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## The Efficacy of Teachers Towards Facilitating Speech Reading To Hearing Impaired

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### ABSTRACT

Speech reading is an important part of developing independence and a feeling of confidence in hearing impaired, while encountering situations in inclusive educational program, where spoken language is given more preference. Recent studies on speech reading informs that the hearing impaired children, who are using speech reading skills, can experiment with a full array of communication and discover what works for them in academic and social situations and it enables hearing impaired children to anticipate what may be said in a given spoken language situation. The responsibility and efficacy of teachers in inclusive education must be higher for facilitating speech reading in an enjoyable and meaningful way. The main purpose of this research study is to determine the efficacy of teachers towards facilitating speech reading to hearing impaired in inclusive education. The teachers in this study were all selected from elementary school level using two stage sampling technique. The researcher examined the practices of teachers towards facilitating speech reading to hearing impaired in inclusive education under Sarva Shiksha Abhiyan program, which was designed to meet the needs of the inclusion of children with special needs. The data that were analyzed, using independent t test and F test, to determine the efficacy of teachers came from three hundred mainstream school teachers, who are teaching hearing impaired in their classroom, through the questionnaire. Findings of this study revealed that the teachers, who are teaching hearing impaired in inclusive education are efficient enough to facilitate speech reading to suit the needs and abilities of each hearing impaired. The paper concludes with recommendations for developing speech reading training and auditory training courses that can result in the effective practices of teachers towards facilitating speech reading to hearing impaired in inclusive education.

**Key Words:** Efficacy, Speech Reading, Inclusive Education, Hearing Impaired, Teacher, Mainstream School

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### INTRODUCTION

Education for All (EFA) is a universal dream. All the modern nations in the world are trying their best to fulfill this dream. Special attention is being provided to include children with special needs in the chain of mainstream education to attain self reliance, prosperity and development. These children with special needs, which were untouched by general or mainstream education until very recently, are now entering into it. These children with special needs not only enter the traditional classrooms, but also make these mainstream classrooms more colorful and rich. New ideas are being passed down from international to national level from national to state level and from state level to schools. One of these extremely useful new ideas is inclusive education for children with special needs and teachers are the best link of this idea, which actually provides services to children with special needs. In this sense, teachers are the most important agent of change. Upon their shoulder lies the success of inclusive education for children with special needs. (SSA, Training Module for Hearing Impaired)

Among the disabilities, hearing impairment has a unique situation which may make the inclusion process slower and difficult. With other disabilities, in common, language and communication are not the primary concerns, whereas, for the children with hearing impairment, this is not the case. Insufficient language and communication have the potential to negatively impact almost all the developmental aspects of a child with hearing impairment. Moreover, if not dealt with carefully, hearing impairment may delink the children not only from the society but also from the family. Teachers can think of the serious concerns created by such a situation. However, thankfully this can be avoided with the use of effective teaching strategies and practices by teachers. (SSA, Module for Hearing Impaired)

In inclusive education, speech reading can be an important mode of communication and a beneficial feature for students with hearing impairment, also developing independence and confidence in them, while encountering situations in classrooms, where spoken language is given more preference. Speech reading is defined, as method of oral communication in which one uses communication strategies to aid in dialogue when some of the auditory information is missing due to hearing loss. Speech reading is the ability to make use of the visual clues of the speaker's lip and facial movements, gestures, posture and body language, along with residual hearing to make use of the speaker's verbal communication, intonation and context to infer meaning. Speech reading informs that the hearing impaired children, who are using speech reading skills in inclusive educational program, can experiment with a full array of communication and discover what works for them in academic and social situations and it enables hearing impaired children to anticipate what may be said in a given spoken language situation. It enhances the ability of a hearing impaired child to function in diverse situations in hearing society as well as suits the needs and abilities of each hearing impaired child.

