Participation of Deaf and Hard of Hearing Students in a Co-enrollment Program: An Exploratory Study in Hong Kong

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賽馬會手語雙語共融教育計劃
JOCKEY CLUB SIGN BILINGUALISM AND CO-ENROLMENT IN DEAF EDUCATION PROGRAMME

捐助機構 Funded by:
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手語及聾人研究中心
Centre for Sign Linguistics and Deaf Studies

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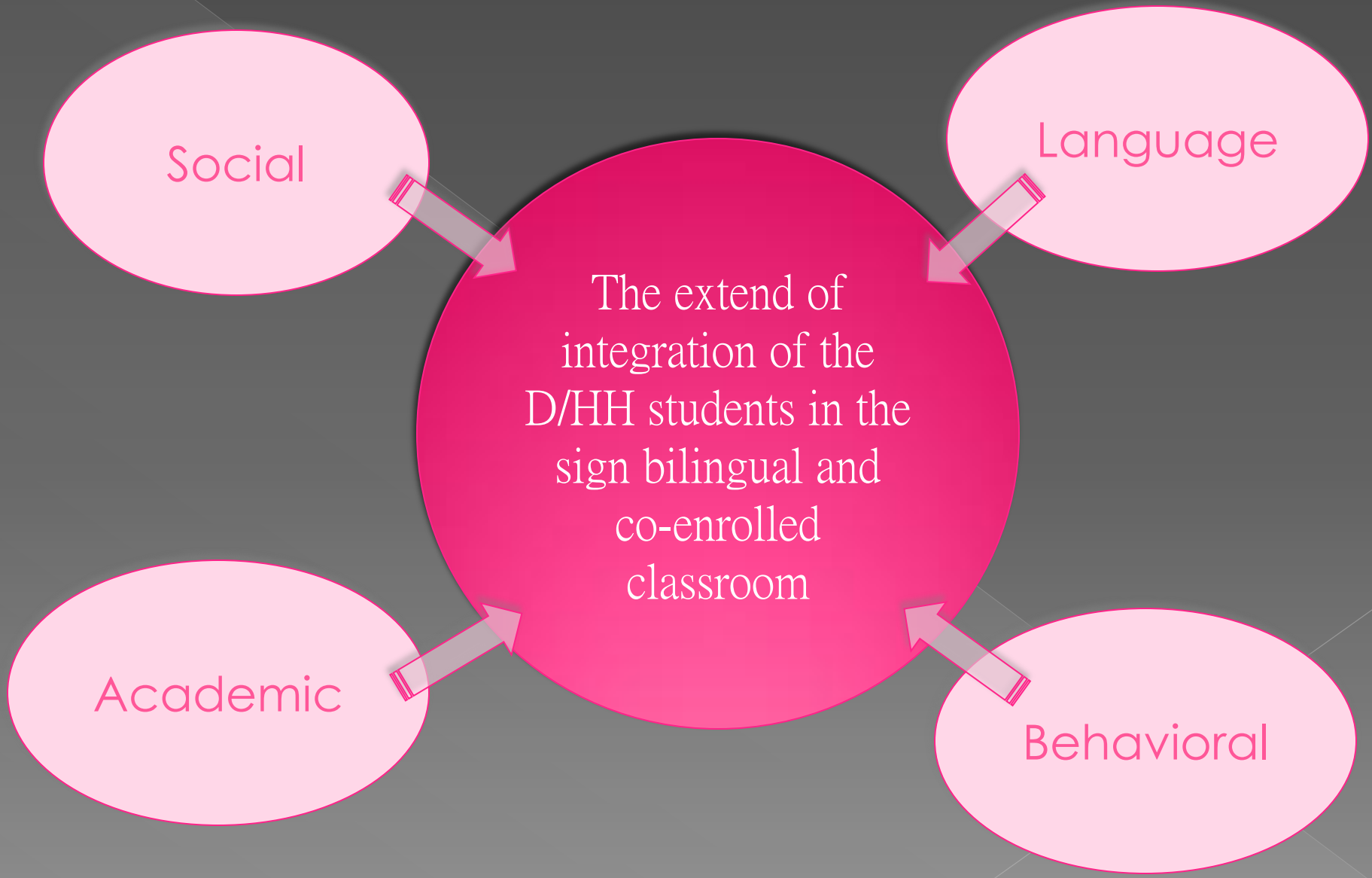
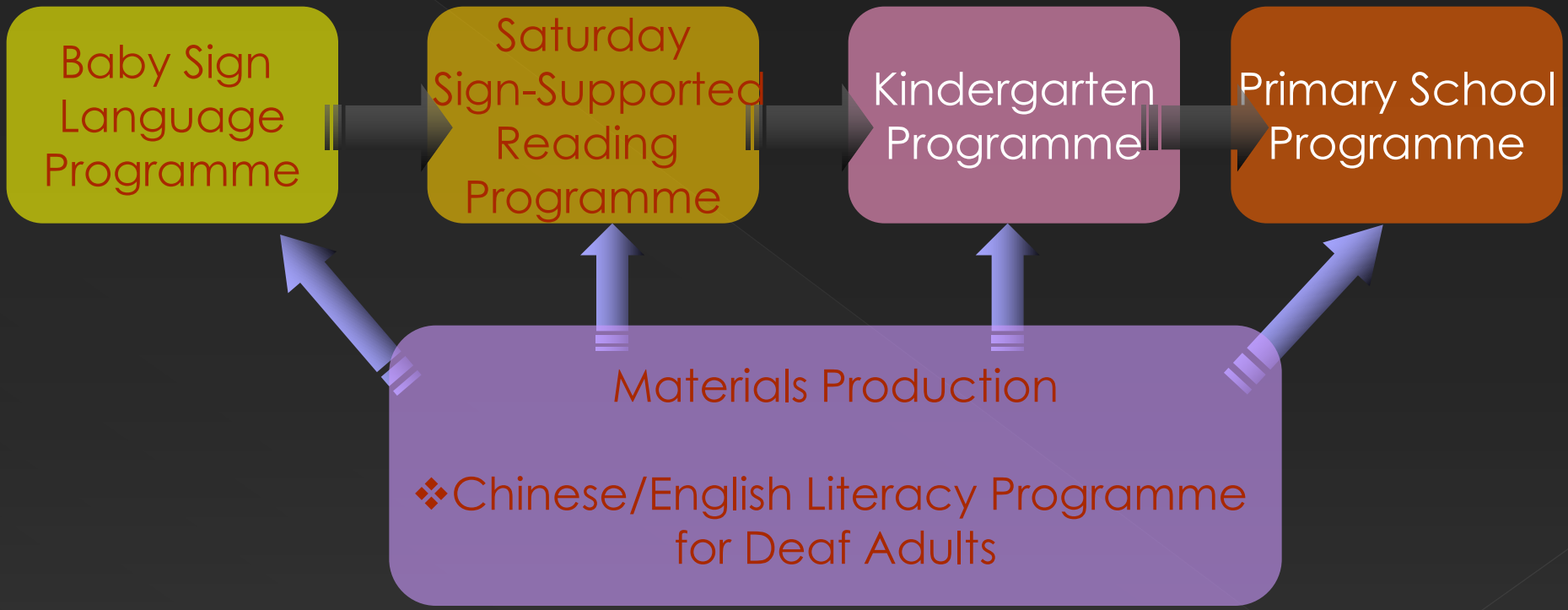
Research Objective

