



How Visual Language and Visual Learning Support Early Language and Cognitive Development

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Public Talk

Centre for Sign Linguistics and Deaf Studies

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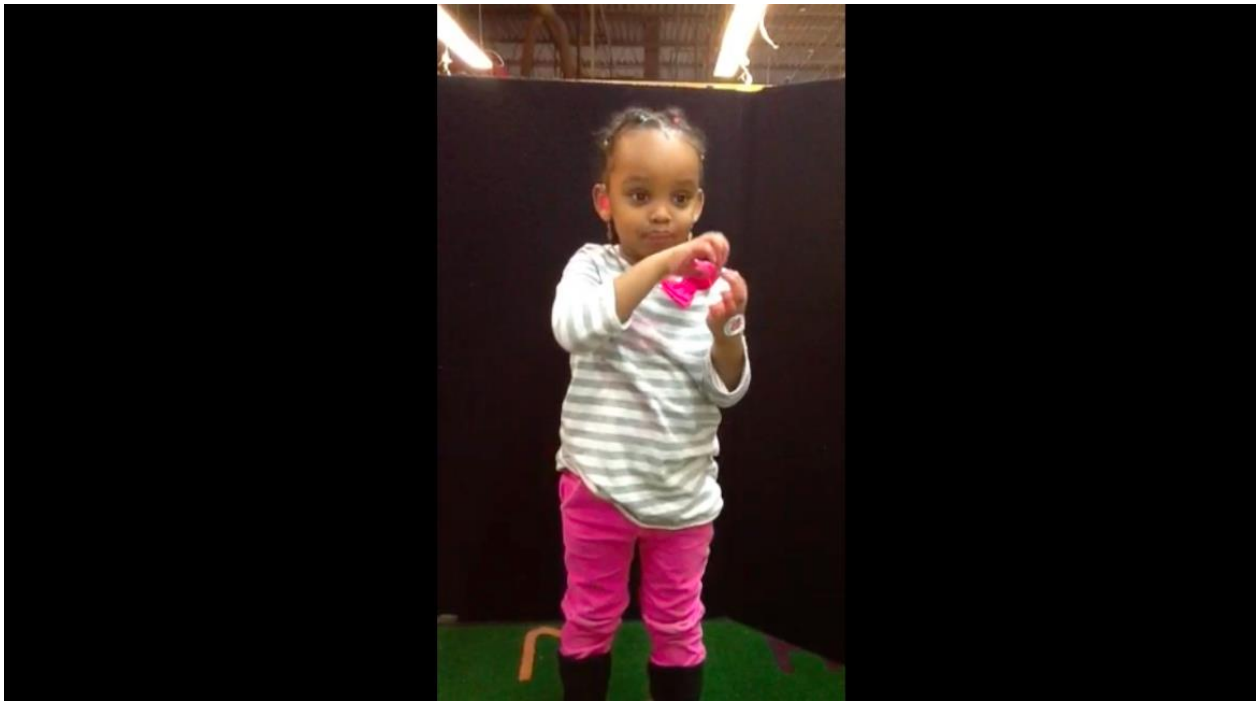
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Preschool Volcano



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Who are born visual learners?

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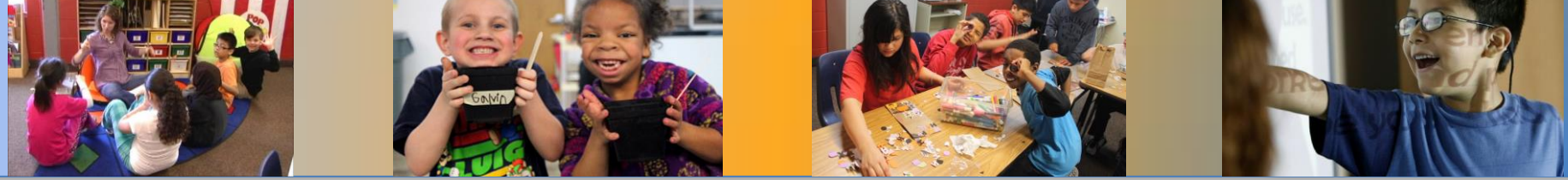
Visual Learners

- Rely on visual input through the eye
- Get more information from visual input (images, printed material, physical action)
- Associate with other input and tag for retrieval
- Visualize their thinking

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Visual Language

- A system of communication using visual elements
- We use it at all times.



