The 2014 Symposium on Sign Bilingualism and Deaf Education

ON THE SOCIAL INTEGRATION OF DEAF AND HEARING STUDENTS IN THE SLCO PROGRAMME

Chris K.-M. YIU,

Jockey Club Sign Bilingualism and Co-enrollment in Deaf Education Programme
Centre for Sign Linguistics and Deaf Studies,
The Chinese University of Hong Kong

香港中文大學
THE CHINESE UNIVERSITY OF HONG KONG

手語及聾人研究中心
Centre for Sign Linguistics and Deaf Studies

Acknowledgement

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

Outline

- Social Integration of DHH students in the mainstream settings in general
- Why Sign Bilingualism and Co-enrollment (SLCO) Programme?
- Research questions
- Methodology – peer ratings and two attitudinal scales
- Results
- Conclusion

Background

Background

- Inclusive deaf education has become a global trend

- One crucial question regarding educating deaf and hard-of-hearing (DHH) students in a mainstream setting is:

Can social integration between DHH and hearing students be achieved?

What do we mean by Social Integration?

It is technically defined as students' ability to:

- interact with, make friends with and be accepted by peers (Antia & Stinson,1999)

Social Integration

social interactions

social relationships

social acceptance

Social Integration in the Inclusive Settings

- Research showed that DHH students tend not to be well adjusted in mainstream settings, meaning that DHH students are:

  - **Having limited social interactions with their hearing peers** (Antia & Kreimeyer, 1996; Arnold & Tremblay, 1979; Keating & Mirus, 2003);

  - **Not socially accepted in school** (Antia & Kreimeyer, 1997; Kluwin, Stinson, & Colarossi, 2002; Saur, Layne, Hurley, & Opton, 1986);

  - **Unable to build social relationships with their peers** (Nunes, Pretzlik, & Olsson, 2001; Tvingstedt, 1995)

Social Integration in the Inclusive Settings

- Antia, Jones, Luckner, Kreimeyer, and Reed (2011) found that their social skills and problem behavior scores were within the average range.
- Approximately 25% of the DHH students had a decrease in social skills over a period of five years.

What are necessary for social integration?
- Mode of communication?
- Form of educational support?

Social Integration in the Inclusive Settings

- Physical proximity or physical placement alone does not lead to social integration;

- Many DHH students in mainstream settings still perceive themselves as "visitors" rather than "members" of their school/class communities.

Social Integration in the Inclusive Settings

- How the school environment or the 'ecosystem' has created may affect the psychosocial adjustments of DHH students (Polat, 2003).

Can the Sign Bilingualism and Co-enrolment (SLCO) Programme be a way out?

The SLCO Programme

Sign Bilingualism and Co-enrollment (SLCO) Approach:

- enrolling a critical mass of DHH students in a mainstream setting, and

- immersing both DHH and hearing students in a sign bilingual classroom

- team taught by a hearing teacher and a deaf teacher

Sign Bilingualism and Co-enrollment

A promising alternative that supports psychosocial development:

- **Psychosocial adjustment:**
    - comparable social skills to their hearing peers (McCain & Antia, 2005).
- **Social-emotional benefits:**
    - increased opportunities for daily interactions;
    - equal status of DHH and hearing students in school; and
    - a positive and realistic projection about the future (Jimenez-Sanchez & Antia, 1999)
- **Self-concept:**
    - showed no difference between DHH and hearing students' self-concept, and (Kluwin,1999)

Sign Bilingualism and Co-enrollment

Social interaction:

- a significant increase in the frequency of social interactions between DHH and hearing peers over a period of three years (Kreimeyer, Crooke, Drye, Egbert, & Klein, 2000);

Social acceptance:

- DHH students' social acceptance was similar to that of their hearing peers based on a sociometric study (Bowen, 2008);

- The longer the hearing students study in a co-enrolment program, the better they accept deafness and DHH peers

Focus of the Study

Social Integration

social interactions

social relationships

social acceptance

Research Questions

Research Questions

1) Do DHH and hearing students in the SLCO Programme have positive social acceptance with each other?

2) Do DHH or hearing students show equally accepted to each other? Or they show preferential relationship on either group?

3) Do DHH have bilateral social relationships with DHH or hearing peers?

4) Is the duration of SLCO experiences a factor affecting students' social acceptance with one another?

