

English Inclusive Classroom: Effect Of Total Communication Technique On Students With Hearing Impairments In Swat, Pakistan

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Abstract

The study entitled as English Inclusive Classroom: Effect of Total Communication Technique on Students with Hearing Impairments in Swat, Pakistan, was aimed to investigate the effectiveness of teaching the students with hearing impairments and see the academic achievements of students taught through total communication technique. The purpose of the said study was to find out the effectiveness of teaching through total communication technique and implementation of inclusive education program. The study was carried out through ABA single subject experimental design. The population of the study was comprised of the hearing impaired students of the Kohsar Special Education for Hearing Impaired Children, Swat. 10 tests were developed for the purpose of the as the tests before intervention, the students were taught through total communication technique and then the tests were conducted to evaluate the progress of students during the phase of intervention and finally 03 more tests were conducted as tests after the intervention. The data collected through these tests were analyzed using repeated measures ANOVA, in which the results of the study concluded that the null hypotheses was rejected meant that the teaching of English to the hearing impaired students through total communication technique had significant effect on students learning.

Key words; inclusive education, total communication technique, hearing impaired children

Background of the Study

Over the past decades, the inclusion of persons with disabilities in special education has become a universal inclination. Students with disabilities often have different options for placement. The space may include a resource room, inclusive classroom, or a special school. Many countries have responded to Salamanca's statement by introducing inclusive education as a new trend in providing education for students with special educational needs. In recent years, there has been an emphasis on the inclusion of students with disabilities in general education classrooms (Rude & Miller, 2018).

Inclusive education programs were basically designed as an attempt to break down many labels and stereotypes that have most of the times been associated with special education. Inclusion can be very frustrating because it challenges our untested notions of what "ordinary" and "normal" really mean. To understand inclusion, one must look at its definition, source, implications, and past and present research. Before one has a thorough understanding of inclusion, one must have a thorough understanding of special education. This understanding is usually gained through training or teacher preparation (Rose et.al. 2015).

In order to find better ways to respond to diversity, the inclusion of people with disabilities must be seen as a never-ending search. It is about how to deal with differences and how to learn from differences, so that differences between children and adults can be viewed more positively as a stimulus for learning. This includes gathering, sharing and reviewing information from a variety of sources to plan for policy and action improvements. It's about creativity and using different kinds of evidence to solve a problem (Galaterou & Antoniou, 2017).

Successful inclusive education requires a change of school and a change of system. It is important to emphasize that inclusive education means that all children are set together in the mainstream classrooms for most of their day. Often, the term 'inclusive education' becomes synonymous with education for children with disabilities. While this may still be the primary impetus for inclusive education, a successful inclusive exercise will be successful for all children with different traits such as race, language, gender, and socioeconomic status. Key factors in implementing inclusive education include school reviews and plans, such as school and classroom implementation. Training and supporting all teachers, not just 'special' individuals; and supporting school leadership to develop an inclusive vision for our schools (Kumar, 2018).

Literature Review

In the general education classroom, there is still debate about the best way for students with disabilities to communicate with their non-disabled people. In the past, students with disabilities were presented in special school settings where different methods of communication such as sign language, finger spelling, touch or touching methods, facial expressions and body movements were used (Thompson., et al., 2017). Currently, in many developing countries, students with disabilities are placed in general educational settings where English is taught without the help of general education teachers. General education teachers

may not have the skills needed to teach English to the students with disabilities especially hearing impaired ones in inclusive classrooms. In light of the above claim, it can be said that these students may need different opportunities for proper education, ranging from minor seating adjustments to total communication techniques (TCT) and hearing aids. - For example, they need complete communication and hearing aids such as hearing aids, and cochlear implants to maximize their communication skills (Rubtcova & Pavenkov, 2016).

Total communication is a technique that uses speech, finger spellings and gestures. The idea is to provide children with disabilities with multiple opportunities to learn how to communicate and use facial expressions with lip movements to help them socialized in their social life. Total Communication helps the majority of general education teachers teaching English to communicate with students with hearing disabilities and solve teaching problems. Total communication technique is a method that strengthens and enhances the skills that students with hearing disabilities need to work in a typical English classroom (Monje, 2017).

Students with hearing impairments gain reading skills using Total Communication Techniques while developing new words and trying to understand them. A study was conducted on 16 learners with hearing impairments, ranging in age from five to ten years. Initially, a picture appeared in front of the students, which was then pronounced by the teacher, and the students received and read the picture labels for the speech. Secondly, the speech and the symbol which contained the picture and its written words were used. And finally the teacher recited the word presentation in sign language (Roskom, 2015). Deaf learners memorized many words in 'Speech and Sign' as opposed to speech. In addition, a study was conducted with deaf preschool student's English class at a government school. These students were placed in a variety of classroom conditions. In the first case, the techniques used for teaching English were mainly sign language, lip reading, and speech. Then, sign language, lip reading, and speech were misplaced. In the first order, moderate deaf learners were used, while in the second, severely deaf learners were used. It was observed that the students who participated in the Total communication class had acquired English reading skills and were able to understand difficult words, whereas the students who could not participate did not perform well (Saloviita & Schaffus, 2016).

