Articulation Testing in Hindi Speech

Vinita J. Rajah  
*Ouachita Baptist University*

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SENIOR THESIS APPROVAL

This Honors thesis entitled

Articulation Testing in Hindi Speech

written by

Vinita J. Rajah

and submitted in partial fulfillment of the requirements for completion of the Carl Goodson Honors Program meets the criteria for acceptance and has been approved by the undersigned readers.

Professor Nancy Hardman, CCC-SLP
Thesis Director

Professor Carol Morgan, CCC-SLP
First Reader

Professor Corliss Smith
Second Reader

Dr. Byron Eubanks
Honors Program Director

Spring 2003
The profession of speech-language pathology deals with one of the most basic functions of humanity—communication. Speech-language pathologists are trained to provide remedial services to children and adults with communication disorders in a wide variety of work settings.

Communication disorders can be broadly divided into five categories: voice disorders, fluency disorders, dysphagia, language disorders, and articulation disorders.

Before a speech-language pathologist begins speech therapy, it is necessary to perform an evaluation. Evaluation refers to the processes used to determine a diagnosis. There are two main reasons for performing evaluation tasks. First, we need to evaluate to arrive at a good understanding of a client’s problem. The other reason to perform evaluation tests is to be able to monitor the client’s progress in treatment and describe changes in the communication disturbances. Speech-language pathologists use standardized tests to determine the presence or absence of communication disorders. Most tests currently used in speech-language pathology are based on Standard English.

The area that I have addressed is Articulation. Articulation disorders occur when a person produces sounds, syllables, or words in a way that listeners do not always understand what is being said or may be distracted by the manner in which it is said. Such disorders are most often seen in pre-school or school-age children who do not develop certain sounds at the usual age. Speech-language pathologists work with clients having articulation disorders and help them to learn proper production of speech sounds.

Indian schools teach 58 different languages. Hindi is the official language spoken by the majority of the people in India and only about 5 to 10% of the Indian population speaks English. When I return home, I will be working with predominantly Hindi-
speaking clients. The field of speech pathology in India is very new. I will have to use the knowledge I have received in English, and adapt it to the Hindi language. There are no tests that I can use while performing an evaluation in Hindi. Translating tests that are used to evaluate language, voice or fluency disorders, does not pose too much of a problem, apart from adapting them to the cultural situation, since the basic concepts are the same. But, it is impossible to take an English articulation test and translate it into Hindi, expecting it to function in the same way, which is to detect articulation errors.

The first problem associated with translation of an English test is that each language has its own specific phonemes and sound characteristics. In the English language, aspiration of phonemes is not important to most phonemes. But in Hindi, aspiration changes the meaning of the word. In the English language, aspiration of phonemes is not important, but in Hindi, aspiration changes the meaning of the word. For example, there is no difference in aspiration of the /ð/ sound in English, as in the word “church”. Even if I said the /ðʰ/ with aspiration, the meaning would not change. But, aspiration of the /ɾ/ sound in the Hindi word chal, /ɾ̥̌ʌľ̥/ makes a big difference. Chal with no aspiration, /ɾ̥̌ʌľ̥/ means “to go”, chal with the /ɾʰ/ aspirated, /ɾ̥̌ʰʌľ̥/ means to cheat. Also the phoneme /w/ does not occur in the Hindi language.

The next problem that will arise is that the set of phonemes occurring in the translated words will be different. For example, take the target word “fish”, which appears on a well-known American articulation test, the Arizona 3. “Fish” is used to test for the /ɜ/ vowel sound and the /ʃ/ sound in the final position. The word when translated into Hindi becomes machli, /mʌtʃli/ which bears no phonetic or sound resemblance to the word “fish".
Another problem in translating an English test to another language, such as Hindi, is that some of the target words may not be culturally appropriate. For example, the target word "wagon" on the Arizona 3 to a child in America, and in most English speaking countries, is an identifiable word, since it is a common and familiar toy. But, to a child in India, it would be an unfamiliar object.

While it is impossible for me to translate these tests into Hindi, a knowledge of the working the working of English tests can be used as a base to develop a test in Hindi. I began to work on this project by studying the Arizona 3 and another well established American articulation test, the Goldman-Fristoe. I then created a basic chart of Hindi phonemes using the International Phonetic Alphabet. Next, I developed a word list that could be used to assess the different target phonemes of the Hindi language. I narrowed down the list by eliminating the words that could not be depicted in simple line drawings. I came up with my final list once I had excluded all the words that would not be present in a child's vocabulary. The final selections can be used to detect substitution patterns, initial sound deletions and final sound deletions. After that, I created my response sheet and worked on the pictures. Time and financial constraints have prevented it from becoming a fully finished work; it is still a work in progress and a lot of work is still to be done. The test will have to be administered to a normative sample of children to further develop standardizations and scoring patterns. But, it is still in usable format; which I plan to refine and hopefully publish sometime in the near future in my country, India.
RESPONSE FORM

IDENTIFYING INFORMATION

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Reason for Testing: ______________________

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By Vinita J. Rajah, under guidance of Nancy Hardman, CCC-SLP & Carol Morgan, CCC-SLP

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### Sound

- 1 - $\ddagger$
- 2 - $\ddagger$
- 3 - $\ddagger$
- 4 - $\ddagger$
- 5 - $\ddagger$
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- 8 - $\ddagger$
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- 96 - $\ddagger$
- 97 - $\ddagger$
- 98 - $\ddagger$
- 99 - $\ddagger$
- 100 - $\ddagger$

### Initial Word

1. फॉर्ब्स
2. गेट
3. लिफ्ट
4. गेट
5. फॉर्ब्स

### Medial Word

1. फॉर्ब्स
2. गेट
3. लिफ्ट
4. गेट
5. फॉर्ब्स

### Final Word

1. फॉर्ब्स
2. गेट
3. लिफ्ट
4. गेट
5. फॉर्ब्स
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[Diagram of a glass with ice]
| 70 | 35 | 20 |