

Identifying Pattern of Disfluencies in School Going Tamil and English Medium Children

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ABSTRACT

Fluency is that the effortless production of long continuous utterances at a rapid rate. Disfluency or non-fluency suggest disruptions within the timing and flow of non-stuttered speech like interjections and phrase repetitions that are often perceived as being a part of the traditional interruptions of speech.

Purpose: The present study aimed to compare the occurrence and pattern of disfluencies in Tamil and English medium children.

Participants: This study consisted of two groups. Group 1 and group 2 consisted of 40 children from English and Tamil medium children. Children were in the age range of 4 to 6 years.

Method: Speech samples were collected using narration of a story and analysed the total number of disfluencies.

Result: The results revealed that there is a significant difference in the mean percentage of total disfluencies between Tamil and English medium children. The children of English medium children show significantly more number of disfluencies when compared to Tamil medium children. The results also revealed there is no significant difference in occurrence of disfluencies between male and female children. In this study the percentage of disfluencies is more in English medium when compared to Tamil medium children. This is because of their communicating language preference in school, their medium of school and the duration of language exposure for both English and Tamil medium children.

Key words: Fluency, Disfluency, Dysfluency, Task, English and Tamil medium.

INTRODUCTION

Fluency, according to the ordinary usage, is the ability to speak a second language rapidly and continuously and without any particular effort or thought. The term fluency springs from the Latin word "fluere". In communication, it refers to the smooth and easy flow of utterance. Technically, fluency is that the effortless production of long continuous utterances at a rapid rate. There are several definitions of fluency stated by different authors. [1] Fluency refers to the general phenomenon of the flow or rate of speech, influenced by

variables such as duration of individual sounds and syllables, duration of sounds and syllables in reference to adjacent sounds and syllables, duration of pauses, presence of stress contrasts and degree of co articulation (Starkweather, 1980). [2] Adams (1982) stated that fluency connotes the continuous, forward flowing and co-ordinated manner of speech. [3] According to Myers (1988), fluency encompasses the synchrony of the speech processes and the continuity of thought and language components of the communication systems. [4]

Disfluency has been defined by the American Speech-Language and Hearing Association (ASHA) interest Division (SID) 4 as speech that exhibits deviations in continuity, smoothness, and simple rate and effort (ASHA SID4, 1999). Disfluency or non-fluency is the disruptions in the timing and flow of non-stuttered speech such as interjections and phrase repetitions that are often perceived as being part of the normal interruptions of speech. [5]

Dysfluency, however, signifies abnormality of fluency; it includes, but isn't limited to stuttering (Wingate, 1984). Fluency is thus the essential referent from which contrasting words are constructed by adding to "fluency", the qualifying prefixes: "dis" (or "non") and "dys". [6]

Stuttering refers to disorders in the rhythm of speech in which the individual known precisely what he wishes to say but at the time is unable to say it because of an involuntary, repetitive prolongation or cessation of sound. [7] Most people experience instances of disfluency in their speech that would not be considered stuttering. Normal disfluencies reflect a short lived stage of learning and communication development. Distinguishing between disfluencies that are normal and those that represent the danger of incipient stuttering is a critical skill for speech language pathologists. [8]

In early childhood, learning to speak needs the loading of the mental lexicon, the consolidation of articulatory movements, and the acquisition of grammatical, phonological, as well as pragmatic regularities of the given language. Many researchers investigated the speech disfluency of normal fluent young children. [9] Speech disfluencies are widespread in spontaneous verbal output. Most of the children exhibit normal disfluencies when their language skills become more proficient, especially at 2-6 years of age. These disfluencies are usually significant and produced effortlessly.

Some children may learn to speak with comparatively lesser disfluency; while

others repeat sounds, syllables, or phrases, interject and/or revise during this period. Fluency characteristics of 36 non-stuttering male aged 2,4, and 6 years were investigated in terms of patterns of disfluency and relationships among disfluency variables. [10-12] The most frequently observed disfluency types at each age level were revision- incomplete phrase and interjections; the least noted type was part word repetitions for 2 and 4 year old children and for 6 year old children, it was dysrhythmic phonation's. They also reported that the patterns of disfluency appear to be similar at all age levels, except for children belong to 2 years old. This age group children exhibited greater magnitudes in various disfluency types. [13]