- To investigate the extend of integration of the deaf and heard of hearing (D/HH) and hearing students in the sign bilingual and co-enrolled classroom in Hong Kong

Methodology



Programme Components



Participants

Kindergarten (K3)

2007-2008:

- 15 hearing students, 6 Deaf students
- 2 hearing teachers, 1 Deaf teacher

Primary School (P1-6)

2008-2013:

- 24 hearing students, 6 Deaf students
- 1-2 hearing teachers, 1 Deaf teacher

Main Research Components

- Interaction
  - Teacher-student → T-S interaction pattern
  - Teacher-teacher → Co-teaching practice
  - Student-student → Peer interaction
- Language
  - Spoken
  - Signed
  - Written

  → Language competence
  → Language choice

Literature Review Outline

Classroom Setting

- Deaf Education Models
- Sign Bilingualism
- Co-enrolment

Theoretical orientation

- Origin and development of the sociocultural Perspective
- Origin and development of the classroom interaction research
- Interdisciplinary study of interaction in classrooms using sociocultural perspective

Deaf Education Models

	Models	Degree of Sign Modality Involved
Deaf Schools	• Oralist approach	• No signing is allowed
	• Total Communication	• All modalities
	• Sign Bilingualism	• Natural sign language
Mainstream Education	• No Sign Language Interpretation	• No signing is allowed
	• With Sign Language Interpretation	• Natural sign language
	• Total Communication	• All modalities
	• Sign Bilingualism	• Natural sign language
	• Co-enrolment	• Natural sign language

Sign Bilingualism

- Sign Languages are natural languages
- Two languages involved: sign language and the written form of an oral language
- Cummins' (1989) Linguistics Interdependence Theory: Positive transfer from the 1st to the 2nd language, provided that there is adequate exposure to the second language and motivation to learn it
- Sign Language is not necessary the first language for most of the deaf children, but the one they could fully access
- The acquisition of a sign language has proved to be effective in assisting deaf children to build up a good foundation for academic learning and development of literacy skills

  (Mayberry, Lock, & Kazmi, 2002; Stewart, 1992)

Co-enrollment

(Kirchner 2000)

Combination of Benefits	• Deaf students exposed to a natural sign language as the 1st language • As members of a co-enrollment classroom, D/hh students study the same academic curriculum as their hearing peers (Van Lier, 1988)
The Model	• Deaf and hearing students are placed in a single classroom • Instruction facilitated though a collaborative teaching approach: a regular teacher and a Deaf teacher as a role model
Advantage	• Allow direct communication • Personal/Social Growth
Expectation	• Both the hearing and Deaf students are able to use both sign and spoken languages

Sign Bilingualism and Co-enrollment Classroom Research

- Descriptive research about bilingual programs around the world:
  Kenya: Adoyo (2002), Bailes (2001), Evans (2004), America: Kirchner (2000), Swanwick and Tsverik (2007) and China: Yang (2002)
- Social-cultural perspective: Callaway (1999), Antia et al. (2002), etc
- Researches had proved under a naturalistic acquisition immersion, sign language could help the spoken language development of the deaf children (Taeschner, 1983, 1991)
- With equips from a first language, deaf children will have a better idea of how to communicate using spoken language (Toe, Beattie, & Barr, 2007)
- There is a research gap for sign bilingual and co-enrolment classroom to investigate the role of natural signing and the impact of the presence of a Deaf teacher in the classroom

Socio-Cultural Perspective (**Hellwig 2009**)

- The socio-cultural approach of learning deals with interconnections between the individual and the (social) environment and may help us in our concerns to understand the occurring processes at work in a science-based way

- The deep origins of the socio-cultural perspective on educational and psychological phenomena go back to three important Soviet Researchers in the early 20th century they founded a socio-historical school of psychological processes: Alexander R. Luria, Lev S. Vygotsky and Alexei N. Leont'ev

Socio-Cultural Perspective (Con't) (Vygotsky, 1978)

- Vygotsky suggests learning as a process that occurs any time in everyday life and that isn't just an external phenomenon

- Children learn all the time and through people who are more capable in doing a specific kind of action. So learning becomes the essential process and is necessary for development.

Critisism (Wertsch 1985)

- Vygotsky did no empirical research on talk in classroom, he appears to have been firmly attached to an experimental methodology
- So, how could his concept apply to a classroom setting with group of 20-35 children and a teacher, in which most learning activity is parallel or jointly?

Emergence of Interdisciplinary study of interaction in classrooms using sociocultural perspective

- Vygotsky influenced a number of psychologists and anthropologists e.g. Bruner, M. Cole, S. Scribner, J. Lave and B. Rogoff
- They started several studies to investigate socio-cultural influences on cognitive development and the role of social communities on learning activities

Bursting in 90s

- Teacher supported Learning
  (McNamara 1991, Mercado 1991, 1992)

- Talk of Student collaborative learning:
  (Holyes, Sutherland & Healy 1990, Fisher 1992, Galton & Williamson 1992, Light 1993)

- These concepts were taken further in work by Mercer (1995) who developed a Neo-Vygotskyan approach to the analysis of classroom talk

- Mercer's approach highlights the social nature of interaction and foregrounds the role of talk between learners and between teachers and learners in the construction of knowledge (Giraldo, 2008)

Research Framework of Interactional Analysis

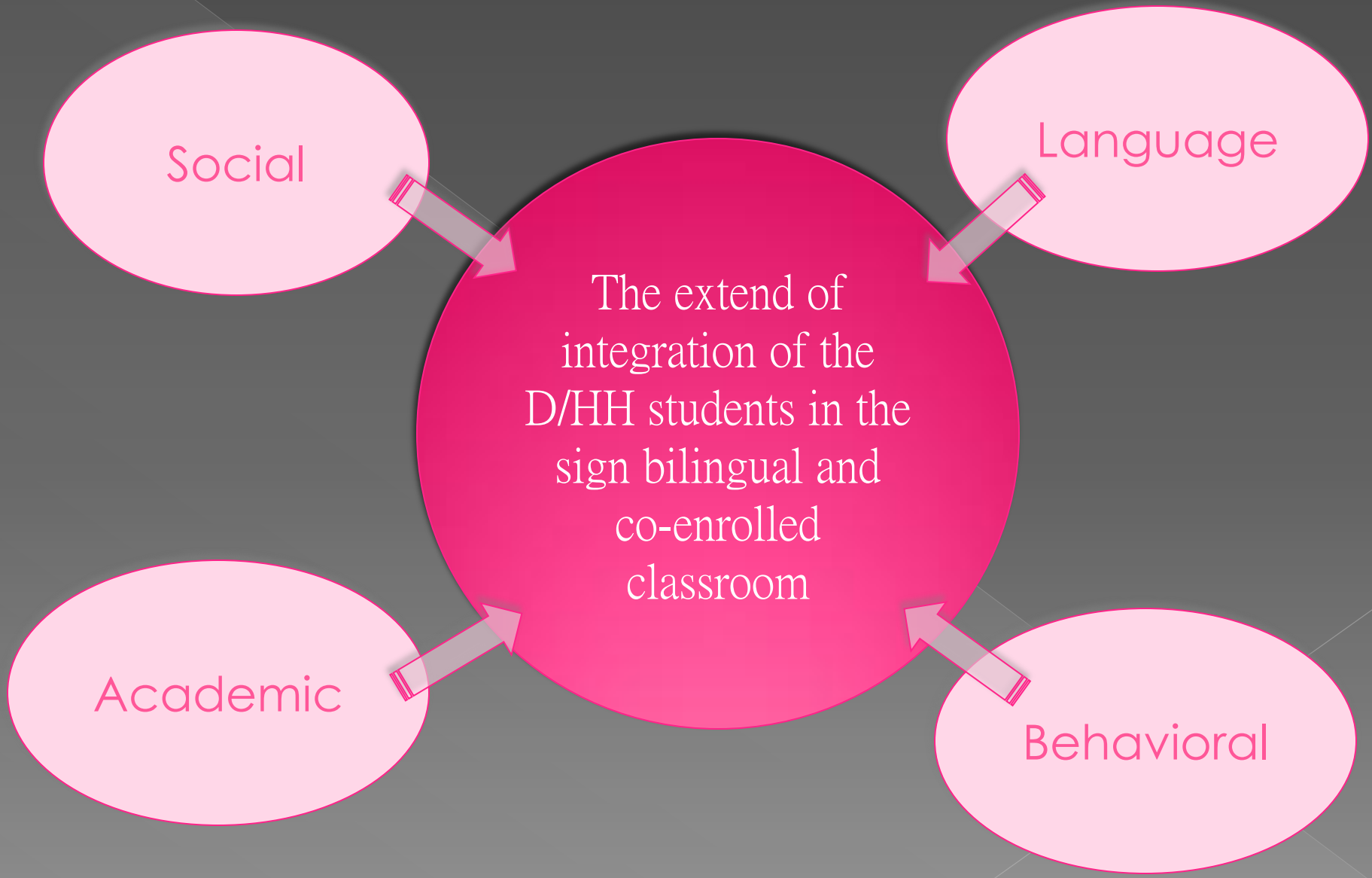
(Bellack et al. (1966), Sinclair and Coulthard (1975), Mehan (1979))