Recent studies in the area of speech reading and inclusive education, the responsibility and efficiency of teacher in inclusive education must be higher for facilitating speech reading in an enjoyable and meaningful way. It is very essential or necessary for mainstream teachers to understand each hearing impaired students learning style and provide adequate support to encourage him to learn. Few of them benefit from hearing aids and some need additional support like speech reading and visual information. Stanley observed that teachers' efficiency and their training in special needs education, school atmosphere facilitate favorable and pleasant environment for hearing impaired to read speech and to understand the lessons. Hardick revealed that the teachers with no training in speech reading have no significant effect on the speech reading skills of hearing impaired children. Haddock has published a report on speech reading, it states that the training in speech reading enables the teachers to make good communication with hearing impaired. However, there are some conflicting opinions prevailing on the performance/efficiency of the teachers in order to facilitate speech reading to hearing impaired, this study aims to determine the practices of teachers towards facilitating speech reading to hearing impaired in inclusive education.

#### **Purpose of the Study**

To determine the efficacy of teachers towards facilitating speech reading to hearing impaired in inclusive education

#### **Objectives of the Study**

- To study the efficacy of teachers from different regions of Puducherry UT towards facilitating speech reading to hearing impaired in inclusive education.
- To find out the efficacy of male and female teachers towards facilitating speech reading to hearing impaired in inclusive education
- To understand the efficacy of teachers with different age groups in their efficacy towards facilitating speech reading to hearing impaired in inclusive education.
- To determine the efficacy of teachers with different subjects specialization towards facilitating speech reading to hearing impaired in inclusive education.
- To find out the efficacy of teachers from English and Non-English medium of instruction towards facilitating speech reading to hearing impaired in inclusive education.

#### **Hypotheses of the Study**

- There is no significant difference among teachers with different regions of puducherry UT in their efficacy towards facilitating speech reading in inclusive education
- There is no significant difference between male and female teachers in their efficacy towards facilitating speech reading in inclusive education.
- There is no significant difference among teachers with different area of specialization in their efficacy towards facilitating speech reading in inclusive education.
- There is no significant difference among teachers with different age groups in their efficacy towards facilitating speech reading in inclusive education.
- There is no significant difference among teachers with different lengths of experience in teaching in their efficacy towards facilitating speech reading in inclusive education
- There is no significant difference between teachers from English and non-English medium of instruction in their efficacy towards facilitating speech reading in inclusive education.

#### **METHOD**

##### **Participants:**

The teachers, who are teaching hearing impaired children in mainstream schools of Puducherry UT, were selected as the population for this study. 300 teachers were selected as sample using two stage sampling technique i.e. selection of schools and selection of teachers. As the locale of the research study is puducherry union territory, the schools with hearing impaired were selected from the four regions of Puducherry (Puducherry, Karaikal, Mahe, and Yanam). As per the data available at present in Sarva shiksha Abhiyan, Directorate of School education, Puducherry, 75 schools with hearing impaired were found in Puducherry union territory. Totally 60 schools with hearing impaired were selected for the study, using simple random sampling technique. From the selected each school with hearing impaired, all the mainstream teachers of all the subjects (Languages, Mathematics, Science and Social Sciences), who are teaching sixth to Eighth standards, were selected as samples for the study. The total numbers of mainstream teachers from the selected schools of four regions of Puducherry were 312. After verifying the filled in completely tools, some of the incomplete cases were rejected. Thus the sample for the study consisted of 300 mainstream teachers from schools with hearing impaired.

Three hundred respondents in this study were general education upper primary teachers, drawn from 60 schools with hearing impaired, from four regions of Puducherry union territory (Puducherry, Karaikal, Mahe and Yanam). There were 146 teachers (48.7%) from Puducherry region i.e. nearly half of the sample were drawn from this region. 66 (22%) teachers from Karaikal region, 33 (11%) teachers belong to Mahe region, the small drawn from this region, whereas 55 (18.3%) mainstream teachers are from Yanam region, higher than Mahe region. There were 124 (41.3%) males and 176(58.7%) females, aged in the range of 25-37 years (18.3%), 38-47 years (34%) and 49-60 years (47.7%). There were 187 (62.3%) teachers from non-english medium of instruction and 113 (37.7%) teachers from English medium of instruction, had experience in the range of below 5 years (65, 21.7%), 5-10 years (111, 37.0%), and above 10 years (124, 41.3%). The more number of teachers are from non-english medium of instruction. There were 55 (18.3%) language teachers, 59 (19.7%) English teachers, 60 (20%) Mathematics teachers, 66 (22%) Science Teachers and 60(20%) Social Studies Teachers in the study. The demographic characteristics of teachers were presented in detail in table 1