- Increased emphasis in education

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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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Creativity

Empathy towards others

Fluency in Visual Language

Critical thinking

Ability to decipher technology

Academic achievement

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Should Deaf Children With Hearing
Parents Learn Sign Language?

Should Hearing Children With Hearing
Parents Learn Sign Language?

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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

- 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 without early language access
 - have a vocabulary as limited as a few words
 - may not use complete sentences.

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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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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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Language Orientation

PROBLEM

Language as a:

RIGHT

RESOURCE

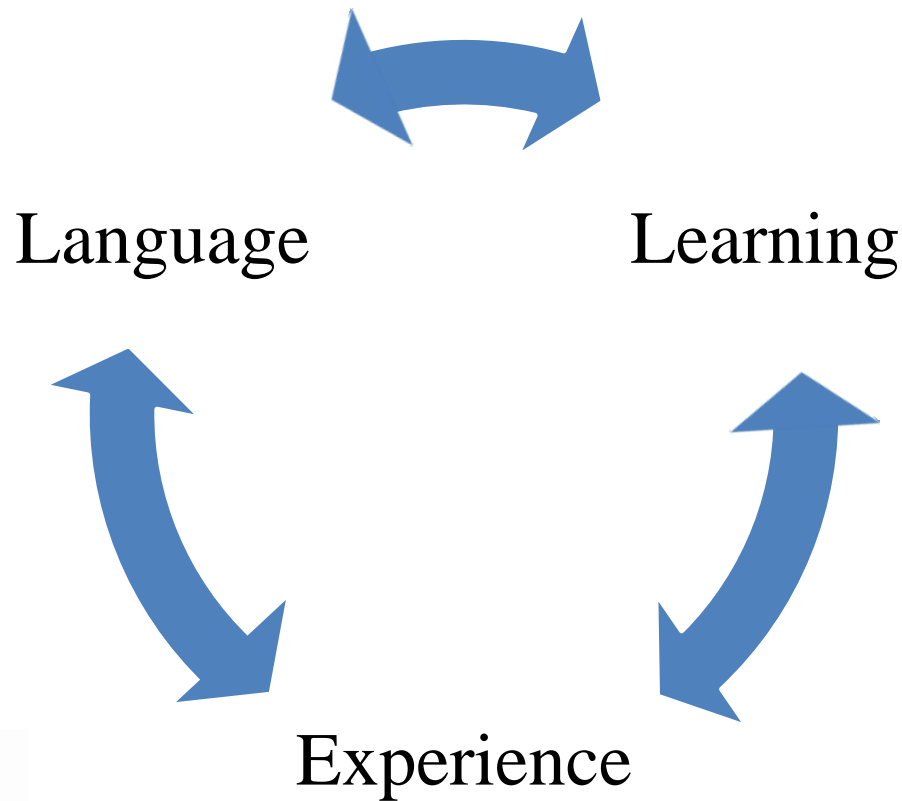
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Learning, Language, and Experience



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

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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 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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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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Through Your Child's Eyes: Sign Language



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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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Learning several languages is more beneficial than learning just one.

Hong Kong Sign Language
Cantonese Language
Written Chinese
English

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Bilingual Children (Rathmann & Mathur, 2015)

- Display better mental flexibility and cognitive control
- Display more creative thinking, especially in problem solving
- These benefits extend to social and academic settings.