In the Indian context, disfluencies in the speech of 12 children speaking Kannada within the age of 6 to 7 years were investigated using story narration. The results indicated were more number of disfluencies in males and the percentage of disfluencies increased from 6 to 6.4 years and then declined. Filled pauses, prolongations, false starts and repetitions were the disfluencies which occurred maximally. [14]

The evaluated disfluencies in the speech of 12 children speaking Kannada within the age of 5 to 6 years. The samples analysed for disfluencies were picture description, story narration and conversation. She reported unfilled pauses, filled pauses, parenthetical remarks and audible inspiration were the most frequently seen disfluencies and prolongation, part-question repetitions, repeats and false starts occurred rarely. [15]

Speech samples of 20 Kannada speaking children were analysed to identify the disfluencies. Frequency and types of disfluencies and the effect of gender on disfluencies were analysed. Results showed that majority of the children had almost all the type of disfluency types. The most prominent disfluency type was sound repetitions. Also, boys, in general, showed

greater percentage of disfluencies compared to girls. [8]

Shekinah and Boominathan (2008) studied disfluencies in 3 to 4 years old Tamil speaking children. At the end of the study, researchers got an average score of 8% and 7.4% for 3.6 years and 3.6 to 4 years accordingly. [16] Rathika et al, (2012) analysed disfluencies in 48 Tamil speaking children between 4 to 8 years (with 12 children in each age group). A total of seven types of disfluencies were identified. They included filled pauses, unfilled pauses, repetition, parenthetical remarks, false starts, audible inspiration, and prolongation. The results indicated pauses to have the highest percentage of disfluencies in all the age groups; among the repetitions, whole word repetitions occurred most frequently, followed by pare word repetition; syllable and phrase repetition showed an increased trend till 7 years with age and reduced by 8 years; prolongation was the only disfluency that was not seen in any of the children between 4-8 years (only one child exhibited between 5-6 years) and the total percentage of 38 disfluencies ranged from 17.1 (7-8 years) to 31 (5-6 years). However, the findings of the study were not in congruence with the western studies. [17]

It is essential to understand disfluencies in the speech of young children with diverse cultural and linguistic background. In the present study and attempt has been made to compare the occurrence of disfluencies in school aged English and Tamil medium children. [18-20]

Aim:

To compare the occurrence of disfluencies in children belonging to Tamil and English medium schools.

METHOD

Subjects: Two groups of children in the age range of 4 to 6 years were participated in the study. Group one consisted of 40 children (M= 20, F= 20). These subjects were selected from English medium school.

Group two consisted of 40 children (M= 20, F= 20). They were selected from Tamil medium school. All of them were having normal speech, language and hearing abilities. None of the subject had any other medical related issues or any psychological related problems.

Materials:

Picture cards depicting the story of 'Thirsty Crow' and a video which resembles the story were used to elicit the speech sample.

Inclusion criteria:

The following criteria were considered for the selection of participants

- School going students were considered as the participants and with the age range of 4 to 6 years.
- Children from Tamil and English medium schools were selected.
- Children who have the Tamil language as a subject were selected.
- Children who have Tamil as their Mother tongue were considered.
- None of the children have any hearing, speech and language and psychological disabilities.

Exclusion criteria:

- Children who have other language as a subject in school rather than Tamil were excluded.
- Children with Mother tongue of other languages were excluded.

Procedure:

Each child was seated comfortably on a chair in a distraction free quiet environment. Picture cards were in front of the child on a table. The experimenter explained the story in the picture card and also with the video sample to each of the subject. After that each child was instructed to repeat back the story to the experimenter. The elicited speech sample was recorder using a recorder, which was placed approximately 5 to 6 inches away from the subject mouth.

Data Analysis:

The recorded samples were analysed by the experimenter for finding the percentage to each type of disfluencies, percentage of total

disfluencies. The percentage of each type of disfluencies was calculated by dividing each type of disfluency to total number of disfluencies and multiplied by 100.

$$\% \text{ Disfluency} = \frac{\text{Total number of disfluencies}}{\text{Total number of syllables}} \times 100$$

Likewise investigators calculated the percentage of disfluencies of each type. The Percentage of total disfluencies was calculated by dividing the total number of disfluencies to total number of syllables uttered by the subject and multiplied by 100.

$$\% \text{ Type of Disfluency} = \frac{\text{Total number of particular type of disfluency}}{\text{Total number of syllables}} \times 100$$

Likewise all the recorders sample were analysed and compared the disfluencies and rate of speech between children belonging to north and south Tamilnadu using appropriate statistical methods.

