

SOCIAL INTERACTION OF DEAF AND HARD OF HEARING STUDENTS AND THEIR HEARING PEERS IN SIGN BILINGUAL CO-ENROLLMENT SETTING

Fay WONG

The University of Hong Kong, Hong Kong, China

ABSTRACT:

Introduction: Co-enrollment provides Deaf and Hard of Hearing (DHH) students with opportunities for social integration with hearing peers. In this setting, both students are exposed to experiences embedded in the social system and they learn how to use language in the cultural settings of their classrooms. They construct meaning through their social interactions with peers (Biederman, 2003).

Purpose: To investigate the quantity and quality of interactions between DHH and hearing students with peers of same and different hearing status; To investigate DHH and hearing students' interaction pattern, frequency and language choice over time.

Method: Quantitative analysis based on the video data collected in Hong Kong's co-enrollment classrooms throughout 3 years in elementary school P1-P3. The recorded data was coded by observation schemes modified from Sinclair and Coulthard's (1975) classical work on the Initiation-Response-Feedback/Follow-up (IRF) model and classroom interactional analysis (Triadic Dialogue) model proposed by Lin (2007). DHH and hearing students' social interaction (IRF pattern and frequency) and language choice (sign or spoken language) were investigated.

Results: Results showed students with different and same hearing status were interacting with each other without any significant difference except their first contacting phase. For interactions between them, there was an increase in using sign language over time. The increase in number of initiations and follow-ups by DHH students in their interactions with their hearing peers over time indicated an improvement in quality of their interactions.

Conclusion: The results of the IRF pattern showed that the co-enrollment setting has allowed DHH and hearing students interact with each other with an improvement in quality and quantity of their interaction overtime.

(247 words)

INTRODUCTION

Co-enrollment provides Deaf and Hard of Hearing (DHH) students with opportunities for social integration with hearing peers. In this setting, both students are exposed to experiences embedded in the social system and they learn how to use language in the cultural settings of their classrooms. They construct meaning through their social interactions with peers (Biederman, 2003).

Hong Kong's sign bilingual co-enrollment program has been just set up in 2006 by the Chinese University of Hong Kong and funded by the Hong Kong Jockey Club. In this setting, both hearing and DHH students and teachers are involved in the same classroom. Sign bilingual approach is adopted, in which natural sign language is used in the classroom alongside with the spoken languages.

PURPOSE

The sign bilingual and co-enrollment classroom setting offers a rich field of research and yet not much cultivated. There exist a complex inter-relation of external ecological and internal linguistic factors that shape the outcome of this sign language-spoken language contact situation (Pust & L'opez, 2008). In Baker (2006); Baker and Jones (1998)s' critical evaluation of educational discourse and bilingual education practices, they emphasis the need to study bilingual models of deaf education on the backdrop of social context they embedded in.

The general objective of this study is to investigate the student-student interaction in this sign bilingual and co-enrollment setting. This study focused on investigating two main areas: First, the quantity and quality of interactions between DHH and hearing students with peers of same and different hearing status; Second, DHH and hearing students' differences and similarities in terms of their interaction pattern, frequency and language choice over time. Due to the restrictions of time and resources, variables and issues concerning models of co-teaching, teaching styles of individual staffs and curriculums are not explored in this study.

METHODOLOGY

Quantitative analysis based on the video data collected in Hong Kong's co-enrollment classrooms throughout 3 years (2008-2011) in elementary school P1-P3. Participants in this study are 6 DHH students (50% female, 50% male) and their 24 hearing classmates enrolled in the sign bilingual and co-enrollment program in Hong Kong. Students in P1 ranged from age 6-7. Among the 6 DHH students, 4 had a profound hearing loss, one of them with moderate- severe hearing loss and one with unilateral hearing loss. The co-enrollment adopted normal mainstream curriculum with instructions delivered through co-teaching of a DHH and a hearing teacher in the classroom. All hearing teachers involved in the program are Cantonese native speakers who have learnt English as a second language. All D/HH teachers are monolingual fluent signers.

For each academic year, two intervals, one in November and the other in June were chosen to record down the language use in the bilingual classroom (for each period two weeks of the typical school days with 10 full lessons of English and Chinese lessons were recorded respectively). The two periods are chosen because one is near the beginning of the school year and the other is near the end of the school year. Two video cameras were used to videotape the lesson at the same time. One focused on videotaping the conversations and interactions of the teachers and the other on students. The two videos were then edited and synchronized into one for analysis.

The recorded data was coded by observation schemes modified from Sinclair and Coulthard's (1975) classical work on the Initiation-Response-Feedback/Follow-up (IRF) model and classroom interactional analysis (Triadic Dialogue) model proposed by Lin (2007). Sinclair et al. (1975) proposed there exists 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. Student: 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. DHH and hearing students' social interaction (IRF pattern and frequency) and language choice (sign or spoken language) were investigated.

RESULTS AND DISCUSSION

Quantity and quality of the interactions

The overall dominant language in the classroom is spoken language. This is due to the number of hearing student out numbered the DHH students in the classroom. Another reason is that the hearing teacher is taking the main teaching role leading for questioning more than the DHH teacher. However, spoken language become less dominate when comparing the beginning observation interval with the later intervals (dropped from 66% to 53% when counting the total language choice in interactions). We also would like to pinpoint that although there is a drop in percentage of using spoken language in the classroom, the total number of interactions increased through time (from 1638 tokens to 2338 tokens).

