



Questions in Using LENA with Vietnamese and Canadian Children with Hearing Loss

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Rationale

Children who are exposed to more adult words in the first few years of life produce more language as they get older (Hart & Risley, 1995). Speaking directly to a young child is not only seen as appropriate behavior in western cultures, it is frequently encouraged. This has long been held as a tenet for teaching children with hearing loss to learn to listen and talk. Therapists working with families who have chosen a listening and spoken language approach instruct parents to constantly stimulate their child's auditory and linguistic neural pathways by engaging them in vocal turns from a very young age.

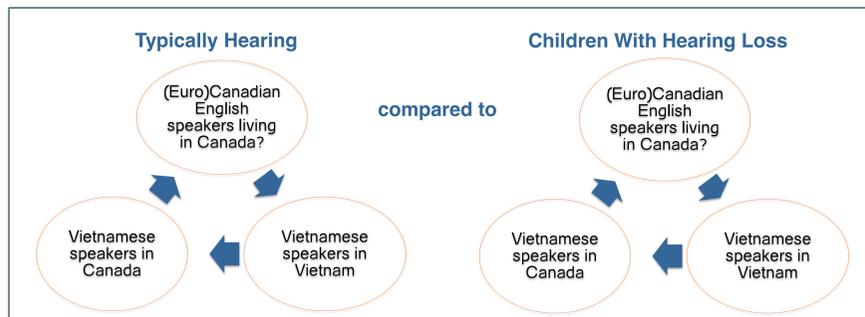
However, in many non-western cultures it is considered inappropriate for adults to engage in such social interactions with children (Ochs & Schieffelin, 1984). Continued immigration to North America means western therapists are more and more frequently coming to serve families for whom parent-child interactions may vary significantly from those practiced in western cultures. Additionally, western speech and language intervention strategies are spreading to countries with widely differing communication norms. Western communication and intervention styles may be inappropriate for these families.

The prevalence of hearing loss in children in the Asian-Pacific region is 1.8% which is more than four times that found in Canada (Stevens et al., 2011; Statistics Canada, 2002). In order to provide these families with culturally appropriate intervention, we must learn more about how Vietnamese speakers interact with their children both in Vietnam and when influenced by western culture in Canada.

Research Questions

Do differences exist in the amount of vocal turns between parent-child dyads in the following groups:

1. (Euro)Canadian English speakers vs. Vietnamese speakers in Canada vs. Vietnamese speakers in Vietnam when the children are typically hearing
2. (Euro)Canadian English speakers vs. Vietnamese speakers in Canada vs. Vietnamese speakers in Vietnam when the children are hearing impaired
3. Children with hearing loss and typically hearing children across cultures (see diagram below)



Vietnamese Language Facts

- There is dialectal variation between north, central, and south Vietnam
- Vietnamese is a tonal language (5 or 6 tones depending on dialect)
- Number of monothongs, diphthongs, and triphongs differ by dialect as do consonants. (Kirby, 2011)

Vietnamese has three types of word structures:

- Single syllables (CVC)
- "Complex" words that combine single syllable words based on semantic relationships
- Reduplicative words that often describe a scene or sound (Nguyen et al., 2006)

Recruitment

Seventeen children will be recruited for each of the following six groups.

(Euro)Canadian English Speakers in Canada	Vietnamese Speakers in Canada	Vietnamese Speakers in Vietnam
1. Typically hearing children will be recruited from community centres	3. Typically hearing children will be recruited from Vietnamese speaking organizations in Canada	5. Typically hearing children will be recruited from Lai Thieu Catholic Preschool in Vietnam
2. Children with hearing loss will be recruited from newborn hearing screening programs	4. Children with hearing loss will be recruited from newborn hearing screening programs	6. Children with hearing loss will be recruited from Thuan An Centre for Disabled Children

All of the children in Vietnam will be recruited with the help of the Global Foundation for Children with Hearing Loss, an American non-profit organization training teachers of the deaf near Ho Chi Minh City

Inclusion/Exclusion Criteria

All participating children will be:

- between 18 and 48 months old
- matched for age and gender
- healthy on the days testing/recording will take place
- recorded in the home environment (i.e. not daycare)

All participating typically developing children will have no known developmental delays as measured by the Nipissing Developmental Screen (NDS).

All participating children with hearing loss will:

- have a pre-linguistic moderate to profound bilateral sensorineural hearing loss
- have no known additional developmental delays as measured by the NDS
- have used hearing technology consistently for at least one year
- be enrolled in intervention emphasizing listening and spoken language

All participating (Euro)Canadian families will speak English as their primary home language.

All participating Vietnamese-Canadian families will speak Vietnamese as their primary home language and the children of these families will be 1st or 2nd generation Canadians.

All participating Vietnamese families in Vietnam will speak Vietnamese as their primary home language.

Methodology

1. Participants express interest in the project by contacting the researchers
2. Parents will meet with the investigator to:
 - ask questions about the research
 - provide consent
 - learn how to use the DLP
 - review ethical issues
 - provide demographic information
 - complete a survey and interview regarding child language development
3. Child will wear the DLP for 12-16 hours in a specially designed t-shirt
4. Parents will keep a brief daily log of the activities the child participated in and with whom
5. Recordings will be repeated three times over a two week period to ensure the data is representative
6. Parents will participate in focus groups to discuss their thoughts and feelings about:
 - language learning
 - perceptions of hearing loss and disability
 - perceptions of participating in intervention (for parents of children with hearing loss)

Analysis

Statistical analysis will be conducted to examine whether significant differences exist in conversational turn counts between the six groups.

Maternal education, age of diagnosis, age at amplification, and type of hearing technology will be statistically controlled.

Focus group data will be coded and analyzed using NVivo 10 software.

Expected Outcomes

(Euro)Canadian families will participate in more conversational turns, both with typically developing children and children with hearing loss, as compared to Vietnamese speakers.

Vietnamese-Canadian families will participate in more conversational turns than families in Vietnam.

Parents of children with hearing loss cross-culturally will participate in the same number of conversational turns as parents of typically hearing children.

Parents of Vietnamese children will have cultural perceptions of children as communicators that might inform group differences in conversational turn count.

Clinical Implications

- Increased understanding of language socialization practices used with Vietnamese children that might inform the development of culturally adapted intervention strategies for children with hearing loss
- Increased information about parental perceptions of disability in general and hearing loss in particular in Vietnam
- Applicability of the LENA norms for Vietnamese speakers

Items for Consideration

Other specific parameters for which suggestions would be helpful include the utility of collecting LENA data regarding:



- Adult word count, child vocalization count, conversational turn count, and background noise
- ADEX
- Averaging data over three days
- Validity and reliability of using the LENA System with Vietnamese speakers
- Appropriate statistical measures

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