- There is an IRF pattern in teacher-student talk
  Initiation (I) = Initiation by the teacher or student
  e.g. Teacher : What does 'slippery' mean?
  Response (R)= response by students or teacher
  e.g. Pupil: That you can fall, because the floor is polished .
  Follow-up (F) = follow-up by the teacher or student
  e.g. Teacher: Yes, you can fall, you can slip, good.

- The three acts appear in predictable repeated patterns in class

- A few studies (Tsui, 1985 ; Heap, 1990 ; Moll, 1992 ; Cullen, 1998 ; Nassaji & Wells, 2000 ; Tsui, 2004 ; Lin, 2007) had been done down the line, but no comprehensive study (using both qualitative and quantitative methods) concerning sign bilingual co-enrolment classroom

Methodology



Methodology

- Classroom-based research

- Mixed Method Research:

  Qualitative and Quantitative

Methodology

Language

Social

- Video tape the typical school days and code them using observation schemes (10 full lessons, 2 times/year)
- Naturalistic observation in the classroom by researchers
- Open-ended interviews (include: Principals, Parents, Teachers, Students, Programme Administrators)

What's Happening in the Kindergarten Classroom?

Clips from 21st May 2008 (K3 Integrated Teaching)

What's Happening in the Primary School Classroom?

Clips from 12th March 2008 (P1 Chinese)

Research Instruments

Language

Social

Lesson Observation Scheme

- For Naturalistic Classroom Observations

Language Choice in Different Pedagogical Activities

Modes of Co-teaching

Students' Reaction

General Interactions

語言運用

(請紀錄大概運用的百分比)		DT	HT			RIO			DS			HS			檢討及備註
	佔用課堂時間	SL	SL	SP	SS	SL	SP	SS	SL	SP	SS	SL	SP	SS	
授課															
跟讀(朗讀)															
角色扮演															
誘發(包括提問,啟發別人回應)															
應答															
後續(跟進應答)															
其他(請註明)															

教學模式及成效

協作教學模式(百分比):	主輔教學		教學站		主援教學		協同教學		同步教學		觀察	
老師分工(請填寫:主教,輔助,協同,etc.):	DT				HT				RIO			
學生反應及教學成效:												

互動模式(請用文字紀錄大概情況,e.g.DT-->HT, HT--> whole class, HS--> DS)	檢討及備註

Research Instruments

Language

Lesson Coding Scheme

- For Coding of the Video Data

Classroom Setting

Coding the Language Choice

Co-enrollment Lesson Observation Chart

Date/Time:	2nd Feb (10:30-11:30)
School:	Peace Evangelical Center Kindergarten(Ngau Tau Kok)
Teacher:	Ms Lee Sau Yung, Ms Lisa Lau
Observer:	Fay Wong
Student:	8 Hearing students, 6 d/hh students
Physical setting:	Music Room with white board

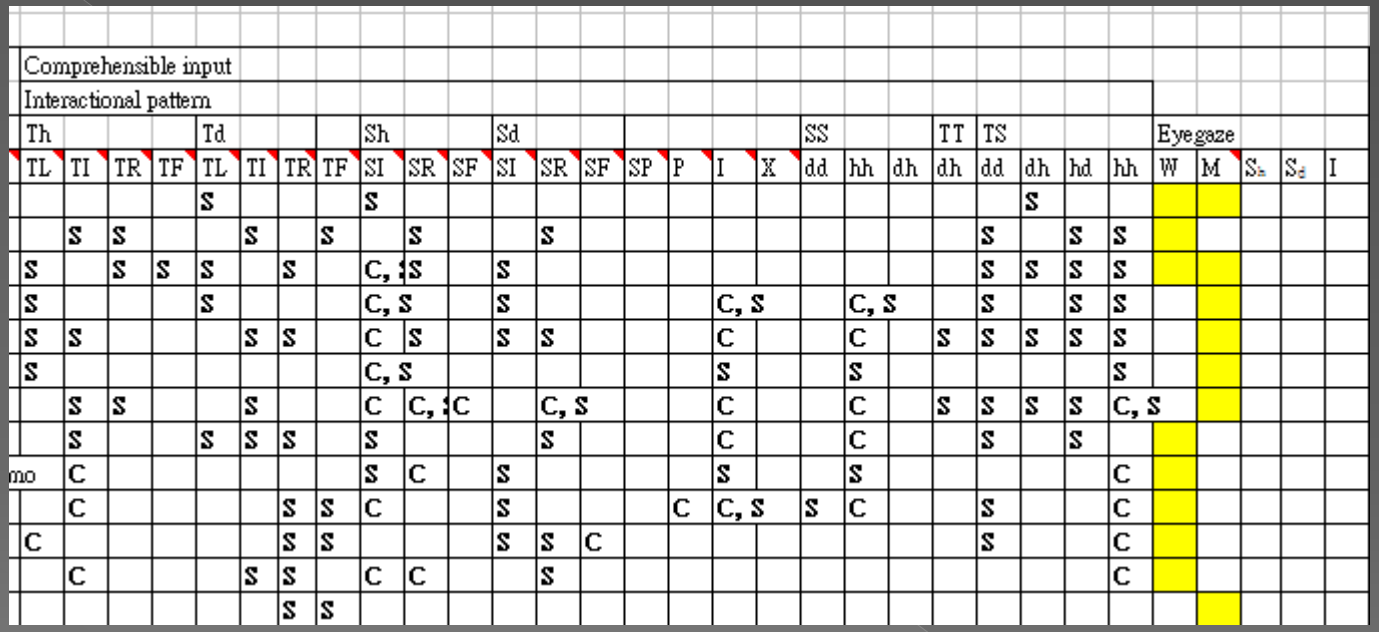
Time (min)	Lesson Stage (Episode)	Focus Activity	Speech event																							
			T_h					T_d					S_h						S_d							
			W	S_h	S_d	I	T_d	W	S_h	S_d	I	T_h	W	S_h	S_d	I	T_h	T_d	W	S_h	S_d	I	T_h	T_d
1	Introducing Chinese	Topic						S			S					S		S						
2	Traditional Paper	introduction,	S				S	S									S	S					S	S
3	Cutting	explaining the	S				S	S		S				S			S	S					S	S
4		term: 'paper	S				S	S			S					C	S						S	
5		cutting'	S			S	S							C			S							
6		demonstration	S			S		S					C				C/S	S					S	
7			S			S					S						C/S	S					S	S
8													C				C/S							
9			C								S		C				C/S							S
10			C/S		C	C	S	S									S	S					S	S
11			C					S																
12			C				S			S							C				S			S