The dominant Language for the DHH students is sign language whereas the dominant language for hearing students is spoken language. Yet, both groups of students have shown an increase use of their non-dominant language through time both in terms of percentage and quantity. DHH students' token using spoken language raised from 43 to 75, their token of using code-switching raised from 24 to 39. Hearing students' token using sign language raised from 31 to 62, their token of using code-switching raised from 8 to 49.

Students are interacting with each other within the group of same hearing status using their dominant language, however, when they interact across groups they are using both languages. The use of sign language is more dominant in their interactions with peers of different hearing status.

The interaction between DHH and hearing students increased through time (from 444 tokens to 721 tokens). In DHH-hearing student interaction 61% of the tokens they are using sign language, 14% of the tokens they are using code-switching and the rest are using spoken language. To our surprise, in hearing-hearing interaction sometimes they will also use sign language (2%) or code-switching (6%) to communicate with each other in the classroom. Also, on the other hand, in DHH-DHH interactions, sometimes they will also use spoken language (1%) or code-switching (2%) to communicate. This might due to the reason of which sign language is less disturbing for the students to communicate with each other while the teacher is teaching.

Interaction pattern, frequency and language choice

From our interaction data, hearing Students tend to respond to teachers' questions rather than taking the initiation. They seldom follow up the responses from others.

Table 1 IRF Pattern of Hearing Students

Hearing Students'	Language Choice	Average Tokens in the observation interval near beginning of the school term		Average Tokens in the observation interval near the end of the school term	
Initiation	Sign	42	12.90%	64	34.14%

	Spoken	298	83.87%	217	41.46%
	Code-Switching	12	3.22%	45	24.39%
Response	Sign	11	1.05%	28	10.52%
	Spoken	192	96.84%	259	77.63%
	Code-Switching	22	2.10%	29	11.84%
Follow-up	Sign	0	-	0	-
	Spoken	9	100.00%	0	-
	Code-Switching	0	-	0	-

On the other hand, DHH students tend to take the initiation move for asking questions by using sign language. DHH students do follow up move more than Hearing students (these moves are mostly information checking and clarification). They have more chance to interact with the DHH teaching since the teacher-student ratio is lower when compare with the hearing teacher and students.

Table 2 IRF Pattern of DHH Students

Deaf Students'	Language Choice	Average Tokens in the observation interval near beginning of the school term		Average Tokens in the observation interval near the end of the school term	
		Count	Percentage	Count	Percentage
Initiation	Sign	141	80.39%	147	69.11%
	Spoken	16	11.76%	33	19.11%
	Code-Switching	14	7.84%	28	11.76%
Response	Sign	32	33.33%	35	18.96%
	Spoken	55	53.03%	106	62.06%
	Code-Switching	19	13.63%	35	18.96%
Follow-up	Sign	56	100.00%	42	100.00%
	Spoken	0	-	0	-
	Code-Switching	0	-	0	-

LIMITATION

This study adopted quantitative research method to investigate the interaction pattern in the classroom, however, other supporting areas such as students' English literacy level, the sign and spoken language proficiency, are of equal importance in considering the factors affecting interaction quantity, quality, pattern, frequency and language choice over time.

As it is not a controlled experiment, there are no control groups, other DHH children studying in mainstream setting in Hong Kong are not directly compared with the DHH children enrolled in the program (due to the privacy policy of the Education Bureau). 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 DHH children in the region.

The contexts and pedagogies of teaching are crucial for the language choice in particular lessons, thus further analyses of the video data collected could be done for teasing out the interaction pattern and questioning pattern in the classroom according to these factors.

COCLUSION

Results showed students with different and same hearing status were interacting with each other without any significant difference except their first contacting phase. For interactions between them, there was an increase in using sign language over time. The increase in number of initiations and follow-ups by DHH students in their interactions with their hearing peers over time indicated an improvement in quality of their interactions.

The results of the interactional analysis with the IRF pattern from DHH and hearing students in the sign bilingual and co-enrollment setting in Hong Kong showed that the co-enrollment setting has allowed DHH and hearing students interact with each other with an improvement in quality and quantity of their interaction overtime.

REFERENCES:

Baker, C. (2006). *Foundations of bilingual education and bilingualism*. Multilingual matters.

Baker, C., & Jones, S. (1998). *Encyclopedia of bilingualism and bilingual education*. Multilingual Matters.

Biederman, Y. (2003). *Literacy learning in a bilingual classroom for deaf students: Negotiating between New Zealand Sign Language and English*. University of California, Berkeley, with San Francisco State University.

Lin, A. M. (2007). *What's the Use of "Triadic Dialogue"?: Activity Theory, Conversation Analysis, and Analysis of Pedagogical Practices*. *Pedagogies: An International Journal*, 2(2), 77-94.

Pust, C., & L'opez, E. (2008). *Sign bilingualism: Language development, interaction, and maintenance in sign language contact situations*. John Benjamins Pub Co.

Sinclair, J., & Coulthard, R. M. (1975). *Towards an analysis of discourse*. London: Oxford University Press.