



Optimizing Conceptual Understanding and Literacy Development: The Role of Sign Language

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Public Talk

**Centre for Sign Linguistics and Deaf
Studies**

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MDS Preschool: Volcano



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How should deaf children learn language?

Should deaf children learn sign language?

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Language

- The language gap between hearing and deaf children is world-wide.
- The gap grows as people are poorer, and with deaf children who have multiple disabilities.

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Language

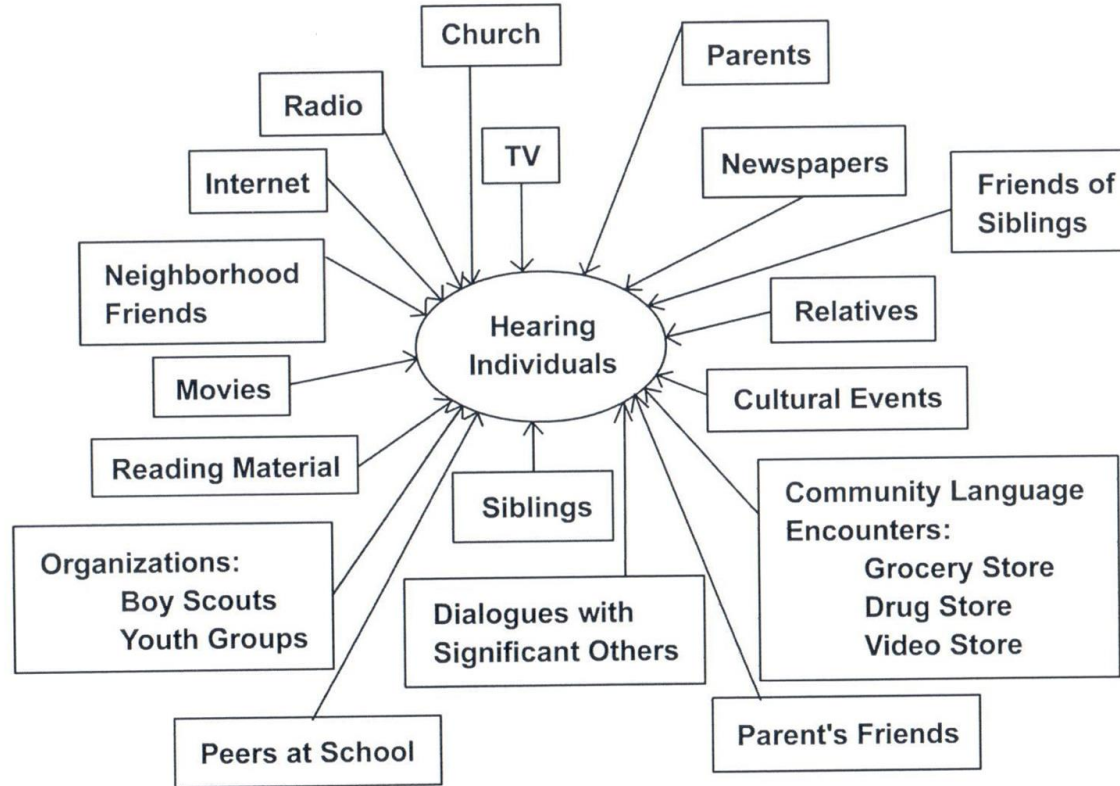
- 5 year-old hearing children
 - speak about 1500-2000 words
 - understand 2500-3000 words
 - speak in sentences of 5-8 words
- 5 year-old deaf children
 - have a vocabulary as limited as a few words
 - may not use complete sentences

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Exposure to Language: Hearing Children