5) Are the attitudes of DHH students towards their own deafness or the attitudes of hearing students toward their DHH peers a factor affecting the peer ratings?

Methodology

Subjects

- 16 DHH students and 289 hearing students from primary 4 to primary 6 in the SLCO school.

DHH subjects:

- Aged from 9;7 to 14;1.
- All of them were enrolled in the SLCO Program from primary 1 onward, and thus had 4 to 6 years of SLCO experiences.
- Hearing level: 13 students with severe or profound hearing loss; 3 were having a mild or moderately severe loss.
- 7 cochlear implantees, and 8 hearing aids users.
- 2 DHH students who were born to deaf parents, all had hearing parents and started to learn HKSL late, after age 4.

Subjects

Hearing subjects:

- 224 from regular classes and 65 from the three co-enrollment classes, There have been transfers of hearing students in and out of the SLCO classes over the years;

- Of the 65 hearing students in the co-enrollment classes,
  - 44 had full SLCO experience from primary 1, and
  - 21 of them had been transferred into the SLCO classes in the interim, having 2–5 years of SLCO experiences.

Measure 1: Peer Ratings

- Peer ratings were used in this study to investigate **social acceptance** between DHH and hearing students with reference to Nunes et al. (2001), and Wauters and Knoors (2008).

- 16 DHH and 65 hearing students in the SLCO classes were asked to rate whether they liked to play or study with their classmates

- A visual scale of three faces —happy, neutral, and sad.

Peer Ratings

- **Do you like to play with the classmate?**

John

Peter

- **Do you like to study with the classmate ?**

John
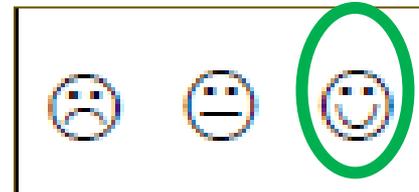
Peter

Peer ratings

- Equivalent Scores for the visual scale:
  - **Happy = 3**
  - **Neutral = 2**
  - **Sad = 1**
- The average rating scores of every student were calculated:
  - The ratings **given to** other classmates; and
  - The ratings **received from** the classmates
- The highest score for both 'play' and 'study' conditions = **6**

Peer ratings

- The average rating scores were also calculated in groups:

    - **D-rate-H =** Average rating score DHH students given to hearing students

    Higher score = higher degree of fondness to others

    - **D-by-H   =** Average rating score DHH students received from DHH students)

    Higher score = more socially accepted

What we want to know?

- Our questions are:

1) if the DHH and hearing students rated each other positively or not,

2) if there was a difference in the way the DHH students rated DHH or hearing students and the way the hearing students rated hearing or DHH peers;

3) if there were bilateral social relationships between DHH and hearing students;

4) if the duration of SLCO experiences had an impact on the peer ratings of DHH and hearing students;

5) If there are other factors affecting the peer ratings.

Q1: Are the ratings positive?

DHH Students (N=16)			Hearing Students (N=65)		
Types	Mean	SD	Types	Mean	SD
H-rate-D	4.531	0.708	H-rate-H	4.459	0.599
D-by-H	4.517	0.480	H-by-H	4.458	0.489
D-rate-D	5.119	0.537	D-rate-H	4.553	0.330
D-by-D	5.119	0.633	H-by-D	4.546	0.600

Positive:
- The overall mean ratings > 4.4 (full score = 6).
  ➢**They have high social acceptance among each other**