Research Instruments

Social

Lesson Coding Scheme

- For Coding of the Video Data (Con't)



Interaction Pattern

Eye-gaze

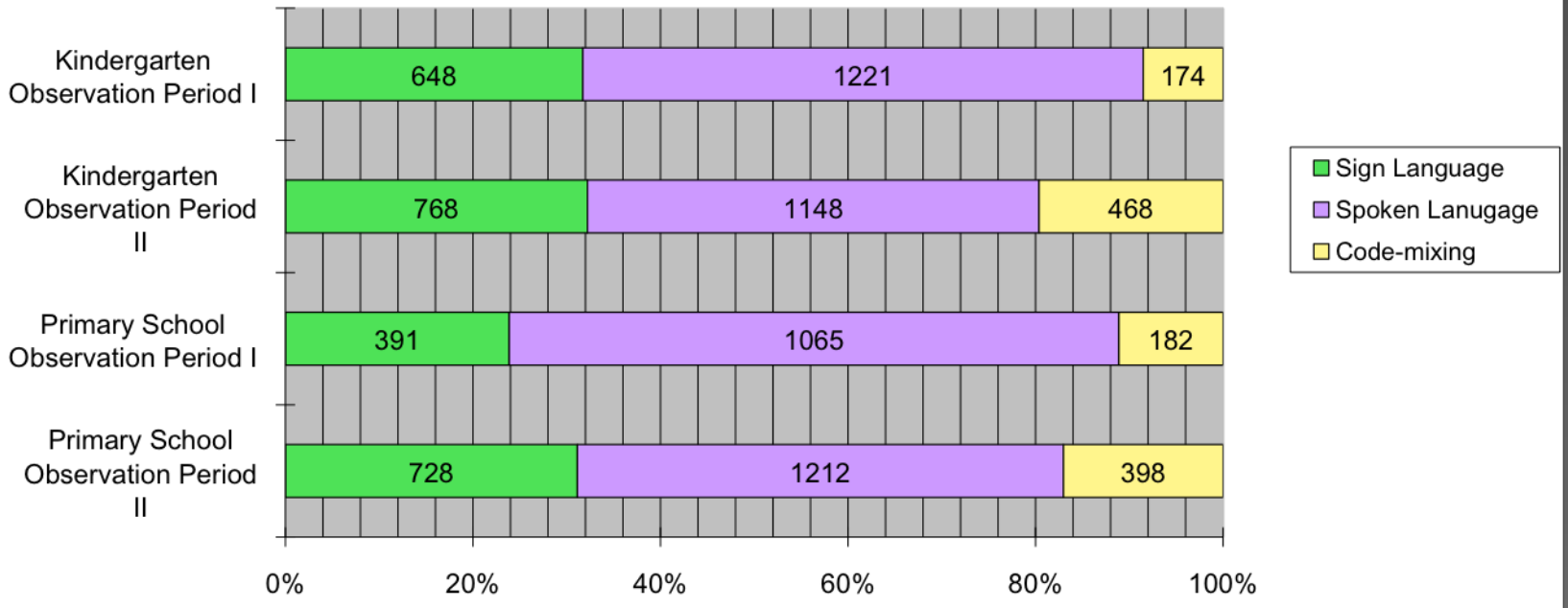
Research Instruments

Behavioral

- The Mainstream Version of the Code for Instructional Structure and Student Academic Response (MS-CISSAR; Greenwood & Reynolds, 2011)
- Computer-based systematic observation instrument supported by the EcoBehavioral Assessment System Software (EBASS) 3.0
- Focused on classroom ecology and student behavior