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Sign Language and Cognition

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

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Hearing Babies and the Sign Language

- Those who acquire a signed and a spoken language simultaneously achieve every language milestone equally and on the same timetable as monolinguals.
- Pair motor movements (hands, arms, head) – learn associations - with meaningful word in the environments



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Second Language Learners

- Motivation and Vision
- Evidence show the relationship between imagination, ideal language selves and motivated behavior among language learners if visual learning is promoted.

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Hearing Babies/Children – Benefits of Signing



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Hearing Babies/Children – Benefits of Signing



- Provides the ability to communicate earlier than speech
- Helps reduce communication frustrations
- May increase vocabulary and language skills

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Hearing Babies/Children – Benefits of Signing

- Increase visual attention skills and joint attention skills
- May increase reading skills
- Help promote fine motor skills



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Hearing Babies/Children – Benefits of Signing

- Provide the opportunity to communicate with those who are deaf and those who use other languages



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Hearing Parents and Hearing Children

Research studies have found parents who sign with their infants and toddlers reported:

- Fewer tantrums
- Better social skills
- Less frustration (from both children and parents)
- Less parenting-related stress
- More affectionate interactions
- Easier time responding to upset children



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Sign Language at School

- Is not a broken language
- Composed of rich linguistic features
- Increased complexity in higher grades
- Provides an alternative way to learning academic contents

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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

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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

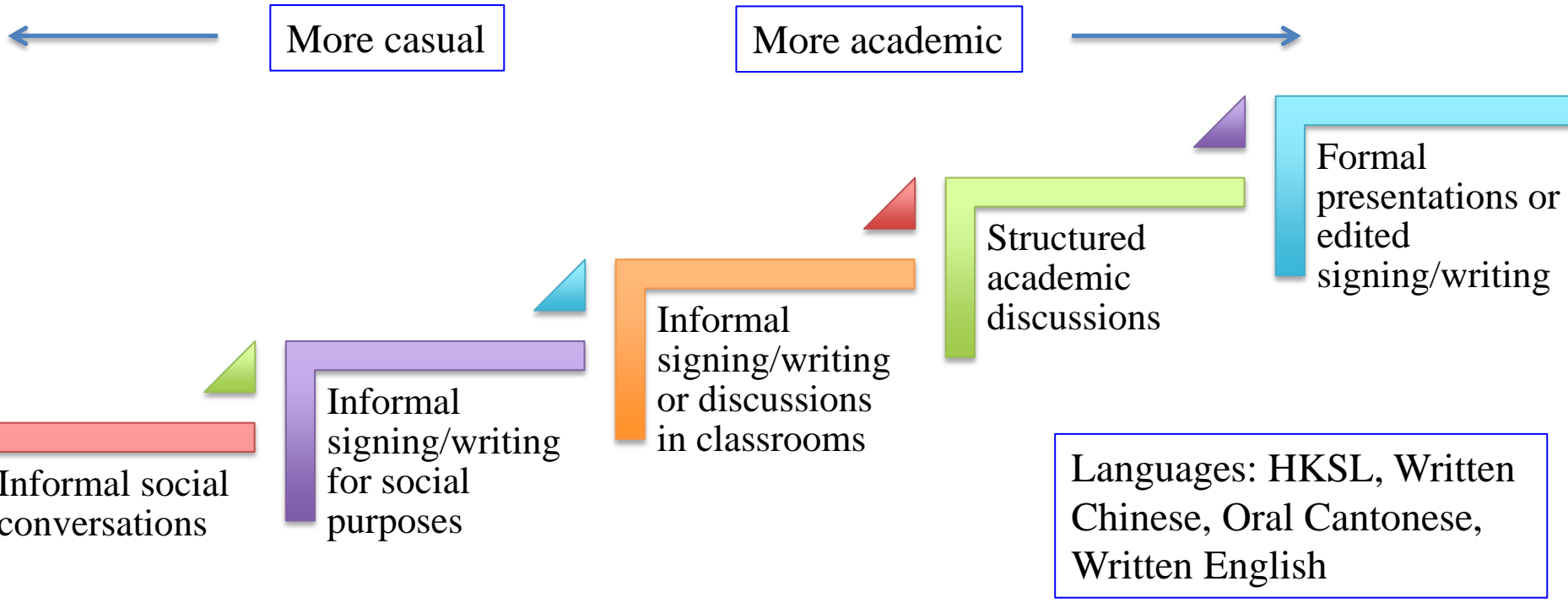
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Social Language – Academic Language



