen, Crago, etc.)

(Statistics Canada 2001)

L1 INUKTITUT + MAJORITY LANGUAGE ⇒ BILINGUALISM OR LANGUAGE SHIFT?

- 440/18605 (2%) in Nunavut reported as simultaneous bilingual (Inuktitut and English/French) in 2001 census
- all other Inuit (up to age ~50) become bilingual through schooling and community / media exposure to English and French



SCHOOL LANGUAGE EXPOSURE

- grades K-2: instruction in Inuktitut in most communities
- grades 3+: instruction in English or French, with Inuktitut for subjects like physical education and religion
- in recent years, some content subjects partially taught in Inuktitut

- in large communities (1000+), options for instruction in English and French from grade K
- in some communities, options for instruction in Inuktitut through grade 4 or 5

(Crago 1992, Eriks-Brophy & Crago 1994, Eriks-Brophy 1997)

OTHER LANGUAGE EXPOSURE

Community

- Inuktitut: low prestige situations (home, socializing, menial work)
- English/French: higher prestige situations (specialized work)
- English lingua franca even though anglophones minority (5-35%)
- non-Inuit rarely learn more than a few common words of Inuktitut

Media

- average home has at least 2 TV sets
- watch average of 3.25 hours per day, only 35 mins in Inuktitut
- community radio in Inuktitut, regional news reports in English

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- all other Inuit (up to age ~50) become bilingual through schooling and community and media exposure to English and French
-
- danger of language shift and eventual loss of Inuktitut because of the prevalence and prestige of English/French
- this type of language shift has occurred in other Inuit regions within one generation
- high community value for Inuktitut, but enough support?

WHAT DOES CHILD BILINGUALISM LOOK LIKE?

- simultaneous bilinguals - on the front lines
 - confusion? language infiltration? - mixing, influence
 - French-English bilinguals: no confusion
 - Inuktitut-English: ?????
 - prestige difference, not OPOL, different structures
- later bilinguals - more L2 exposure
 - peer and societal influences

PART 2:
PRESCHOOL SIMULTANEOUS
BILINGUAL ACQUISITION

INUKTITUT LANGUAGE STRUCTURE

	Inuktitut	English
Word Order	subject - object - verb	subject - verb - object
Modifier-Noun Order		
Omission of S and O		
Morphemes per Word	■	
Verb/Noun Inflection		

e.g. ____ **Siturautii-kkani** **aitsi-si-gama.**
[sled-my get-PRESENT-I]
'I will **get my sled.**' (Child 2;9)

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Morphemes per Word	up to 10 per word	1-2 per word
Verb/Noun Inflection		

e.g. ___ Siturautii-kkani aitsi-si-gama. ⇒ 2.5 / word
 [sled-my get-PRESENT-I]
 'I will get my sled.' (Child 2;9) ⇒ 1 / word

INUKTITUT LANGUAGE STRUCTURE

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Modifier-Noun Order	noun - modifier	modifier - noun
Omission of S and O	very free	very restricted
Morphemes per Word	up to 10 per word	1-2 per word
Verb/Noun Inflection	1000+	8

e.g. ___ Siturautii-kkani aitsi-si-gama. ⇒ 2
 [sled-my get-PRESENT-I]
 'I will get my sled.' (Child 2;9) ⇒ 0

STUDY 1 - CODE MIXING

(Allen, Genesee, Fish, & Crago, 2002, 2003)

- use words/phrases from both Language A and Language B together in one utterance
e.g. **Where is my zapato?** [zapato = shoe]
- common fear that mixing means random use of two languages
- grammatically constrained in adults; many constraints proposed
- not clear when children acquire constraints

DATA COLLECTION AND ANALYSIS

- 6 Inuktitut-English bilingual children
- aged 1;8 to 2;11 at onset, taped for one year
- 5 children have two bilingual Inuit parents
- 1 child has English-speaking father and bilingual mother
- naturalistic data collected via videotape

FREQUENCY OF MIXING

	No. Utterances		% Inuktitut Only	
Caregivers	16674		60.2	
Children	8081		45.2	

- rate of mixing similar across children and caregivers
- rate of mixing similar to other studies on child code mixing
- children use more English-only utterances than caregivers do (also true for each child individually)

DO MIXES FOLLOW CONSTRAINTS?

Nonce Borrowing (Poplack, Sankoff & Miller 1988)

- one word from Language A inserted into utterance of Language B
- inserted word follows grammar of Language B

Code Switching (Poplack 1980)

- multi-morpheme fragment in each language
- codes switched where surface structures are equivalent
- each fragment grammatical in own language

MIXES OF TAGS AND QUOTATIONS

- 36.4% for adults; 32.7% for children

e.g. Look, ikaju-nngi-tuq.