The total communication technique was initially designed for teaching English to hearing impaired children (Hernawati, 2013). Various learning material such as speaking, drawing and writing for hearing impaired children were utilized. Introducing this aimed to improve the capabilities of hearing impaired children in English language. Two things are very crucial using the total communication technique while teaching English and that is the spoken as well as manual English (Roskom, 2015). Whereas using such models for teaching English to deaf and normal children would result different results. Using total communication technique hearing impaired children would understand the societal languages generally in a better way because this way might improve the English language communication skills of hearing impaired children. Total communication technique is helping the hearing impaired

children to use Smartphone enabling them to find out too many knowledge and enhance their capabilities (Moses et.al, 2015).

The basis of Teaching of English language is to facilitate communication process. Variety of teaching techniques, procedures, theories and approaches are available for teaching English to the hearing impaired children. They may involve the translation approach, audio-lingual, direct and structural approaches emerged as new techniques while teaching to the hearing impaired children (Murray, 2019). Oralism is another technique used to teach English to the hearing impaired children and forced by the Oralists by believing that it utilizes the residual hearing of the hearing impaired children. Bilingual method is another approach utilized for years for teaching English to the hearing impaired children and connected to the society of deaf students as it is seen to be associated with sign language. Total communication might be used in combination with assistive technologies which might serve as a professional English teacher while teaching to the hearing impaired children (Tang 2017).

These factors might be taken and it might be considered that the digital and assistive technologies might be utilized as a medium to motivate the curiosity of hearing impaired learners to improve their leaning and divert their attention. These things might reduce the fatigue of teachers to convey their notions to the hearing impaired students. English language might therefore be taught to the hearing impaired students while using total communication technique with combination of technology. Using bilingual and total communication technique speaking, reading and writing skills English skills might be skilled thoroughly. Using these techniques and technologies plays a very crucial role in hearing impaired children improvement in academics (Donnchaidh, 2020).

Purpose of the Study

Globally a number of initiatives and agendas have influenced and provided with plenty of information regarding the success and implementation of inclusive education. Inclusive education has been observed as, Social and Cultural Organization and a process, presence, participation, and achievement of all children in a mainstream school setting, identifying and removing the obstacles faced by the people with disabilities. The benefits of inclusive education are numerous for children with and without disabilities. All children benefit from a differentiated curriculum and child-centered learning carried out through total communication technique. Education creates opportunities for the ignored and socially neglected classes to break away from poverty. Women and people with disabilities are still severely affected in many parts of the world, especially in Pakistan. Children with disabilities have little access to these schools, but even where there is access, there is a lack of quality of education. Learners enter schools of different family backgrounds and disabilities in the hope of obtaining a formal education.. The present study was therefore proposed to introduce the process and procedures included in the successful implementation of inclusive education using the total communication technique as the medium if instruction for teaching to the hearing impaired

children, and see the effectiveness of using total communication technique over the learners with hearing disabilities.

Objectives of the Study

The study was guided by the following objectives:

1. To analyze the effectiveness of total communication technique during English teaching to students with hearing impairments.
2. To assess the achievement level of learning of the hearing impaired children in inclusive education classroom using total communication technique.

Research Questions

1. What are the key elements and factors that enhance the academic achievement of the hearing impaired students in inclusive education classroom?

Hypotheses

H0: There is no effect of teaching English through total communication technique in the inclusive education classroom on the academic achievement of students with hearing impairments as compared.

H1; There is a significant effect of teaching English through total communication technique in the inclusive education classroom on the academic achievement of students with hearing impairments.

Significance of the Study

This study might provide a wide range of information for teachers, administrators, parents, and students regarding implementing an inclusive education program and the appropriateness of the inclusive classroom for the disabled student population. It would also provide insight regarding the effectiveness of teaching through total communication technique in an inclusive classroom. The overall impact of this study would contribute to the understanding of teacher perspectives and attitudes toward the total communication used in an inclusive classroom, providing a starting point for potential interventions to improve academic outcomes of the students with hearing impairments. Furthermore, the data from this study might be relevant to development organizations, policy makers, and researchers as they continue to make decisions on the inclusion of children with disabilities. Since policy-making is also an iterative process based on the results of implementation, this data might also inform future policy decisions. As the inclusion of children with disabilities becomes a more common practice in education development projects, the strategies used within these development projects might be influential in creating an exemplar for an international standard of schooling and inclusion in Pakistan.