#### **Survey Instrument Used:**

Data were collected by means of a questionnaire consisting of demographic characteristics and items related to the efficacy of teachers towards facilitating to speech reading to hearing impaired. It is a self-report instrument using a 19 item, five point, forced choice Likert scale. In the demographic section, the respondents had to report their region of living or teaching, sex, age, teaching experience, medium of instruction and their subjects. The development of the teacher's efficacy towards facilitating speech reading scale was informed by earlier studies on speech reading and measures teachers' efficacy in relation to facilitating speech reading to hearing impaired. In the beginning 27 items were constructed from various sources and studies on speech reading skills of hearing impaired as mentioned earlier. After a discussion and consultation with five subject experts in the field of hearing impairment, eight items in the scale were dropped and the selected nineteen items which are based on 90% recommendations of the subject experts in the field were retained in the inclusion of preliminary form of Teachers Efficacy towards Facilitating Speech reading Scale. The retained 19 items scale was administered to a sample of 30 teachers. Reliability of the scale was estimated by Cronbach Alpha coefficient and it was found to be 0.86. The teachers' efficacy Facilitating Speech Reading Scale was developed originally in English by the researcher and it was translated by the researcher into Tamil for Teachers who belongs to Puducherry and Karaikal, Malayalam for Mahe Teachers and Telugu for Yanam teachers. As such, three versions (Tamil, Malayalam and Telugu) of the scale have used in this study. In order to scrutinize the translation validity of the teacher's efficacy towards facilitating speech reading to hearing impaired scale, translation was undertaken. Three experienced translators were asked to translate the English version of the 19 items teacher's efficacy towards facilitating speech reading to hearing impaired scale into Tamil, Malayalam and Telugu, with main emphasis given to maintain the meaning of the statements. A pilot study then conducted with 30 teachers, in order to confirm the clarity of the statements and reliability of the teachers' efficacy towards facilitating speech reading scale. The respondents did not find any difficulties in responding to the statements in the questionnaire. The Cronbach alpha reliability coefficients for the three versions (Tamil, Malayalam and Telugu) were found to be 0.81, 0.84, and 0.79. To fill the teachers efficacy towards facilitating speech reading scale, the teacher participants were asked to indicate the extent of their agreement with each statement by selecting among the following choices: strongly agree – 5, agree – 4, undecided – 3, disagree – 2, strongly disagree – 1 for favorable strategies In case of unfavorable strategies the scoring is reversed, i.e. from 1- strongly agree, agree – 2, undecided – 3, agree – 4, strongly agree - 5.

#### **Procedures**

After the development and standardization of three such versions Tamil, Malayalam and Telugu of Teachers' Efficacy towards Facilitating Speech Reading Scale, the scale was administered to 300 teachers of mainstream schools in puducherry UT. For collecting the data the researcher visited each school with hearing impaired students in puducherry union territory. After getting due permission from the directorate of school education, Puducherry, the scale was administered to the teachers. Teachers were advised to enter their name, district, sex, age, teaching experience, area of specialization, and medium of instruction in the place provided in the personal data sheet of a scale. Instructions were directed in the first page of the scale and teachers were requested to follow these instructions, while responding to the items in the scale. Teachers were further requested and advised not to leave any statements in the tool. Three hundred and twelve set of tools were distributed to the mainstream school teachers of school with hearing impaired, selected as mentioned earlier in the sample and sampling procedure. Out of three hundred and twelve, only three hundred set of tools properly filled in were received back. Hence three hundred sets of tools were scored according to the scoring procedure explained in the development and standardization of tools, which were used for the final study. For the analyses and interpretations of the data, the researcher utilized Independent't' Test and One-way ANOVA