[he's not helping]

'Look, he's not helping.' (Child 3;8)

e.g. "You bad boy" la-juq. ■

[he said]

"You bad boy," he said.' (Adult)

Constraint: Not relevant (no grammatical relationship)

MIXES OF ENGLISH INTO INUKTITUT

- 51.5% for adults; 48.7% for children

e.g. **Atausi-mik** **cookie-liur-tuq?**

[one] [make]

‘Is he making one cookie?’ (Child 1;11)

e.g. **Mushy-u-nngi-tu-rulu-alu-run^ua.**

[this little one isn't]

‘This little one isn't mushy.’ (Adult)

Constraint: mixed word A follows grammar of sentence B

MIXES OF INUKTITUT INTO ENGLISH

- 2.6% for adults; 6.8% for children

e.g. I see nartiq.

[seal]

‘I see a seal.’ (Child 3;5)

e.g. We’ll apaapa. ■

[eat]

‘We’ll eat.’ (Adult)

Constraint: mixed word A follows grammar of sentence B

MIXES OF PHRASES IN BOTH LANGUAGES

- 6.0% for adults; 7.1% for children

e.g. **miki-gili-laar-tanga-una** by next summer anyways.

[this will be too small for him]

‘This will be too small for him by next summer anyways.’

(Adult)



e.g. **one candy** langa-vunga?

[I will have]

‘Will I have one candy?’ (Child 3;8)

Constraint: Each phrase follows grammar of own language.

MIXES FOLLOW CONSTRAINTS

- vast majority of mixes follow established constraints:
 - 96.5% for adults; 95.3% for children
- only small percentage don't follow constraints - performance?

e.g. **Avani-it-tuq** **your** **tuttiaria?**

[it is there] [pencil]

'Is your pencil there?' (Child 2;8)

e.g. **anaana-it** **work?**

[your mother]

'Is your mother working?' (Adult)

CONCLUSION

- children's code mixing does not mean language confusion
- mixed utterances follow linguistic constraints
- mixed utterances are sensitive to language differences
 - few mixes with phrases in each language - because few points where surface structure of two languages is identical
- distinct grammatical systems even when mixing languages

STUDY 2 - CROSSLINGUISTIC INFLUENCE

(Zwanziger, Allen, & Genesee, 2005)

- use the grammar of language A when speaking language B
(= transfer in L2 literature)

e.g. English: ✓ fix Daddy's chair ?? fix the chair of Daddy
Spanish: * repara papi silla ✓ repara la silla de papi



- studied in several language pairs, in different constructions

SUBJECT OMISSION

English

- overt subjects usually required (e.g. **John** ate the cake.)
- subject omission allowed in imperatives and certain colloquial instances (e.g. _____ Eat the cake!)

Inuktitut

- overt subjects only required for emphasis or disambiguation
- subject omission allowed in all other instances

Previous Studies

- Juan-Garau & Perez-Vidal 2000, Catalan-English, no influence
- Paradis & Navarro 2004, Spanish-English, influence (but maybe due to atypical input)

SUBJECT OMISSION IN MONOLINGUALS

English

age 1;6-2;7 26% - 55% omission

age 2;7-4;0 5% - 11% omission

Inuktitut

age 1;0-2;0 100% omission

age 2;0 – 3;6 85% omission

PREDICTIONS

If no crosslinguistic influence

- subject omission rates similar to monolinguals in both languages

If crosslinguistic influence

- subject omission rates different from monolinguals in one or both languages

ENGLISH UTTERANCES

(1) Obligatory Subjects (n=552)

Steve *want that one?* (PN 3;5)

I *can do it.* (SA 2;7)

(2) Non-obligatory Subjects (n=427)

Catch it. (MT 3;3)

Wanna see me? ■ (SA 3;2)

(3) Obligatory but Omitted Subjects (n=31)

∅ *Left this as a boat in a boat.* (AI 2;0)

∅ *Is done is gone.* (AI 3;9)

COMPARISON TO MONOLINGUAL ENGLISH

	Monolingual	Bilingual
Early Stage (to 2;6)	26%-55%	23%
Later Stage (2;7 +)	5% [■] -11%	2%

INUKTITUT UTTERANCES

(1) With Subjects (n=123)

illu sukku-tu

house be.broken-it

'The house is broken.'

(2) Subjects Omitted (n=747)

∅ iqalu-lauju-nngi-tugut

catch.fish-PAST-not-we

'(We) did not catch any fish.'

COMPARISON TO MONOLINGUAL INUKTITUT

	Monolingual	Bilingual
Early Stage (to 2;0)	100%	99%
Later Stage (2;1 +)	85% ■	84%

CONCLUSION

- no clear evidence for crosslinguistic influence in subject omission - bilinguals follow same developmental patterns in each language as monolinguals
- no evidence that children get confused in grammar when learning two languages, even when those languages have very different structures and status
- bilinguals possess significant knowledge of the differing target language patterns in their two languages

PART 3:
TRAJECTORY OF BILINGUALISM
AFTER SCHOOL ENTRY

WHAT HAPPENS AFTER SCHOOL ENTRY?