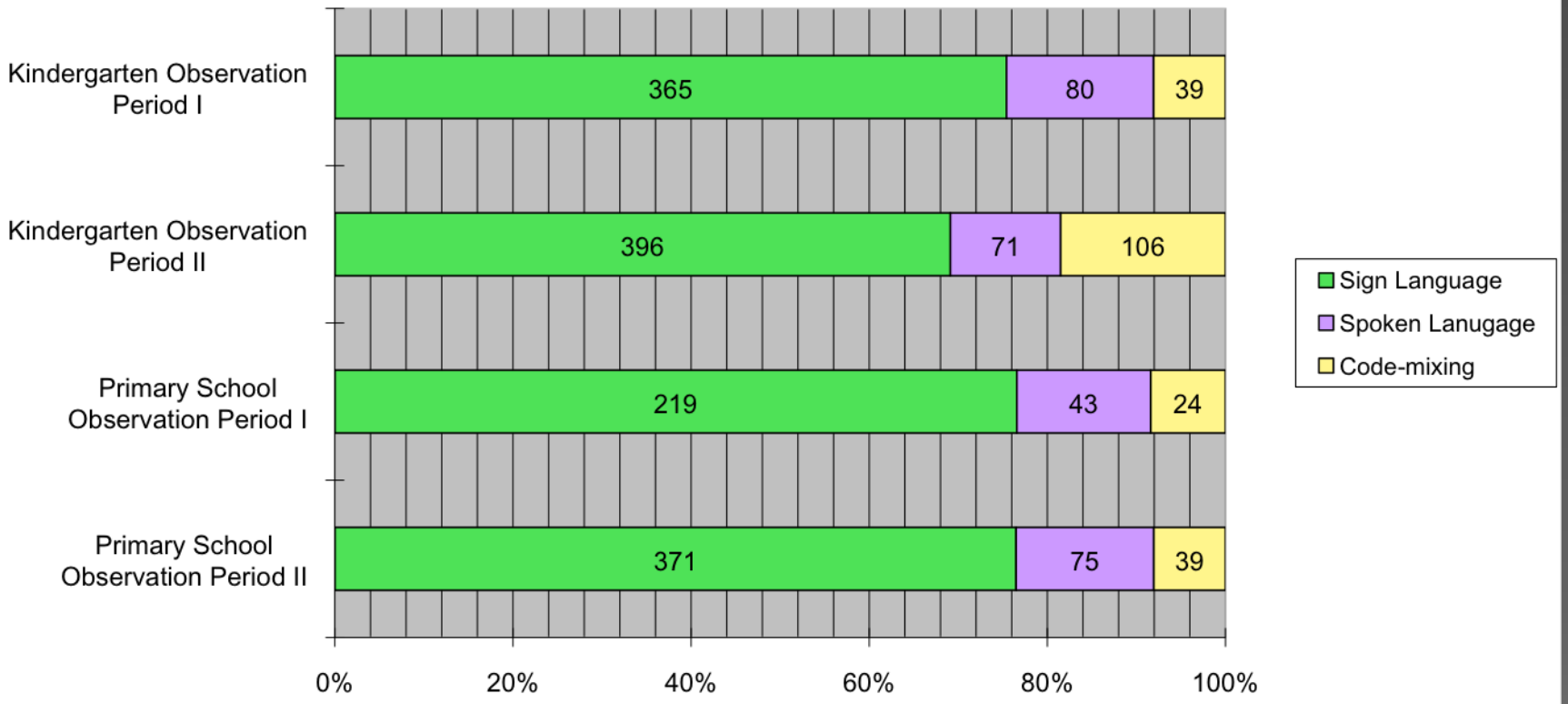
Highlights of the Study

General Language Use



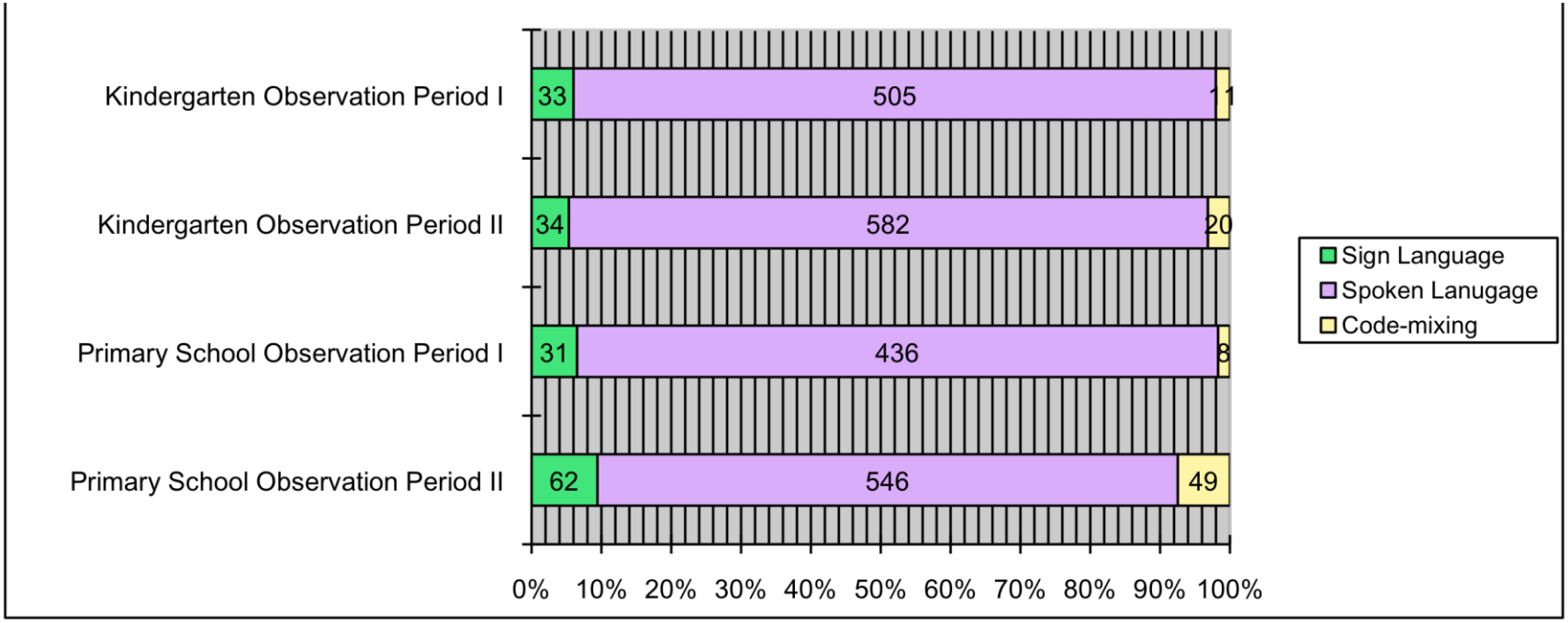
- The general patterns of language choice in kindergarten and primary school are similar
- Generally spoken language is more dominant than sign language in teacher-centered context
- There is an increase both code-mixing and sign language near the end of the school term each year
- The token of using spoken language decreased slightly for kindergarten setting and increased in primary school setting

Deaf Students' Language Choice



- The use of both languages increases near the end of the school year in the primary school setting, whereas in kindergarten setting the Deaf students tend to choose code-mixing
- The dominant Language for the Deaf students is sign language

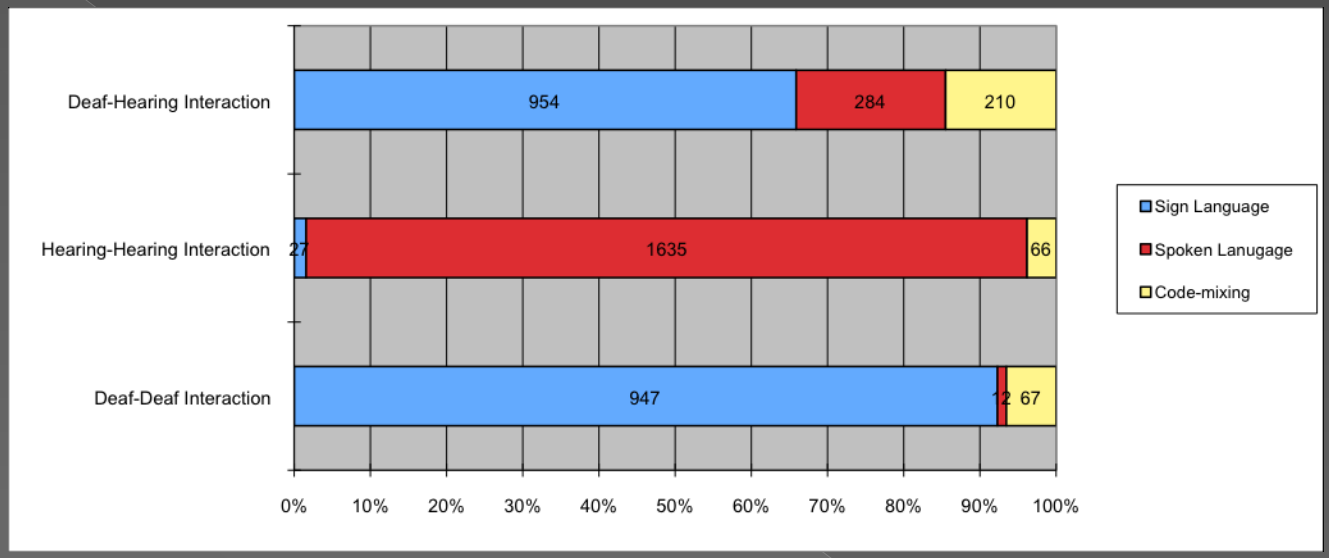
Hearing Students' Language Use



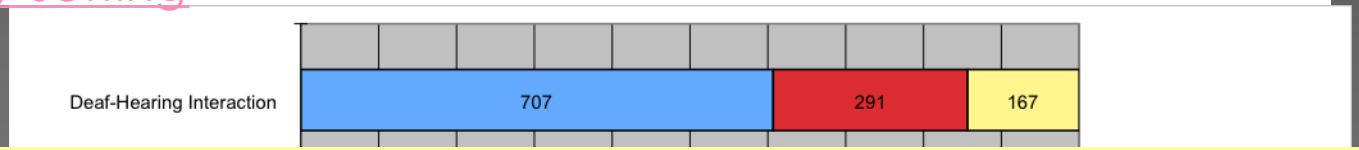
- The general patterns of language use of the hearing students in kindergarten and primary school settings are similar
- Code-switching of the two languages increases marginally near the end of the school year
- The use of sign language of the hearing students increases near the end