*Table 1: Demographic Characteristics of Teachers*

Ind. Variables	Sub-Samples	Frequency	Percentage
District	Pondicherry	146	48.7
	Karaikal	66	22.0
	Mahe	33	11.0
	Yanam	55	18.3
Sex	Male	124	41.3
	Female	176	58.7
Age	25-37 Years	55	18.3
	38-47 Years	102	34.0
	48-60 Years	143	47.7
Experience	Below 5 Years	65	21.7
	5-10 Years	111	37.0
	Above 10 Years	124	41.3
Medium of instruction	Non-English	187	62.3
	English	113	37.7
Subjects	Language	55	18.3
	English	59	19.7
	Mathematics	60	20.0
	Science	66	22.0
	Social	60	20.0

## ANALYSES AND INTERPRETATIONS

### Hypothesis 1:

Ho: There is no significant difference among teachers with different regions of puducherry UT in their efficacy towards facilitating speech reading in inclusive education

*Table 2: Mean and Standard Deviation for Teachers from Different regions of Puducherry*

Regions of Puducherry	N	Mean	SD	df	F	Sig.
Puducherry	146	61.81	9.850	(3,297)	7.876	0.000
Karaikal	66	67.24	9.630			
Mahe	33	61.61	5.086			
Yanam	55	60.15	6.911			

From the above table 2, it is clearly evident that the f value 7.876 for different regions of Puducherry, found to be significant at 0.05 levels, which is greater than 2.990 table value. Since the calculated value is greater than table value, the null hypothesis 1 is rejected. Therefore it is inferred that there is a significant difference exist among teachers in their efficacy towards facilitating speech reading to hearing impaired in inclusive education.

### Hypothesis 2:

Ho: There is no significant difference between male and female teachers in their efficacy towards facilitating speech reading in inclusive education

Table 3: Mean and Standard Deviation for Gender

Gender	N	Mean	SD	t	Sig.
Male	124	62.43	8.913	0.393	0.695
Female	176	62.85	9.440		

Above table 3 reveal that the t value 0.393 for gender, found to be insignificant at 0.05, this is lesser than value 1.960. Since the calculated value is lesser than table value, the null hypothesis 2 is accepted. Hence, there is no significant difference exist between male and female teachers in their efficacy towards facilitating speech reading to hearing impaired in inclusive education. In other words male and female teachers do not differ in their efficiency towards facilitating speech reading to hearing impaired in inclusive education.

**Hypothesis 3:**

Ho: There is no significant difference among teachers with different age groups in their efficacy towards facilitating speech reading in inclusive education.

Table 4: Mean and Standard Deviation for Different Age Groups

Age Groups	N	Mean	SD	df	F	Sig
25-37 Years	55	62.78	9.647	2,297	1.279	0.280
38-47 years	143	61.86	8.535			
48-60 Years	102	63.76	9.847			

Form the table 4.3; it is evident that the f value 1.279 for different age group is found to be insignificant at 0.05 levels, which is lesser than table value 2.990. Since the calculated value is lesser than the table value at 0.05 levels, the null hypothesis 3 is accepted. Hence, there is no significant difference exist among teachers with different age groups in their efficacy towards facilitating speech reading to hearing impaired in inclusive education.

**Hypothesis: 4**

Ho: There is no significant difference among teachers with different lengths of experience in teaching in their efficacy towards facilitating speech reading in inclusive education

Table 5: Mean and Standard Deviation for Different Lengths of Experience in Teaching

Experience	N	Mean	SD	df	F	Sig
Below 5 years	65	62.43	9.230	(2, 297)	2.655	0.072
5-10 Years	111	61.30	8.827			
Above 10 Years	124	64.04	9.418			

Form the table 4.3; it is evident that the f value 0.072 for different lengths of experience is found to be insignificant at 0.05 levels, which is lesser than table value 2.990. Since the calculated value is lesser than the table value at 0.05 levels, the null hypothesis 4 is accepted. Hence, there is no significant difference exist among teachers with different subjects of specialization in their efficacy towards facilitating speech reading to hearing impaired in inclusive education

**Hypothesis 5:**

Ho: There is no significant difference between teachers from English and non-English medium of instruction in their efficacy towards facilitating speech reading in inclusive education.

