

Visual languages: A crucial part of early language acquisition for DHH children

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Visual Language Is	Visual Language Is Not
Communication of signs	Manual communication system
Spontaneously developed <ul style="list-style-type: none"> ● Accessible, ● Natural, ● Uninhibited 	Artificial
Ex. ASL, Manual babbling in Deaf and hearing babies (Gesture)	Ex. MCE, SEE, SimComm

What they say/Common Fears/Myths	What we know
A child will be confused when exposed to two languages concurrently (Shydlo, 2017; Simms et al., 2017)	A child has the capacity to develop two languages concurrently (Petitto, 2009)
Visual Takeover Hypothesis (Tremblay et al., 2010; Champoux et al., 2009)	The brain has the capacity to process both languages concurrently (Petitto, 2009)
Auditory Scaffolding Hypothesis (Conway et al., 2009)	Multiple sensory approaches do not hinder one another (Larson 1971)
Emphasize spoken language instead of language (Hall et al., 2019; NAD, 2015)	Full and complete language should be goal, not just spoken language (Hall et al., 2019)

Shortfalls of speech-only approach

Biological neural capacities throughout infancy and early childhood

- Speech-only intervention is associated with initial language delays because Deaf babies are born without prenatal language exposure opportunity
- Early strong neurological pathways formed in the brain, later pruned for fewer stronger pathways leading to language and cognitive development
- The infant brain is wired to recognize visual input earlier than auditory input

Shortfalls of speech-only approach

Spoken language intervention outcomes vary.

- using CI, hearing aids, speech training vary more greatly than
- Only 2 out of 5 children fit with listening technologies achieve expressive speech ability.
- Limited and varied spoken language intervention outcome.

Bouchard et al., 2009; Peterson, Pisoni, & Miyamoto, 2010; Tamati, Pisoni, & Moberly, 2022; Davidson et al., 2015.

Shortfalls of speech-only approach

It is not spontaneous for a DHH child.

It is not

- accessible,
- readily available,
- smooth and swift to assimilate.

Benefits of inclusion of visual languages

The use of early ASL promotes what we know about biological, neural capacities and the development of language and cognition

- Use of visual language is a protective factor for future linguistic and cognitive development
- Oral languages are not necessary for whole-child development of DHH children.
- Children in a total communication program with CIs showed greater rate of growth in expressive vocabulary than those in the oral communication education group.
- Use of sign language in early education for deaf children with CIs has a positive impact on the development of expressive and receptive vocabulary. Usage of early baby signs precedes the ability for verbalization.
- Children with large ASL vocabularies are more likely to have spoken English vocabularies in the average range based on norms for hearing monolingual children.
- Early baby signs / gestures support spoken language development in typical hearing children.
- Visual language as scaffold to spoken language

Benefits of inclusion of visual languages

Visual language learning is spontaneous for DHH children.

- All deaf children, regardless of hearing level or technological input, are primarily visual processors of information.
- Visual languages, such as ASL, are fully accessible to Deaf children.

Erting, 2003; Lieberman et al., 2022.

Benefits of inclusion of visual languages

Consistent intervention outcomes:

- Native signing deaf children (Deaf children of Deaf Adults)
- Native signing hearing children (Hearing Children of Deaf Adults)
- Non-signing hearing children