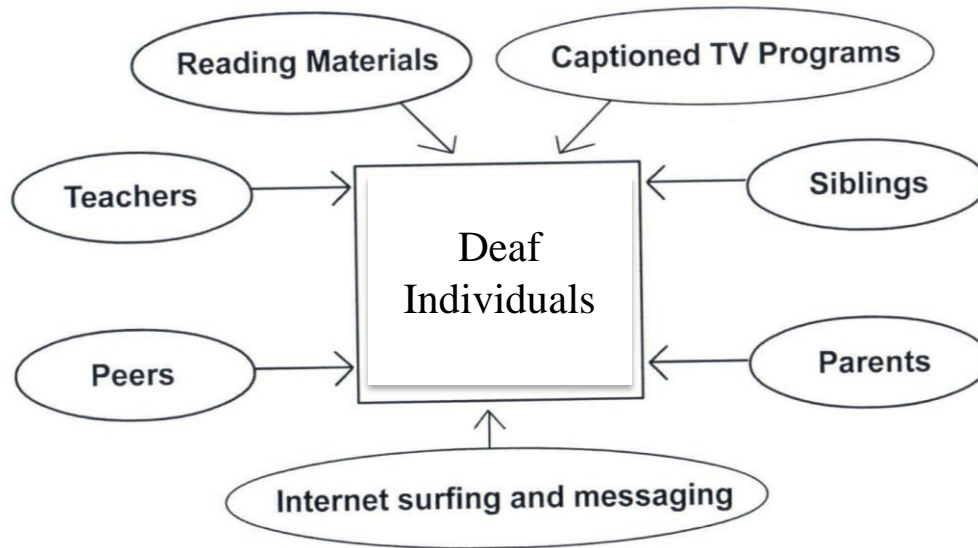
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Exposure to Language: Deaf Children



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Deafness is not the reason for “delays” in academics performance.

Deaf children do not get enough incidental learning to daily life.

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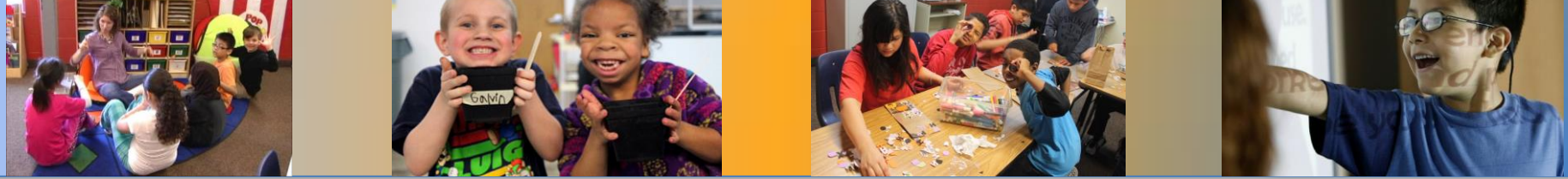
Literature on Language

- Experts agree that a child need to be exposed to an accessible language on a regular and frequent basis before 5 years of age to develop full language competence.
- They must learn it from parents, teachers, peers, and their community.

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Deaf Child Dilemma

- Some experts suggest that all deaf children, with or without a cochlear implant/brain stem implant, should be taught a sign language.
- Others worry that learning a sign language will interfere with the rehabilitation that is necessary to maximize the benefit from a CI or that asking parents to learn a new language to communicate with their child is too onerous.

Mellon, et al. 2015

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More than 95% of deaf children are born to hearing parents.

Hearing parents desire to share their own language and culture with their child.

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The Deaf Child and the Family

Effective early parent-child communication is the single best predictor of success in all areas of development.

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Language Orientation

PROBLEM

Language as a:

RIGHT

RESOURCE

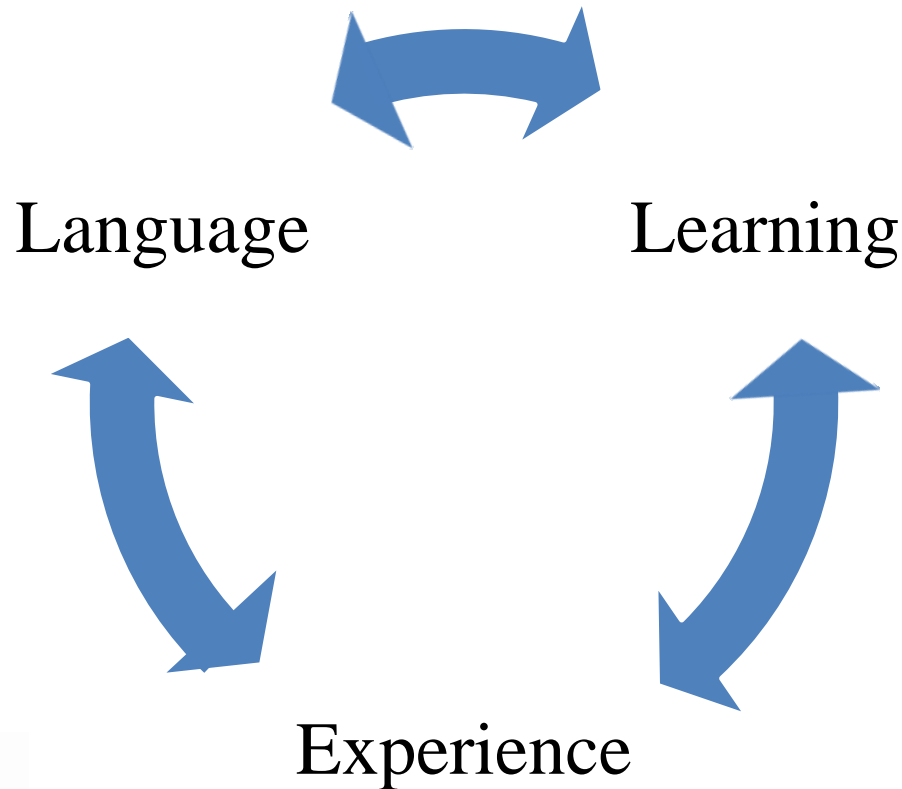
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Learning, Language, and Experience



Language, learning, and experience influence and build on each other.

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SIGN LANGUAGE AND THE DEAF CHILD

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Parent-Child Relationship – Sign Language

Early experience with sign language may support a child's participation in the kind of bidirectional parent-child interactions that form the foundation of language learning:

- Joint attention; eye gaze; proximity

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Sign Language Development

- Research has shown that sign language development correlates positively with written and spoken language development.
- Evidence has been found that the use of a visual language positively affects the outcome of cochlear implantation.
- Early and continued exposure to sign language may provide a framework for early spoken development in deaf children.

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Early Exposure to Visual Language

- Brings advantages in literacy skills, reading comprehension, and academic outcomes
- Increases vocabulary knowledge and reading comprehension
- Supports cognitive benefits

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Preparation for School

- From birth to 3 years of age: a child needs to be part of a language and cognitive ecosystem in which linguistic input and rich interaction with print prepare for interpersonal communication skills and for academic language development.

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Sign Language and Cognition

- Sign language increases language learning
- Sign language increases memory for visual spatial information
- Signers show improvement in visual motor coordination and speed

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Through Your Child's Eyes: Sign Language



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LANGUAGE(S) AT SCHOOL: ACADEMIC LANGUAGE(S)

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Academic language is the set of words, grammar, and organizational strategies used to describe complex ideas, higher order thinking processes, and abstract concepts.

J. Zwiers, Building Academic Language

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- Academic Language: Oral, *signed* and written language used for academic purposes
- Academic language is the means by which students develop and express content understandings

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Complexity of Language Changes with Age

Think about what you read in kindergarten compared to what you read now. How has the language changed?

Grade to grade/year to year

Academic language for the early grades becomes everyday language in later grades

Textbooks

In any content area language proficiency increases

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To Describe Complexity

Academic Language enables us to describe complex concepts in clear and concise ways (e.g. explaining a concept of a black hole, the causes of the French Revolution, or the Fibonacci sequence).

To Describe Higher Order Thinking

Academic Language enables us to describe complex thinking processes that are used to comprehend, solve problems, and express ideas (e.g. application and problem solving in math, analyzing data in science, constructing an argument in ELA).

To Describe Abstraction

Academic Language Enables us to describe ideas or relationships that cannot be easily acted out, pointed to, or illustrated with images (e.g. democracy, altruism, adaptation).