Table 6: Mean and Standard Deviation for Medium of Instruction

Medium of Instruction	N	Mean	SD	t	Sig.
Non-English	187	62.48	9.634	0.472	0.637
English	113	63.00	8.503		

Above table 4.6 reveal that the t value 0.472 for medium of instruction, found to be insignificant at 0.05, this is lesser than value 1.960. Since the calculated value is lesser than table value, the null hypothesis 5 is accepted. Hence, there is no significant difference exist between teachers from English and non-english medium of instruction in their efficacy towards facilitating speech reading to hearing impaired in inclusive education.

**Hypothesis: 6**

Ho: There is no significant difference among teachers with different area of specialization in their efficacy towards facilitating speech reading in inclusive education.

Table 7: Mean and Standard Deviation for Different area of Specialization

Subjects	N	Mean	SD	df	F	Sig
Language	55	64.67	9.088	(4, 295)	1.238	0.295
English	59	60.95	9.614			
Mathematics	60	62.25	9.300			
Science	66	63.09	9.681			
Social Science	60	62.52	8.177			

Form the table 4.3; it is evident that the f value 1.238 for different subjects is found to be insignificant at 0.05 levels, which is lesser than table value 2.990. Since the calculated value is lesser than the table value at 0.05 levels, the null hypothesis 6 is accepted. Hence, there is no significant difference exist among teachers with different subjects of specialization in their efficacy towards facilitating speech reading to hearing impaired in inclusive education

### FINDINGS

The data of 300 teachers were analyzed and the mean score of teachers was 63.00. This has indicated that 75% of the teachers are efficient towards facilitating speech reading to hearing impaired. The One-Way ANOVA results showed that teachers from different regions of Puducherry are significantly differed in their efficacy towards facilitating speech reading to hearing impaired ( $F(df3, 297) = 7.876, p < 0.05$ ), whereas the independent t test results showed that male and female teachers do not differ in their efficacy towards facilitating speech reading to hearing impaired ( $t = 0.393, p > 0.05$ ) as well as teachers from english and non-english medium of instruction do not differ in their efficacy towards facilitating speech reading to hearing impaired ( $t = 0.472, p > 0.367$ ). The one-way ANOVA showed that teachers with different age groups ( $F(df2, 297) = 1.279, p < 0.05$ ) and teaching experience in years ( $F(df2, 297) = 2.655, p < 0.05$ ) do not differ in their efficacy towards facilitating speech reading to hearing impaired as well as teachers with different area of specialization also not differ in their efficacy towards facilitating speech reading to hearing impaired ( $F(df4, 295) = 1.238, p < 0.05$ ).

### LIMITATIONS OF THE STUDY

The results of this research study should be interpreted cautiously in the light of several limitation of the study. Specifically, the assessment of mainstream teacher's efficacy towards facilitating speech reading to hearing impaired was based on their responses to the self-report instrument administered. Consequently, as no direct measures of their actual class behavior were recorded, any conclusions drawn should be treated with caution. Finally, in the absence of any previous administration of this scale to mainstream teachers of Puducherry union territory, it was not possible to determine any changes in efficacy towards facilitating speech reading to hearing impaired that might have been occurred since the implementation of inclusive education to children with special needs (SSA, Govt. of Puducherry, 2002-2003).

### EDUCATIONAL IMPLICATIONS

The findings of this study will bring important educational implications. From a research perspective, the current study adds to the field's theoretical understanding of constructs of speech reading. It is very essential to unravel the practices of teachers, as understanding the unique processes of facilitating speech reading to hearing impaired in inclusive education, underlying the effective practices of teachers will lead the field to better facilitation of speech reading and more advanced and supportive speech reading trainings. From a practical perspective, this study may point to the need for policy-makers to devote resources to providing mainstream school with hearing impaired that extend beyond traditional speech and language therapies to include interventions focusing also on speech reading skills. Increasing the scope of speech reading skills may have an important long-term impact on hearing impaired children's reading and listening skills.

### CONCLUSION

The Study revealed that 75% of teachers in the inclusive educational setting are efficient enough to facilitate speech reading to hearing impaired students. This trend indicates that teachers as the factor better facilitating speech reading to hearing impaired. Therefore the communication problems in inclusive education among hearing impaired may be reduced due to better facilitation of speech reading. Besides, hearing impaired and teachers should be given speech reading training and auditory training to enhance their teaching and learning process in the inclusive educational setting.

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