

Development of discourse referencing in Hong Kong Sign Language narratives by Deaf/hard-of-hearing children



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Aim of this study

- The study investigates the development of discourse referencing in the Hong Kong Sign Language (HKSL) narratives by a group of D/hh children enrolled in the Jockey Club Sign Bilingualism and Co-enrolment in Deaf Education Programme (JC-SLCO programme).
- Sign bilingualism and co-enrolment:
 - Sign Bilingualism: HKSL + spoken languages (Cantonese + English + Mandarin) + written language s(Mandarin + English)
 - Co-enrolment: D/hh children (around 6 in a class) + hearing children (around 15 – 24) + hearing/Deaf signing teachers

Literature Review

- Discourse referencing refers to the means by which referents are introduced, maintained, and reintroduced in a discourse.
- Developmental patterns of discourse referencing in narratives provide a good window to children's acquisition of nominal forms and the process through which children gradually master the pragmatic knowledge of using appropriate forms to meet the communication needs of the listeners (Wong & Johnston 2004).
- For hearing children, complete mastery of discourse referencing in spoken languages is attained after the age of ten (Hickmann 2003).
- Apart from different types of noun phrases (e.g., bare nouns, determiners, null forms, pronouns, etc), space plays a crucial role in reference tracking in sign languages (e.g., Morgan 1996, 2005). These clue-providing devices include: verb agreement, eye gaze, role shift and classifier predicates (semantic/entity classifiers in particular).

Research Questions

- Would space pose an additional hurdle to D/hh children in their acquisition of discourse referencing in narratives in Hong Kong Sign Language?
- What referencing strategies do D/hh children adopt when their ability to use space in tracking referents till falls short of the adult targets?

Methodology

- Narrative elicitation: adaptation of the methodology of Hickmann (2003)
- 1st set: Horse Story + Cat Story; 2nd set: Bunny Story + Mice Story



- Adult baseline data: narrative data from 4 HKSL native signers (2M & 2F).
- Cross-sectional data: 16 D/hh children; grouped into 4 levels of proficiency judged by three native adult signers.
- Longitudinal data: narrative data by the 5 Cohort 2 D/hh children for 3 more subsequent years.
- Transcriptions + codings in ELAN (tiers: glosses, character, referential function, NP category, syntactic position, role shift, verb agreement, semantic/entity classifier, non-dominant hand, gaze, eyebrow)

Levels of proficiency	Research code	Gender	Grade	Age	Years of HKSL exposure
1 (highest)	C1-2	F	P2	9;5	3 rd years
	C1-4	M	P2	8;3	from birth
	C1-5	M	P2	9;11	3 rd years
2	C2-5	M	P2	8;0	2 nd years
	C1-3	M	P2	9;1	3 rd years
	C2-2	F	P2	6;9	from birth
3	C2-6	F	P2	7;11	2 nd years
	C1-1	F	P2	7;2	3 rd years
	C2-1	M	P2	6;3	2 nd years
4 (lowest)	C3-3	M	P2	6;4	2 nd years
	C3-1	F	K3	5;8	1 st years
	C3-4	M	K3	6;1	1 st years
	C3-2	F	K3	6;1	1 st years
	C3-5	F	K3	6;0	1 st years
	C3-6	F	K3	5;5	1 st years
	C3-7	M	K3	7;1	1 st years

Results: Adult signers

Introduction

- Lexical noun / lexical noun + ix; obligatory gaze at addressee.
- Anchoring the newly introduced referents in the signing space by:
 - indexical pointing within the nominal expression.
 - a semantic/entity classifier predicate that follows the nominal expression.

	Lexical noun	Lexical noun + IX	Pronominals	Null arguments	Total
Introduction	16 (55%)	13 (45%)			29 (100%)
Maintenance	13 (5%)	20 (7%)	16 (6%)	229 (82%)	278 (100%)
reintroduction	17 (28%)	34 (56%)	5(8%)	5 (8%)	61 (100%)



(introduction: bare noun + gaze at addressee + SemCL)

Maintenance

- Preferred means of referencing: null arguments.
- Occasional use of pronominals or IX + n.
- Among 317 tokens with null arguments for maintenance, 53% are followed by role-shift, 38% are followed by semantic/entity classifier predicates; 32% are followed by agreement verbs → provide clues for reference tracking.



(maintenance: null argument + SemCL + verb agreement)

Reintroduction

- Strong preference to use overt NPs.
- In a minority of cases where no overt NPs are used, clues are available from classifier predicates, verb agreement, role shift, etc.



(reintroduction: bare noun only)

Results: Cross-sectional data of the 16 D/hh children

- D/hh children use far fewer pointing signs (IX as determiners or pronouns) than adults do.
- Bare nouns predominate across all contexts.
- Distributional patterns suggest that D/hh children are aware of the mapping between nominal forms and referential functions.

Linguistic forms	introduction	maintenance	reintroduction	Total
n	91	75	136	302
HAVE + n	14		1	15
IX (correct direction)		9	3	12
IX (unclear/incorrect direction)		1		1
IX + n (unclear/incorrect direction)	1	2	1	4
IX + n (correct direction)	5	2	5	12
IX + CL		1		1
Null forms	1	146	18	165
	112	236	164	512

- For example, null forms are mainly used for maintenance. Pronouns are used only for maintenance and reintroduction. Lexical nouns predominate in introduction. More pointing signs are used as D/hh children's proficiency improves.

Linguistic forms	Proficiency levels					Total
	1 (highest)	2	3	4 (lowest)		
n	61	77	110	54		302
HAVE + n		5	8	2		15
IX (correct direction)	10	2				12
IX (unclear/incorrect direction)		1				1
IX + n (correct direction)	9	2	1			12
IX + n (unclear/incorrect direction)	1	2	1			4
IX + CL	1					1
Null forms	84	46	32	3		165
	166	135	152	59		512

- The use of verb agreement, role shift and semantic classifiers also increase as the signing proficiency improves.

Results: Longitudinal Data of the 5 Cohort 2 students

Linguistic forms	2009	2010	2011	Total
n	66	85	87	238
HAVE + (num) + n	20	11	7	38
IX	4	2	3	9
IX + N	4	2	4	10
null argument	34	31	51	116
	128	131	152	411

Use of Agreement Verbs	2009	2010	2011
Inflected (correct)	14 (24.1%)	7 (10.4%)	11 (15.1%)
Inflected (incorrect/cannot be judged)	16 (27.6%)	17 (25.4%)	31 (42.5%)
citation form	28 (48.3%)	40 (59.7%)	31 (42.5%)
	58	64	73

- Surprisingly, bare lexical nouns still remain to be the preferred strategy.
- Despite the steady increase of entity/semantic classifiers in the over the three years, there is no obvious increase of pointing signs or verb agreement.
- Use of space is more consistent with classifier predicates than agreement verbs.
- Developmental progress varies a great deal across children. The native signing child progresses much faster than the rest. A more detailed analysis is certainly needed to investigate what are the major factors underlying the slow development in the use of space among the four non-native D/hh children.

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