Sign Languages as a Vehicle for Promoting Academic Language Development

How sign language in the classroom is beneficial:

Language and Literacy Development

Conversation:
Builds academic language, literacy skills and communication skills

Enhances Cognitive Engagement

Conversation:
Builds critical thinking skills

Promotes different perspectives and empathy

Fosters creativity

Fosters skills for negotiating meaning and focusing on a topic

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Promotes Content Learning

Conversation: Builds content understanding

Cultivates connections

Helps students co-construct understandings

Helps teachers and students assess learning

Social and Cultural Benefits

Conversation: Builds relationships

Builds academic ambience

Makes lessons more culturally relevant

Fosters equity

Taps Psychological Needs

Conversation: Develops inner dialog and self-talk

Fosters engagement and motivation

Builds confidence

Fosters choice, ownership, and control over thinking

Fosters self-discovery

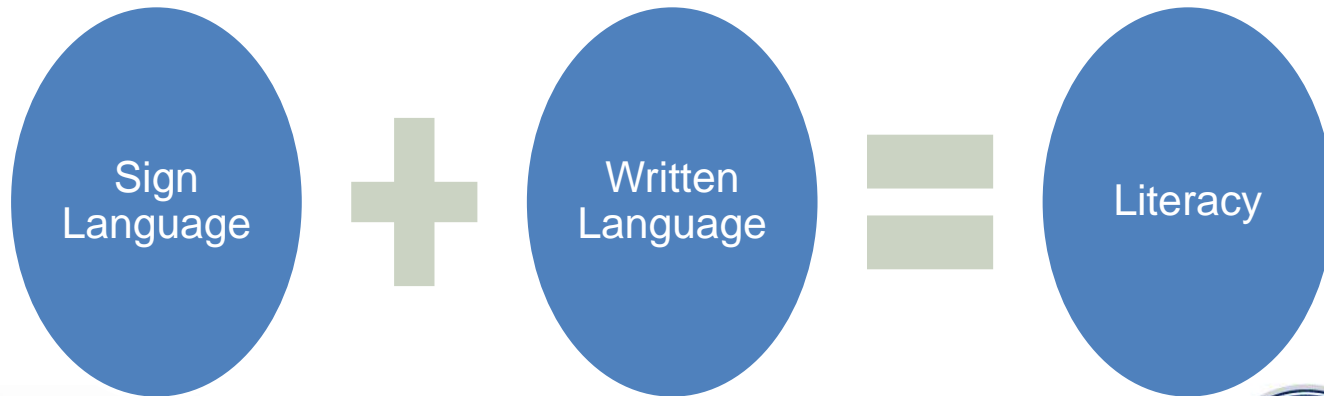
Builds student voice and empowerment



Sign language as a Bridge to Literacy

Using sign language in the classroom strengthens the students ability to write appropriately using academic language

Academic conversations build vocabulary, academic language, and literacy.



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Longitudinal Study: English Literacy and Math

- Seven years – tracked student progresses in literacy and mathematics
- Showed lags for the first few years
- Eventually picked up the rate of learning to catch up with hearing individuals

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What literacy needs to be acquired at school?

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Multiliteracies and Multimodalities

Text is **not** the only source of academic language

Nor is it the only way to instruct students and to make them literate, there's also:

Oral/Signed literacy

Mathematical literacy

Digital literacy

Visual literacy

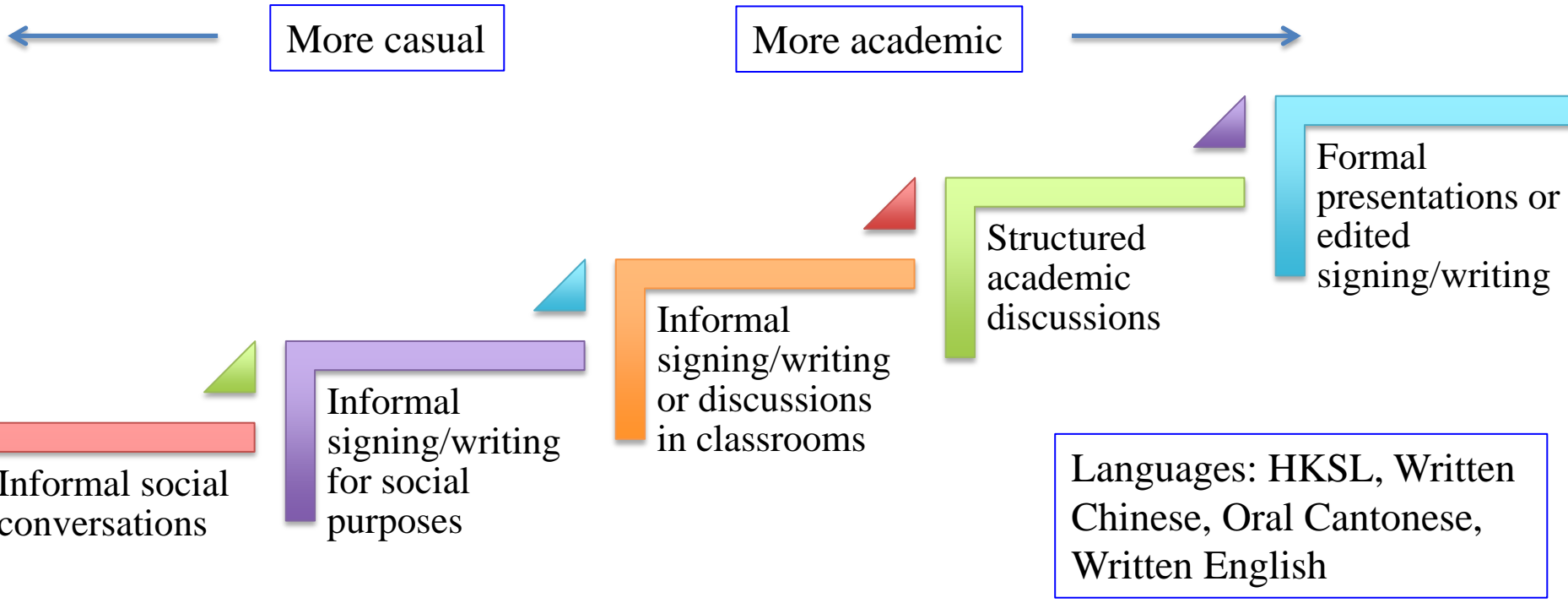
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Social Language – Academic Language



Academic/Social language should be seen as a continuum rather than a dichotomy.



Social Language – Academic Language

Language:

HKSL

Written Chinese

Oral Cantonese

Written English



Linguistics and
Organizational
Density &
Complexity



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Academic/Social language
should be seen as a
continuum rather than a
dichotomy.





Implications of Piaget

- The principle of education in schools should be creating men and women who are capable of doing new things, not simply repeating what others have done
- A focus on the process of children's thinking, not just its products.
- Recognition of the crucial role of children's self-initiated, active involvement in learning activities
- Acceptance of individual differences in developmental progress

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口	一	三	丨	丨	厶	匚	匚	冂	口
人	早	剪	明	柳	這	廢	區	問	回
一	要	藝	時	灘	廷	屋	叵	間	國
民	皇	幫	都	撤	造	病	匱	聞	圓



What is each language good for?

English

CANTONESE

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Opportunities to See

- ❖ Leveraging the potential of HKSL and HKSL texts takes conscious application.
- ❖ Literacy and literate behaviors are best understood in terms of their function.
- ❖ It's what we “DO” with KHSL and with our students that will matter...

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It's there...but it takes our understanding in order to reveal itself.



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It's there...but it takes work to find it.



We need to design opportunities to practice the “mind work” that let’s us see what we need to see.

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Language Scientists



Hypothesis forming, evidence gathering, and hypothesis testing

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Sign Language Songs



ASL Songs by RMDS Preschoolers Kindergartners

Up next

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Fraction change to
Decimal

Ex: $\frac{1}{8}$

$$\begin{array}{r} 125 \\ 8 \overline{) 125.000} \\ \underline{8} \\ 20 \\ \underline{16} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

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Strategic Use of Languages

The goal is to use a structured plan of how to use both HKSL and Cantonese in the classroom to develop the twelve language abilities of deaf bilinguals, across all the content areas.