Language Choice between Groups

In Kindergarten Setting

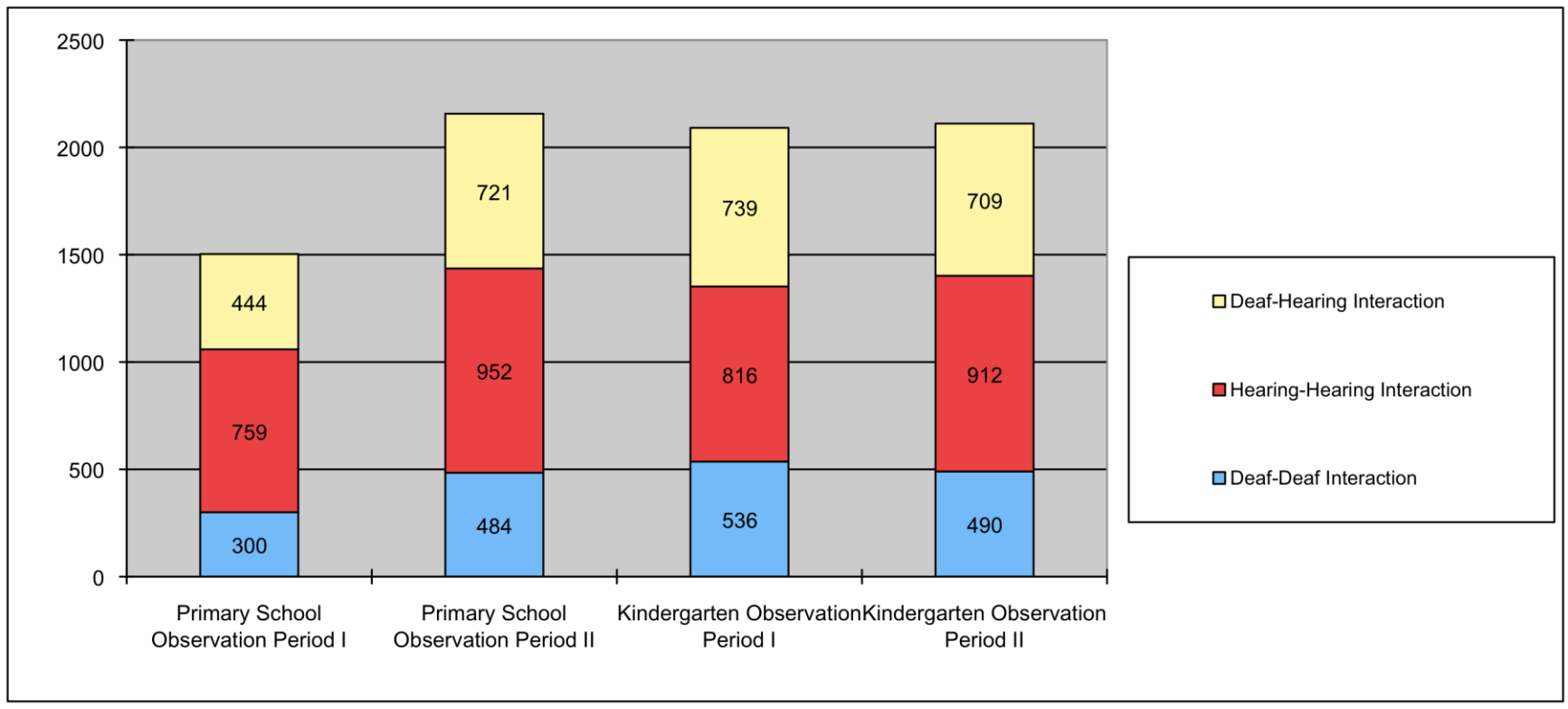


In Primary Setting



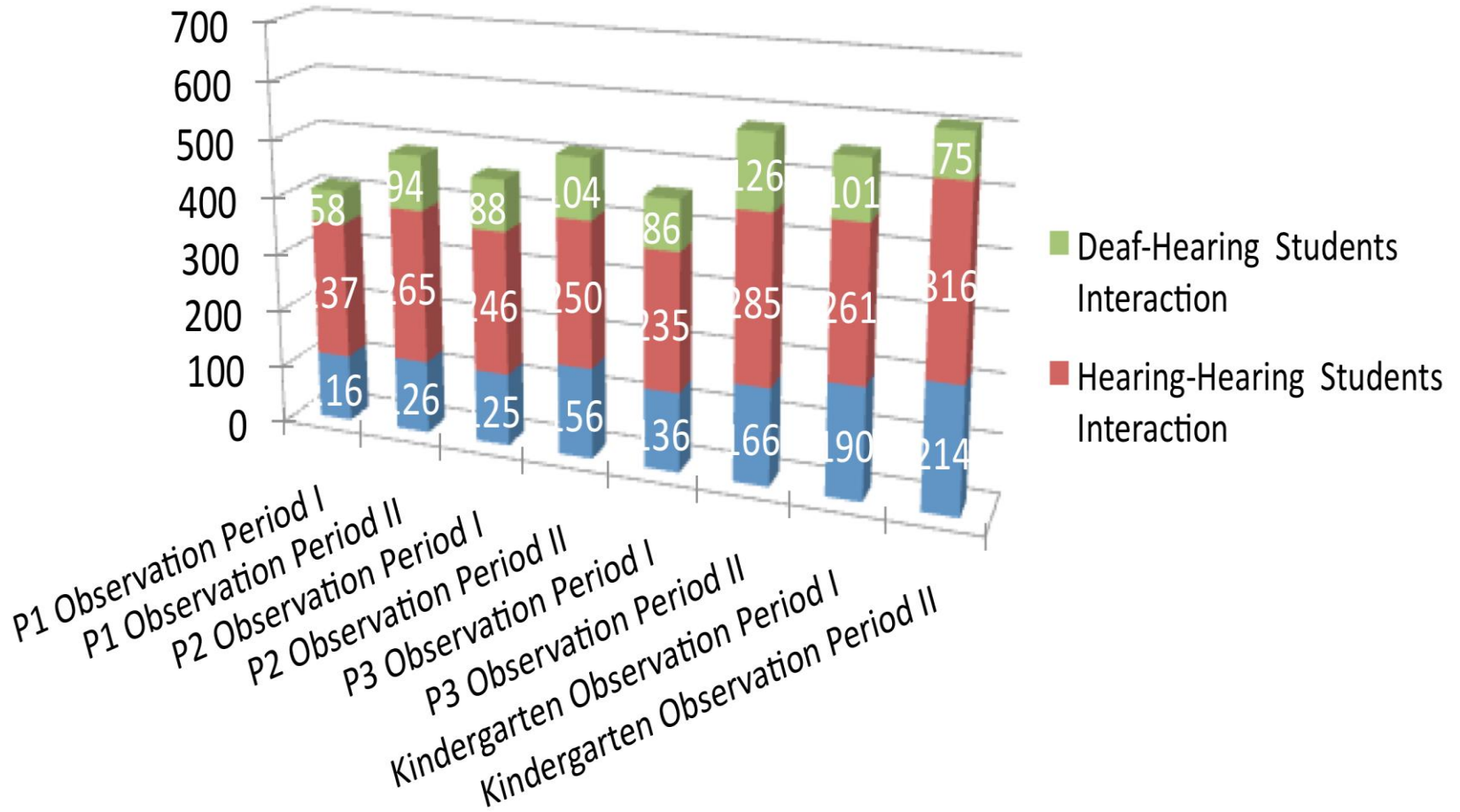
- The general patterns of language use of between groups in kindergarten and primary school settings are similar
- In the both setting the teachers and students are interacting with each other within the group using their dominant language, however, when they interact across groups they are using both languages
- The use of sign language is more dominant in across group interactions