Q1: Are the ratings positive?
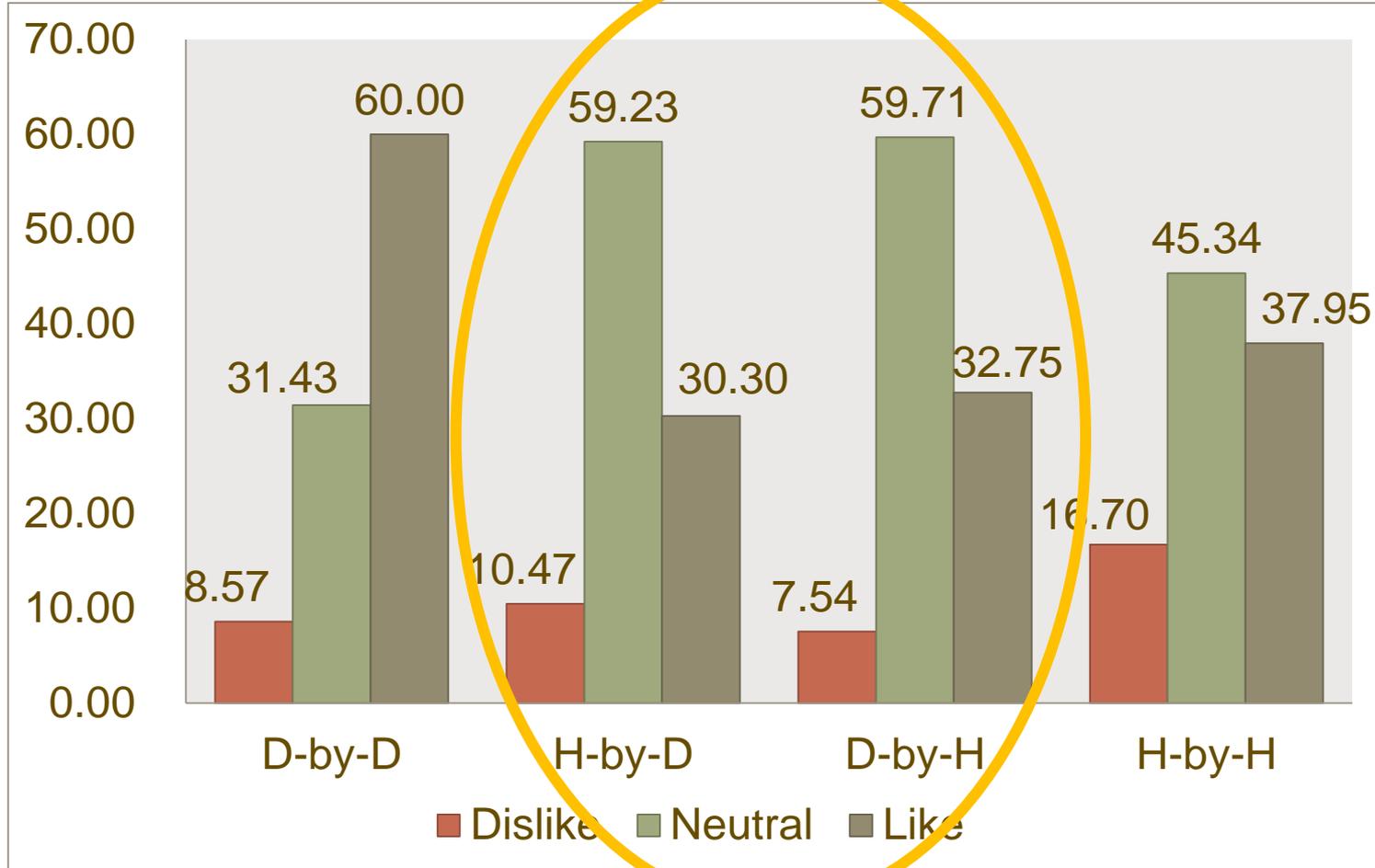
Figure : Percentages of Counts of Peer Ratings in the "Play" Condition