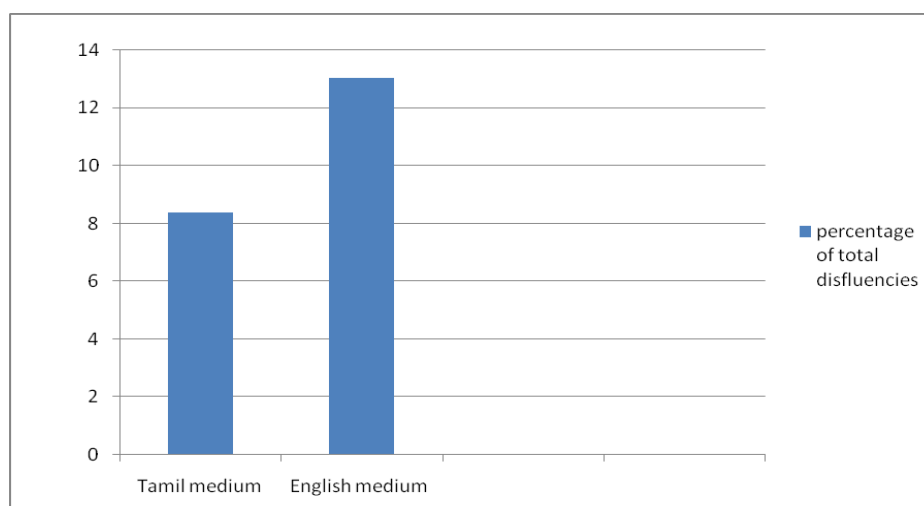
RESULTS AND DISCUSSIONS

Descriptive statistics of percentage of frequency of each type of disfluencies, total disfluencies were calculated for both children of Tamil and English medium. Syllable repetition, part word repetition, whole word repetition, prolongation, audible pause, inaudible pause, parenthetical remarks and revisions were seen in the speech sample of children. Following table represents the mean percentage of disfluencies in Tamil and English medium children.

Table 1: Mean percentage of disfluencies in Tamil and English medium children

Type of Disfluency	Tamil medium	English medium
Syllable repetition	0.23%	1.75%
Part word repetition	2.13%	5.33%
Whole word repetition	1.56%	11.7%
Prolongation	16.56%	33.57%
Audible pause	12.53%	13.68%
Inaudible pause	20.18%	28.42%
Revision	6.32%	9.46%
Parentetical remarks	1.56%	1.60%

The results indicated differences in the mean percentage of disfluencies among children of Tamil and English medium children. The most predominantly seen disfluency was inaudible pause in children of both Tamil and English medium children (SD=18.57) and (SD=26.96) respectively. Other commonly seen disfluencies were prolongation, audible pause and revisions in children of both mediums. The whole word repetition was found to be more in English medium children (Mean= 11.70 %, SD= 17.60) when compared to Tamil medium children (Mean= 1.56%, SD= 4.11). Disfluencies such as part word repetition, revisions and parenthetical remarks were found to be less in both Tamil and English medium children. However the mean percentage of total disfluencies in speech sample of children in English medium was found to be more when compared to children of Tamil medium i.e., the mean percentage of total disfluencies was 10.04% (SD=5.57) for children of English medium and 6.39% (SD= 4.23) was obtained for children of Tamil medium.



Graph 1: Mean percentage of total disfluencies of Tamil and English medium children

To compare the mean percentage scores of disfluencies between Tamil and English medium children, MANOVA was carried out. The results revealed that, there is a significant difference in the mean percentage of total disfluencies between Tamil and English medium children [$F_{(1,118)} = 20.179, P=0.00$]. The children of English medium children showed significantly more number of disfluencies when compared to Tamil medium children. The results also revealed no significant difference between males and females of Tamil and English medium children. In the present study syllable repetition was observed to be less when compared to other disfluencies.

CONCLUSIONS

In the present study the mean percentage of occurrence of disfluencies were found to be more in English medium children when compared to Tamil medium children. This could be because of their communicating language preference at school, medium of school and the duration of language exposure. Understanding the disfluencies in speech of young children in culturally and linguistically diverse backgrounds is essential.

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