Interaction between Groups

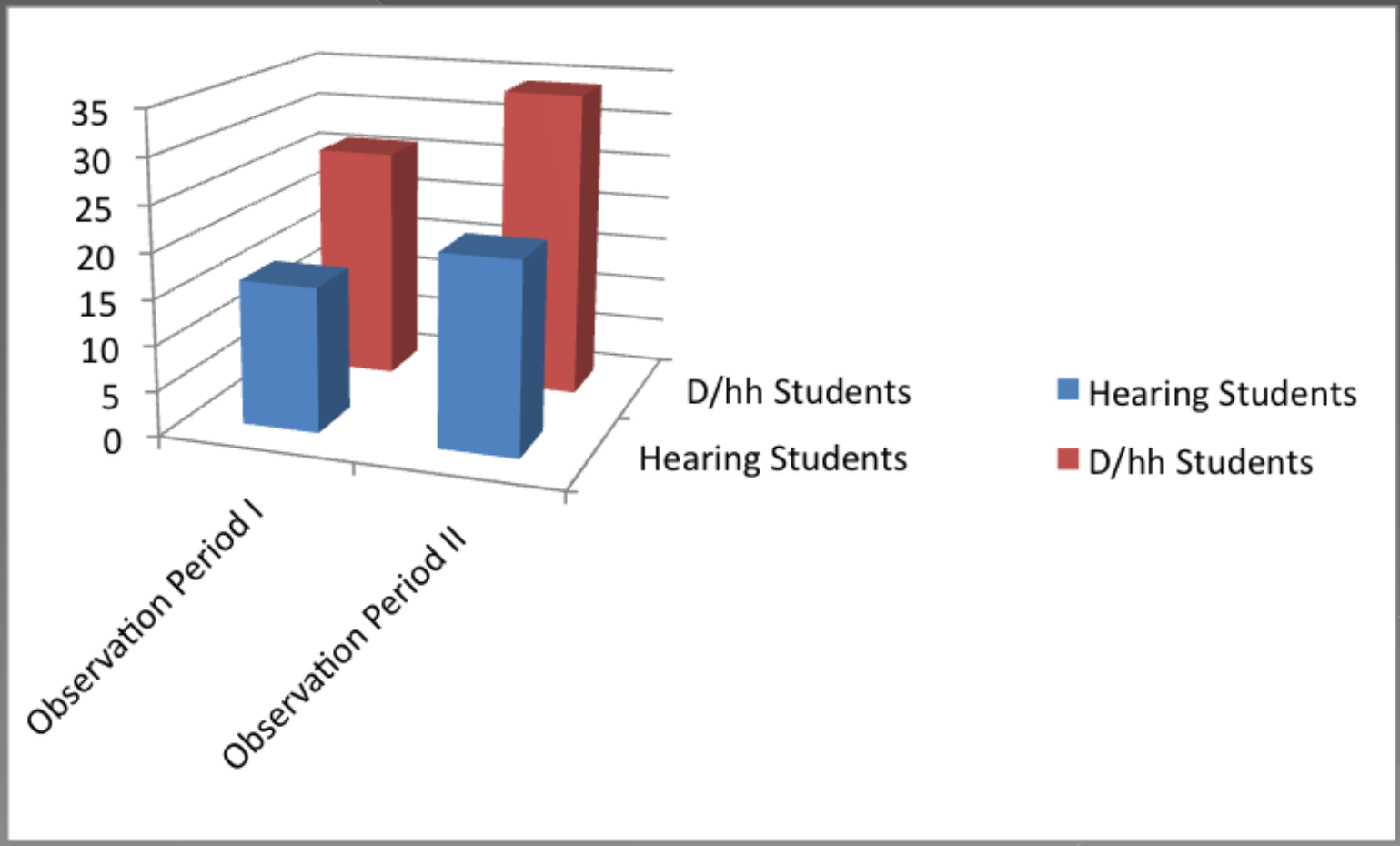


- The total tokens of interactions increase a lot for the primary school setting
- In the both setting the hearing-hearing interaction tokens are more than the other two types of interaction tokens, it is due to the difference in number of participants
- Generally Deaf and hearing teacher and students are interacting together

Tokens of Peer Interactions



Tokens of Students Initiations in the Classroom



Hearing Students' IRF Pattern

Hearing Students'	Language Use	Phase 1（Tokens）		Phase 2（Tokens）	
Initiation	Sign	42	12.90%	64	34.14%
	Spoken	298	83.87%	217	41.46%
	Code-Mixing	12	3.22%	45	24.39%
Response	Sign	11	1.05%	28	10.52%
	Spoken	192	96.84%	259	77.63%
	Code-Mixing	22	2.10%	29	11.84%
Follow-up	Sign	0	-	0	-
	Spoken	9	100.00%	0	-
	Code-Mixing	0	-	0	-

- Hearing Students tend to respond to teachers' questions rather than taking the initiation
- They seldom follow up the responses from others