Q1: Are the ratings positive?
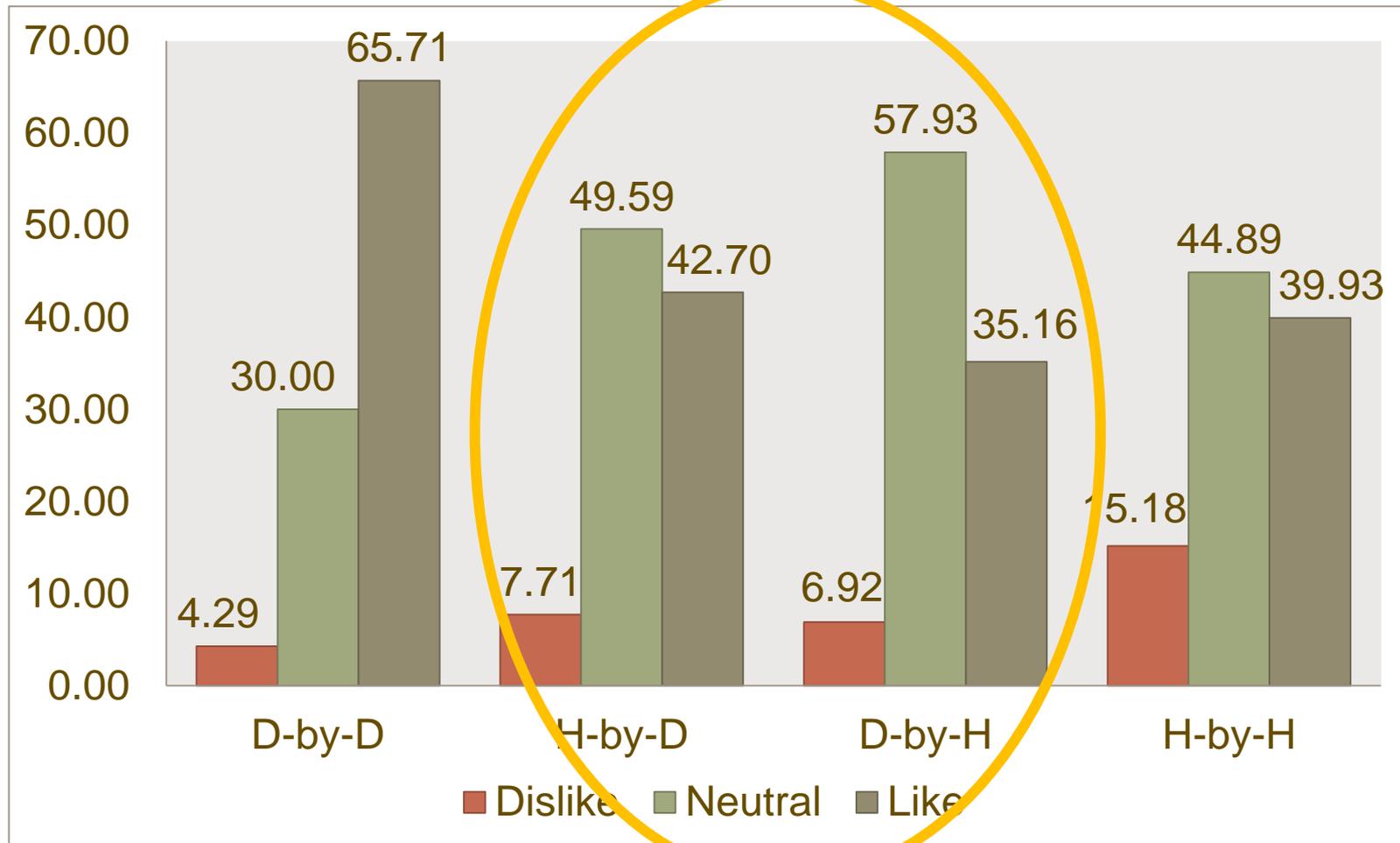
Figure : Percentages of Counts of Peer Ratings in the "Study" Condition

Q2: Any difference between DHH and hearing students?

DHH Students (N=16)			Hearing Students (N=65)			df	t
Types	Mean	SD	Types	Mean	SD	**df**	**t**
H-rate-D	4.531	0.708	H-rate-H	4.459	0.599	64	-0.999
D-by-H	4.517	0.480	H-by-H	4.458	0.489	79	0.434

**. _P < 0.001_
*. _P < 0.01_

➢ Hearing students did not give preferential judgments to either their DHH or hearing peers in the SLCO setting

Q2: Any difference between DHH and hearing students?

DHH Students (N=16)			Hearing Students (N=65)				
Types	Mean	SD	Types	Mean	SD	df	t
D-rate-D	5.119	0.537	D-rate-H	4.553	0.330	15	4.037**
D-by-D	5.119	0.633	H-by-D	4.546	0.600	79	3.384**

**. $P< 0.001$
*. $P< 0.01$

➢ DHH students gave significantly higher ratings to their DHH peers. DHH students constitute a minority group in the school community, they tend to identify themselves with each other more readily

Q2: Any difference between DHH and hearing students?

- Higher intragroup rating among the DHH students themselves (i.e., "D-by-D" and "D-rate-D") in both "play" and "study" conditions.

  - ➢ A stronger sense of mutual support :among the DHH students of the program, probably due to the critical mass of DHH students. They tend to identify themselves with each other more readily.

  - ➢ No worry of segregation: DHH students' ratings to hearing peers (~4.5) were comparable to hearing students' ratings to DHH peers (~4.4).

Q3: Any bilateral relationships?

- We examined the positive peer ratings (i.e., a happy face) received and given by the 16 DHH students
- The same sets of students involved for admission to this bilateral social relationship (i.e., A rated B and B rated A).