- Nunavik school policy - additive bilingualism: “to develop a curriculum that embraces and preserves native traditions, culture, and language, and prepares students for active participation in the modern world” (Kativik School Board 1985)
- parents: progressive decline in child Inuktitut after school entry
- adults: children losing interest in Inuktitut language and culture, losing L1 proficiency as a result of L2 schooling

(Nunavik Educational Task Force 1992, Allen et al in press, Taylor & Wright 1990, Spada & Lightbown 2002, Kativik School Board 1998)

STUDY 1- EFFECT OF LANGUAGE OF INSTRUCTION

(Wright, Taylor, & McArthur, 2000)

- longitudinal study of Inuktitut conversational and academic language proficiency of all Inuit children in grades K - 2 in largest community in Nunavik
- three groups of monolingual native speakers of Inuktitut:
 1. K-2 in Inuktitut
 2. K-2 in English
 3. K-2 in French
- tests administered beginning and end of each academic year
- conversational: vocabulary comprehension, picture naming, ...
- academic: story comp. w. inference, sentence completion, ...

(Wright, Taylor & McArthur 2000)

INUKTITUT ACADEMIC LANGUAGE PROFICIENCY OF INUIT CHILDREN

	Language of Instruction			p
	Inuktitut	English	French	
Grade K, fall	15.83	14.27	14.95	ns
Grade K, spring	30.55	27.79	25.00	ns
Grade 1, fall	30.33	20.29	22.27	<.01
Grade 1, spring	55.48	31.18	35.94	<.001
Grade 2, fall	55.72	28.60	32.48	<.001
Grade 2, spring	69.44	34.90	44.42	<.001

similar pattern for conversational language proficiency although differences not as large

(Wright, Taylor & McArthur 2000)

CONCLUSIONS

- Inuit children in second-language instruction show disruptions in the development of their first language
- instruction in Inuktitut can prevent or reduce this subtractive effect
- not simply the effect of being taught in a second language - English-speaking children from the same community with French instruction did not show the same effect
- after grade 2, all instruction is in English or French - what happens then?

STUDY 2 - EFFECT OF YEARS OF EXPOSURE

(Allen, Crago, & Pesco, in press)

- fear: grade 8 (5 years of L2 instruction) < grade 3 (no L2 instruction)
- fear: large communities (more L2 exposure) < small communities (less L2 exposure)
- studied narrative production of 3 participants in ea. of 6 groups:
 - age: grade 3, grade 8, adult
 - community size: small (~250), large (~1000)
- frog story (Mayer 1969)

(Allen, Crago & Pesco in press)

EXAMPLES

Grade 3, Large

Qimmi-lu surusi-lu tupa-gamik asiuji-juuk nirlinauja-mik.

‘When the dog and the boy woke up, they lost the frog.’

Adult, Small

Ullaa-kut qauli-tuar-mat tupa-gami pilligia-minik taku-giall-
rami pi-ta-qa-runnai-tu-viniq.

‘During the morning when the dawn was breaking, he woke
up to look at his frog that wasn’t there anymore.’

MEASURES

- Fluency (words per narrative)



(Allen, Crago & Pesco in press)

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- Lexical Diversity (different morphemes per narrative)



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MEASURES

- Fluency (words per narrative)
- Lexical Diversity (different morphemes per narrative)
- Grammatical Complexity (mean length of words in morphs)
- Grammatical Difficulties (dual marking, case, transitivity)
- Narrative Structure (time setting, descriptive detail)



RESULTS

- only one measure (mean length of words) suggests language does not develop between grade 3 and 8
- several measures suggest differences between small and large communities
 - words per narrative greater in small communities
 - lexical diversity greater in small communities
 - more grammatical errors in large communities
- findings are suggestive but inconclusive, further (better controlled) study is needed

(Allen, Crago & Pesco in press)

STUDY 3 - LANGUAGE USE IN IQALUIT

(Dorais & Sammons, 2002)

- language used with spouse/children, parents/siblings/friends
- interviews with:
 - 126 school children (101 Inuit, 20 English, 5 French)
 - 76 adults (51 Inuit, 20 English, 5 French)



(Dorais & Sammons 2002)

CHILD USE OF INUKTITUT IN IQALUIT

Ethnicity	Grade	With Parents	With Siblings	With Friends
Inuit	K-4	50%	40%	30%
	5-7	50%	30%	not reported
	8-11	40%	0%	4%
Mixed Heritage	K-4	0%	40%	10%
	5-7	0%	30%	not reported
	8-11	0%	0%	0%

- lots of use of English, especially in high school
- but ... most children in Iqaluit still fluent in Inuktitut

GENERAL CONCLUSIONS

- Inuktitut monolingual and simultaneous bilingual speakers start out with a strong command of Inuktitut
- exposure to the majority language (English/French) through community and schooling clearly leads to greater use of that language
- this exposure also leads to stagnation of conversational and academic language proficiency in Inuktitut
- strong danger that it will lead to decline in Inuktitut, with possible loss
- nonetheless, many indicators from simultaneous bilingual preschoolers and K-2 children instructed in Inuktitut that stable bilingualism is possible if supportive choices are made in home and school language use

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THANK YOU!

Comments and Questions?
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