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



Pumpkin Life Cycle



Sprout

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Social Language – Academic Language

Language:

HKSL

Written Chinese

Oral Cantonese

Written English



Linguistics and
Organizational
Density &
Complexity

Informal and casual conversations

Between transitions

Academic
conversations/presentations

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





Language Scientists



Hypothesis forming, evidence gathering, and hypothesis testing

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Sign Language Songs



ASL Songs by RMDS Preschoolers Kindergartners

Up next

Auto

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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 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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HKSL in the Classroom

- Time allocation for signing
- Space for recording and viewing
- HKSL Language planning for hearing and deaf students



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Parents and Teacher: No Risks!

- There are no risks to learning a sign language.
- It comes with well-defined benefits.

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Home – Signing Play with Your Child

- Play Game: - *I spy a red triangle.*
- Counting and Measurement around the House
- Describe objects – *Shape, Size, Texture, Line*
- Games – *Number Sense and Operations*
- Read books together

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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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By providing tools and allowing them to take risks, our children can overcome any obstacle to succeed in life.

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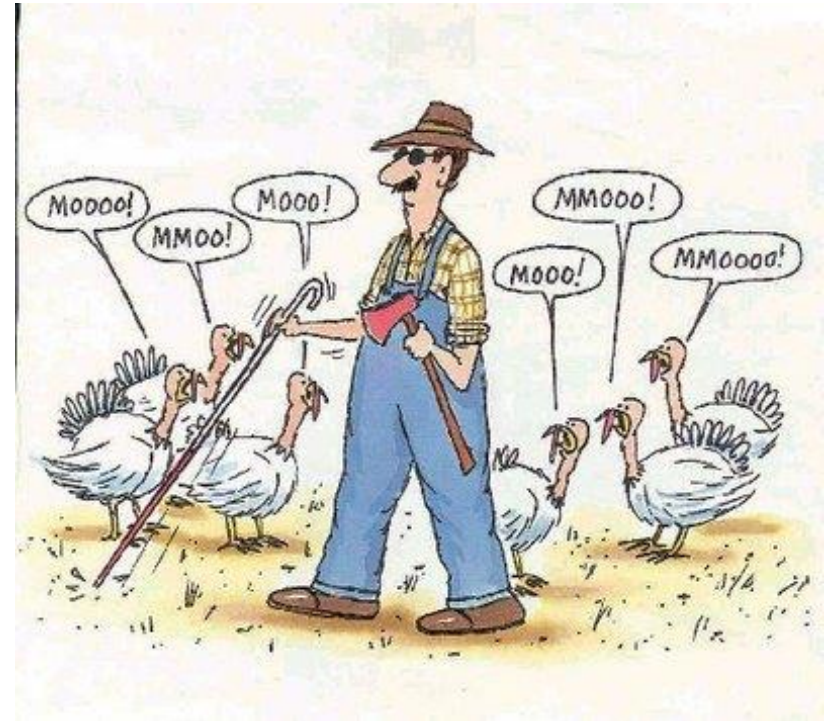
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**SIGN (VISUAL)
LANGUAGE IS NOT A
HANDICAP.**

**THERE IS NO RISK IN
LEARNING SIGN
(VISUAL) LANGUAGE
FOR TEACHERS,
PARENTS AND
CHILDREN.**



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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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