Results:

- In the "study" condition:
  - all 16 of them had bilateral positive ratings with their peers;
  - 11 with both DHH and hearing;
  - 2 with DHH peers only; and
  - 3 with hearing peers only.

Q3: Any bilateral relationships?

- In the "play" condition:
  - 11 with both DHH and hearing peers;
  - 3 with DHH peers only;
  - 1 with hearing peers only.
  - 1 with no bilateral positive ratings
    - ➢ Ranked third from the top on counts received (i.e., quite popular with both DHH and hearing students) in the "study" condition
    - ➢ 9 students (5 DHH and 4 hearing) did rate her positively in the "play" condition, even though those relationships were not "bilateral" according to our criterion.

Q3: Any bilateral relationships?

- Overall, a great majority of DHH students had established bilateral social relationships with their peers, DHH and/or hearing

- Helping them to avoid a sense of loneliness even though they were studying in a mainstream environment (see Hintermair, 2014).

Q4: Any correlations with SLCO experience?

- No significant correlations were found between years of SLCO experience and the mean total ratings of "D-by-D" in either condition.

- In view of the very positive ratings among themselves, the results may be attributed to the positive relationships already established among DHH students in the program (on average, there were 70% positive ratings, 27% neutral and 5% negative ratings among them)

- The culture of mutual support in education has been ingrained in the context of co-enrolment.

Q4: Any correlations with SLCO experience?

- Pearson correlations showed that there were significant correlation between total "D-by-H" ratings of d/hh students and grades ($r=0.609, p<0.01$).

- One-way ANOVA showed that "SLCO experience" had significant effects on the peer ratings "D-by-H" ($F(2,13)=4.049, p=0.043$).

- Bonferroni post-hoc tests indicated that there were significant differences only between Primary 4 and Primary 6 ($p=0.045$).

➢ To conclude, DHH students with longer duration of the SLCO experiences demonstrated a higher degree of social acceptance by their hearing peers.

Q5: Any other factors affecting peer ratings?

- With reference to Schroedel and Schiff (1972), social acceptance, as reflected by peer ratings may be associated with:
  - attitudes of DHH students toward their own deafness, and
  - attitudes toward DHH students by hearing students.

- Two attitudinal scales were used:
  - Attitudes Toward Deafness Scale (ATDS)
  - Better attitudes toward own deafness will associate with higher peer ratings given to /received from hearing students ??
  - Hearing Peers' Attitudes Toward DHH Students Scale (HPATDS)
  - Better attitudes towards DHH students associate with higher peer ratings given to / received from DHH students ??

ATDS

- The DHH students took the ATDS (Cronbach's Alpha = 0.934), which was a 24-item measure adapted from Yiu's (1999, 2005) Hearing Attitudes Scale, originally developed for measuring attitudes of DHH adolescents in Hong Kong.

- It is a 5-point Likert scale, implying that the higher the mean scores, the more positive the attitudes are.

- Correlational analysis were conducted with peer ratings.

Sample Items of ATDS:

- Acceptance of Deaf Identity:
  - * When people ask me if I have hearing loss, I don't want to answer them.

- Reactions to Worries and Frustrations
  - Although I have hearing loss, I still get good exam grades.

- Optimism re Coping
  - Although I have hearing loss, I can still have a lot of friends.

- Readiness for Social Contact:
  - * I avoid mixing with others because of my hearing loss.

ATDS

- Overall, the deaf students held quite high positive attitudes toward their deafness (ATDS overall mean = 4.2 out of 5).

- It thus seems that the DHH students in the co-enrollment classes had quite positive and optimistic attitudes toward their hearing loss.

Peer ratings with ATDS

	Ratings of Study + Play (N=16)			
	D-rate-H	D-rate-D	D-by-H	D-by-D
Total ATDS	-0.051	0.499*	0.608**	0.358

**. Correlation is significant at the 0.01 level (1-tailed).

*. Correlation is significant at the 0.05 level (1-tailed).

Correlation analyses showed that the overall ATDS mean positively correlated with "D-rate-D" and "D-by-H" only.

The more positive attitude the DHH students had toward their own deafness, the higher they rated the other DHH students and, at the same time, the more positive ratings they received from their hearing peers.