Deaf Students' IRF Pattern

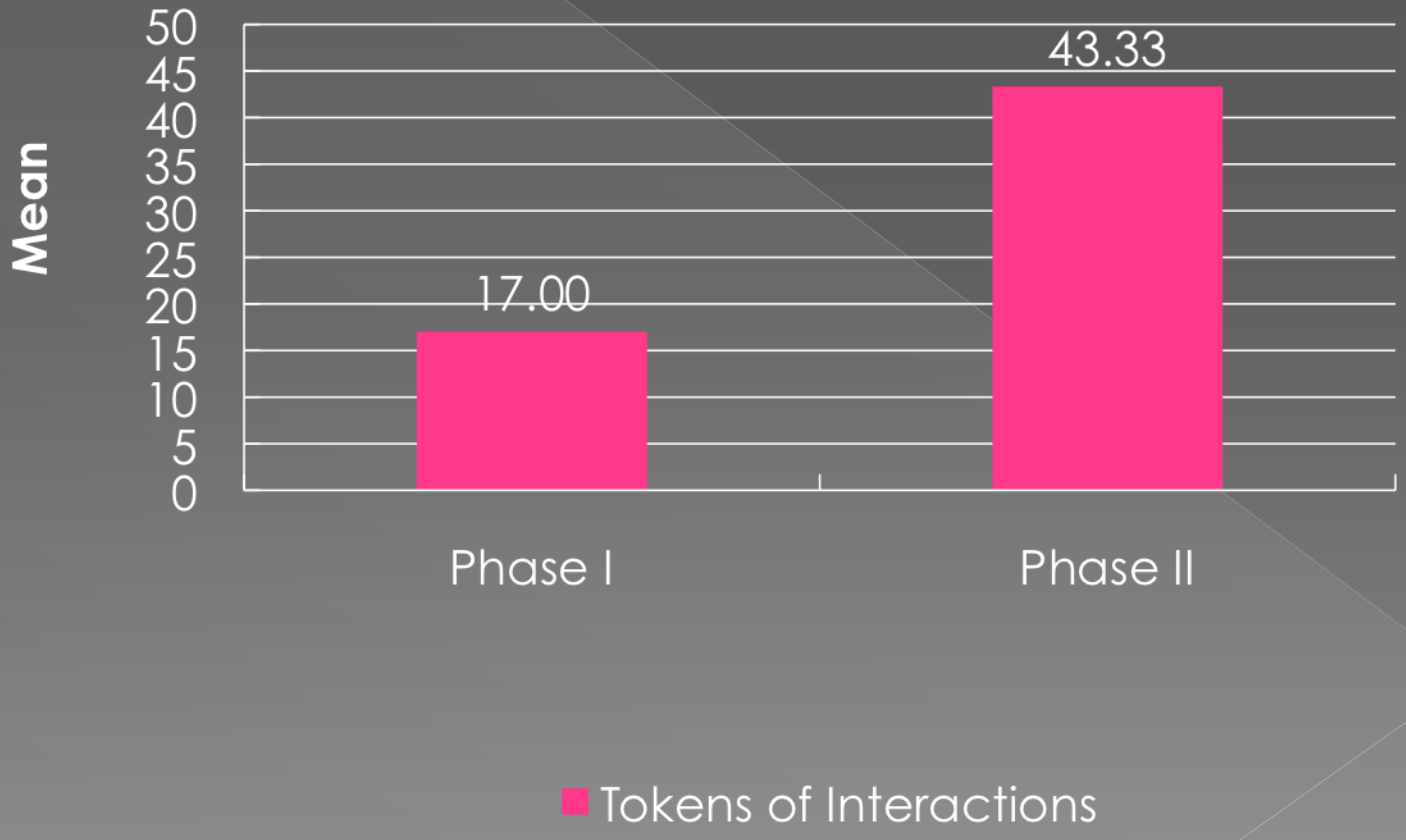
Deaf Students'	Language Use	Phase 1（Tokens）		Phase 2（Tokens）	
Initiation	Sign	141	80.39%	147	69.11%
	Spoken	16	11.76%	33	19.11%
	Code-Mixing	14	7.84%	28	11.76%
Response	Sign	32	33.33%	35	18.96%
	Spoken	55	53.03%	106	62.06%
	Code-Mixing	19	13.63%	35	18.96%
Follow-up	Sign	56	100.00%	42	100.00 %
	Spoken	0	-	0	-
	Code-Mixing	0	-	0	-

- Deaf students tend to take the initiation move for asking questions by using sign language
- Deaf students do follow up move more than Hearing students (these moves are mostly information checking and clarification)

The Total No. of Interactions Across Phases

Through paired-sample T-test:

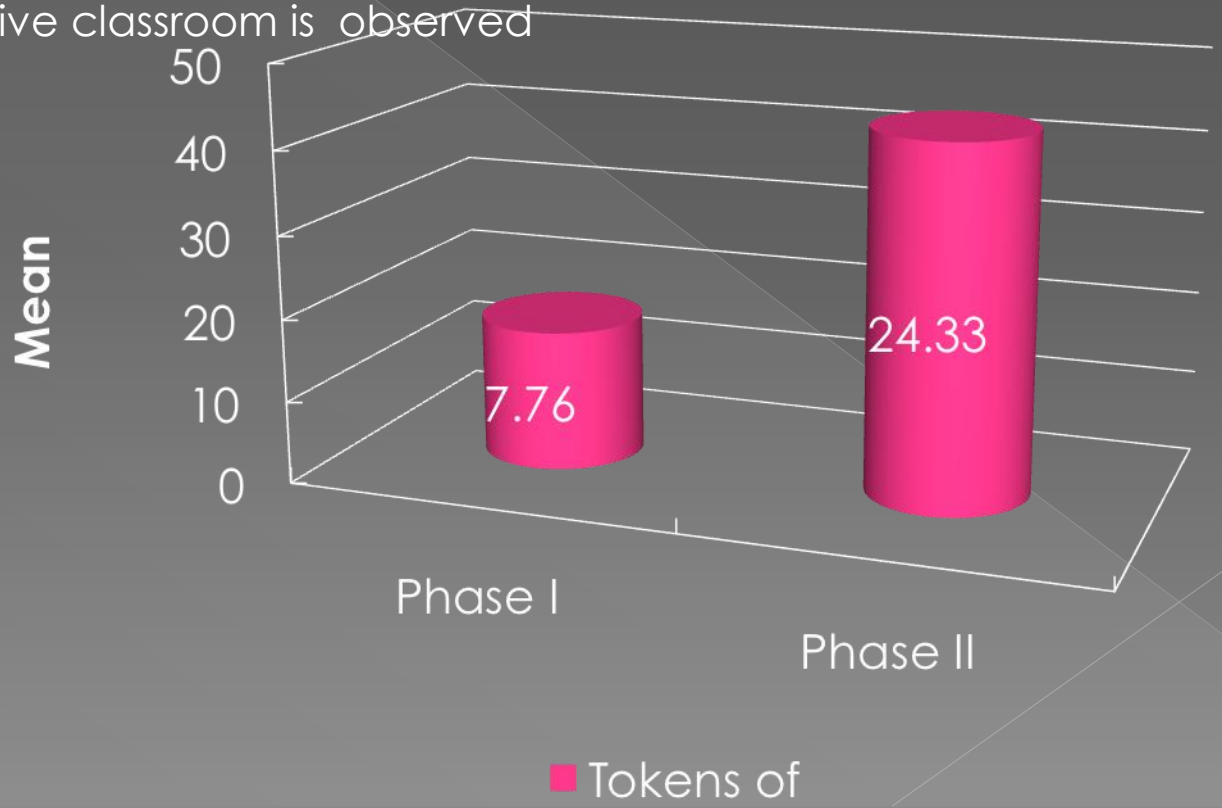
- Although between the two phases the difference is not significant, the mean raise from 17.00 to 43.33
- A more interactive classroom is observed



Mean Token of D/hh Students' Initiation Across Phases

Through paired-sample T-test:

- Although between the two phases the difference is not significant, the mean raise from 7.76 to 24.33
- A more interactive classroom is observed



The Total No. of Interactions Across Groups

Through paired-sample T-test:

This shows deaf-hearing student-teacher interaction with each other significantly more The difference is statistically significant in observation period I but observation period II .

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	febhomo & febhete	6	.892	.017
Pair 2	julhomo & julhete	6	.623	.187

Average Academic Engagement on Task Time

D/HH Students

- Whole class ~86%
- Small group ~96%

Hearing Students

- Whole class ~96%
- Small group ~92%

Discussion

- Generally the language choice pattern is similar for both the kindergarten and primary school setting
- In both settings, neither D/HH students nor hearing students were underprivileged
- A more interactive classroom is observed in the kindergarten setting. This may due to the constrain of the class size and curriculum
- Sign language is observed as the dominate language of the D/HH students. Sign Language functioned positively in facilitating both peer and teacher-student interactions
- Sign language support the communication of teachers and students in the classroom especially in teaching abstract concepts

Limitations and restrictions

- As this is not a controlled experiment, there are no control groups, other D/HH children in Hong Kong are not directly compared with the D/HH children enrolled in the program
- Since the co-enrollment program in Hong Kong is the only one in the region, the subject sample size is not large enough for any other quantitative comparison with other D/HH children in the region
- The context of teaching is crucial for the language choice in particular lessons, thus further analyses of the video data collected could be done for teasing out the code-switching pattern and questioning pattern in the classroom

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