Language	HKSL		Cantonese	Cantonese
Mode	Signacy	Additional Abilities	Literacy	Oracy
Receptive Skills	<ul style="list-style-type: none"> ▪ Watching (ephemeral) ▪ Viewing (durable) 	<ul style="list-style-type: none"> ▪ Fingerreading ▪ Lipreading 	<ul style="list-style-type: none"> ▪ Reading (durable) 	<ul style="list-style-type: none"> ▪ Listening (when appropriate) (ephemeral)
Expressive Skills	<ul style="list-style-type: none"> ▪ Signing (ephemeral or durable) 	<ul style="list-style-type: none"> ▪ Fingerspelling ▪ Mouthing English ▪ Typing 	<ul style="list-style-type: none"> ▪ Writing (durable) 	<ul style="list-style-type: none"> ▪ Speaking (when appropriate) (ephemeral)

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Issues in Multilingual Education

- Language Accessibility
 - Language Acquisition Monitoring
 - Time Allocation for Each Language
 - Space for Each Language
 - Student Product
 - Assessment Language

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In Sum,

- There are no risks to learning sign language along with spoken language, but there are well-defined benefits.
- Sign Bilingual Programming in Hong Kong (Gladys, Scholastica, & Kun-man, 2014)
 - No adverse effect of HKSL acquisition on the development of oral Cantonese and written Chinese

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Deaf Children are NOT hearing children who cannot hear.

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Sign Language Accessibility

Deaf children should be given access to both oral/aural and signed language to enable them to make their own choice when old enough to do so.

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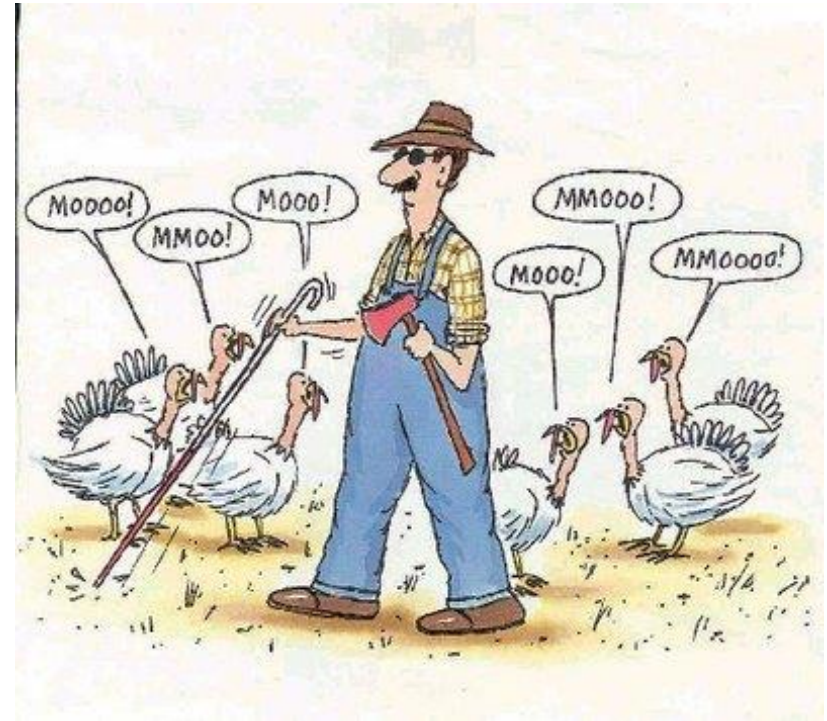
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**SIGN LANGUAGE IS
NOT A HANDICAP.**

**THERE IS NO RISK
IN LEARNING SIGN
LANGUAGE.**



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THANK YOU!

QUESTIONS

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Resources

- <http://wally.rit.edu/depts/ref/research/deaf/bibid.html>
 - RIT Library – Bilingual Education for Deaf Children Resources
- http://www.gallaudet.edu/clerc_center/information_and_resources/info_to_go/language_and_literacy/bilingual_education.html
 - Gallaudet U. – Bilingual Education for Deaf Children Resources
- <http://vl2.gallaudet.edu/>
 - Visual Language and Visual Learning

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