Davidson et al, 2014

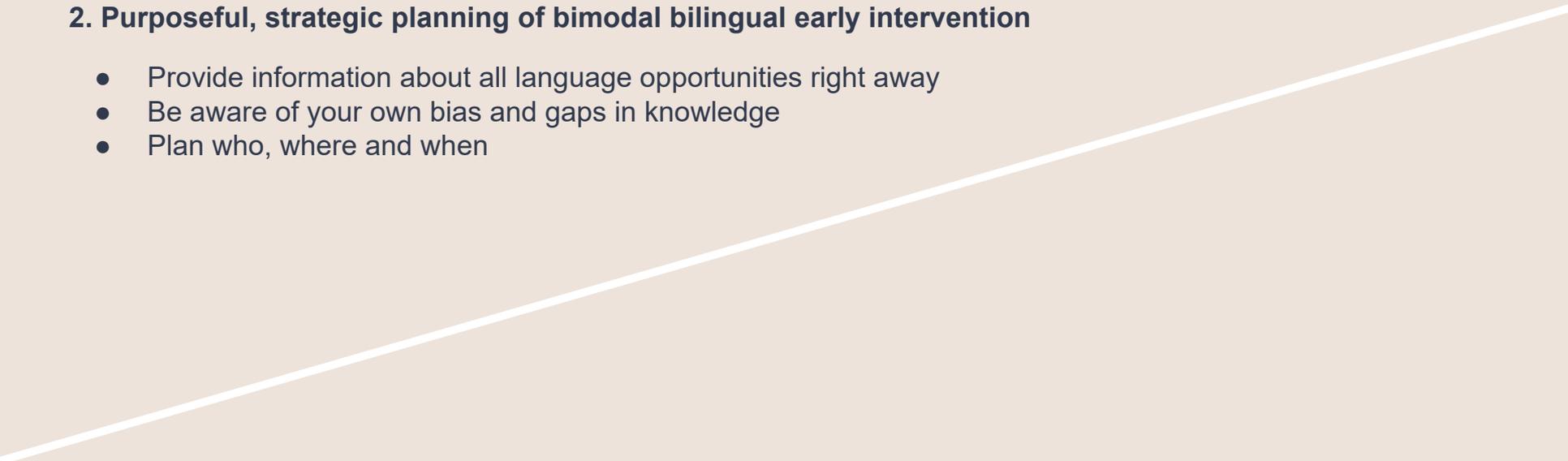
Key design elements:

1. Multidisciplinary approach: Legal, medical, education, technology

- Provide information about all languages at diagnosis
- Revisit language opportunities and policies regularly
- Identify the strengths of your program—what are the skills within your agency?
- Discuss and review language outcomes and milestones at periodic and annual reviews
- Seek out additional training opportunities in the areas that may need additional support
- Consider technology available (apps; classes; telepractice, etc.)
- Professional collaboration

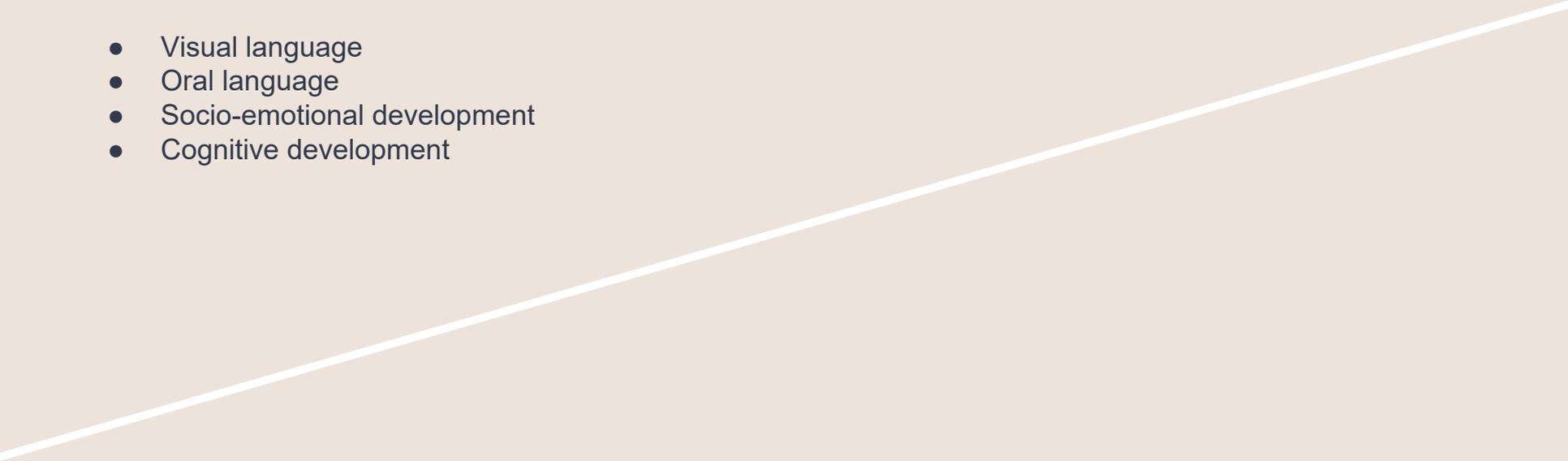
Key design elements, part 2:

2. Purposeful, strategic planning of bimodal bilingual early intervention

- Provide information about all language opportunities right away
 - Be aware of your own bias and gaps in knowledge
 - Plan who, where and when
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Key design elements, part 3:

3. Whole child assessment

- Visual language
 - Oral language
 - Socio-emotional development
 - Cognitive development
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Thank you!

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