HPATDS

- HPATDS (28 items, Cronbach's Alpha = 0.948) was adapted from Lee (2002), measuring The hearing students' attitudes toward their DHH.

- It is a 5-point Likert scale, implying that the higher the mean scores, the more positive the attitudes are.

- Correlational analysis were conducted with peer ratings.

Sample Items of HPATDS:

- Positive Actions :
  - If someone laughs at d/hh classmates, I will stand by them.
- Negative Reactions and Perception:
  - *I will not do homework with d/hh classmates.
- Positive Perception
  - I think d/hh classmates are easy to get along with.
- Tolerance to Communication Difficulties:
  - *I think my d/hh classmates do not speak clearly.

HPATDS

- Overall, the HPATDS scores mean of all 289 hearing students was 3.8 out of 5.

- The hearing students had quite positive perceptions of their DHH peers and were ready to render positive actions, care, and support, but for them to understand and accept the communication difficulties facing DHH peers took time.

HPATDS and SLCO Experience

- Does a relationship exist between the hearing students' attitudes toward their DHH peers and the duration of SLCO experiences?

- To check the interactions between SLCO experience and hearing students' attitudes toward their DHH peers. The students were grouped into: i) ALL SLCO (44 hearing students); ii) Some SLCO (30 students) and iii) No SLCO (215 students, mainly from non-SLCO classes)

- Analysis using ANOVA showing that SLCO Experience were found to have significant effects on Hearing Peers' Attitudes toward DHH Students ($F_{(2, 286)}=12.465$, $p<0.001$**)

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HPATDS and SLCO Experience

SLCO Exp	# of students	All SLCO	Some SLCO	No SLCO
All SLCO	44	--	1.000	0.000**
Some SLCO	30	1.000	--	0.001**
No SLCO	215	0.000**	0.001**	--

**. P< 0.001

Post-hoc tests showing that there are significant differences between:
- ALL SLCO and No SLCO; and
- Some SLCO and No SLCO

The impact of SLCO experiences was clear on cultivating a positive culture toward deafness and DHH students.

Peer Ratings with HPATDS

	Ratings of Study + Play (N=65)			
	H-rate-H	H-rate-D	H-by-H	H-by-D
Total HPATDS	-0.086	0.171	0.129	0.292*

**. Correlation is significant at the 0.01 level (1-tailed).
*. Correlation is significant at the 0.05 level (1-tailed).

A significantly positive correlation between the overall HPAS mean with the hearing students' peer rating category "H-by-D" only.

The more positive the hearing students' attitudes toward the DHH students were, the more positively the DHH students rated them.

How SLCO support social acceptance?

- Sign Bilingualism – Having Deaf and hearing teachers co-teach in both signed and spoken language in the classroom
  - Two languages to help building social relationships
  - Deaf teacher as good social model
  - Presence of Deaf teacher helps develop positive attitudes toward signed language
  - Co-teaching – demonstrates how Deaf person is relating to a hearing person

How SLCO support social acceptance?

- Co-enrollment – Having a critical mass of DHH students
  - DHH students got mutual support from their DHH peers – they are not isolates
  - They are also provides opportunity and environment that can build relationships with hearing peers

Conclusion

- There have been few studies that attempt to associate peer ratings, which we assume to reflect social acceptance, with attitudes of DHH students toward their own deafness and attitudes toward DHH students by hearing students.

- In this study, we have at least shown that relationships existed between the peer ratings and attitudes of DHH toward their deafness as well as hearing students toward deafness or deaf persons.

Conclusion

- The creation of a sign bilingual and co-enrollment environment, originally set out to accommodate the pedagogical needs of DHH students in their education, turned out to support the DHH and hearing students' positive development of social acceptance toward each other.

- Being able to access languages bimodally and to be centrally involved in classroom/school activities that require constant interactions and negotiation via two languages

- And that creates opportunities for learning and appreciating each other's group characteristics.

Conclusion

- Therefore, co-enrollment is a form of education that builds on children's existing linguistic and provides an educational environment that continues to provide enrichment in their bilingual development.

- The SLCO setting has the advantages of preserving the development of signed languages while at the same time supporting the expansion of the population of bilinguals.

- As Baker (2011, p. 2) noted there are approximately two-thirds of the world is bilingual, "while deaf people may consider themselves a language minority, as bilinguals they are in the majority of the world."

Radio Television Hong Kong
TV Programme: Walless World IV
The Bridge

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謝謝！