Methodology

To carry out this study and explore the effectiveness of teaching through total communication technique on the academic achievements of students with hearing impairments the selected study was experimental in nature. ABA single subject experimental design was used to carry out this experimental study.

Population and sampling

The population of the study was comprised of the students of class 6th studying in Kohsar Special education center for Hearing Impaired Children, swat. The total number of students studying in class 6th was 14. To carry out this ABA single subject experimental research proper permission was granted from the principal of Kohsar Special education center for Hearing Impaired Children, swat for the said experimental study. Since the population of the study was comprised of the students studying in class 6th in Kohsar Special education center for Hearing Impaired Children, swat and the total number of students in the same class were comprised of 14 students, 07 students that was 50% of the whole population was selected for the purpose of the study. The selected sample size was taken randomly from the whole population. Simple random technique was used to carry out this experimental study.

Instrumentation

The study was experimental in nature and ABA single subject experimental design was used to conduct this study. A sum of total 10 tests were developed and then administered as the tool of the research. The first three tests were conducted as the tests before intervention, then during intervention 04 tests were conducted and at the end of intervention 003 more tests were taken. Since English book of class 6th was selected as the main subject to be taught through total communication technique, 09 chapters out of total 17 chapters in the book were selected for the said purpose. The first three chapters were selected for the tests taken before intervention which were meant to check the current level of understanding and achievement level of students when taught with the relevant teaching methodology in their special education classroom. Chapter No.4 to Chapter No.9 was selected for the phase of intervention and these chapters were selected to be taught through total communication technique. And the end of intervention 03 tests was conducted to check the educational outcomes and academic achievements of students taught through total communication technique.

Intervention

The first three chapters selected for purpose of the tests before intervention were comprised of course contents from the text books of class 6th of government schools. The chapters were Hazrat Muhammad (P.B.U.H), new boy in the class and A nation's strength. These tests were developed for the purpose to check the knowledge and understanding of the students with hearing impairments before intervention were administered over the selected sample size. The selected sample of the population was then assembled and it took almost a period of 20 weeks to teach the students with hearing impairment in an inclusive education classroom setting

through total communication technique. 06 chapters (Earthquake Awareness and preparedness, Democracy, Taxila; AN ancient city, The wolf's Club, The Cat and the Fox and Electricity) were selected for the intervention and after the completion of first 02 chapters' i.e. chapter No. 4 & 5 (Earthquake Awareness and preparedness, Democracy) the students were tested. Again after the completion of chapter No. 6 (Taxila; AN ancient city,) the students were tested, after chapter No. 7 & 8 (The wolf's Club, The Cat and the Fox) these students were tested and finally at the end of chapter No. 9 (Electricity) the knowledge of the students were checked through another test. The same way four tests were conducted during the intervention. These tests were meant to check the progress of students taught through total communication technique. After the intervention 03 more tests were conducted to check the knowledge and understanding of the students with hearing impairment. These three tests were conducted in all the 09 chapters selected for the intervention/experiment.

Data Collection and Analysis

Data was collected from the participants of the study through the tests taken before, during and after intervention. 03 tests was taken before, 04 during and 03 after the intervention. The process of data collection took a period of 24 weeks (06 months). Data was collected through 10 different tests in the subject of English class 6th. the first three tests were taken as the tests before intervention to check the current knowledge and level of understanding of the students in which they were taught in their relevant natural settings in the special education set up. 04 tests were arranged in the chapters ranging from chapter no.4 to chapter No.9 to be taught through total communication strategy and then the tests were administered to check current level of academic achievements and understandings. After 20 weeks of intervention, 03 tests taken as the tests after intervention and arranged comprised of all the 09 chapters. These three tests were developed in the first three middle three and last three chapters and meant to collect final data for the students' achievements and learning outcomes. Data was analyzed through repeated measures ANNOVA in which the means of variables was compared. Comparative mean value of the tests before, during and after intervention were drawn, Comparative mean value of the tests before, during and after intervention were drawn, results of the mean scores were analyzed through descriptive statistics, assumptions of Sphericity were checked through Mauchly's Assumption of Sphericity in which the p-value was .592 which was more than the standard value .05 and assumed that the assumptions of sphericity was not violated meant that the p-value was significant, concluding that the total communication strategy when applied in an inclusive education classroom would affect the students learning achievements. Another comparative statistics showing the descriptive statistics, Mauchly's Assumption of Sphericity, tests of within Subject effects were also drawn. The results obtained from this comparative statistics concluded that the students learning achievement level was comparatively higher in English when they were taught through total communication technique whereas the scores obtained before the intervention was lower. On the basis of the results obtained from the

results of repeated measures ANNOVA, conclusion was drawn which was further summarized for the findings of the study and recommendations for further studies and researches made.

Mauchly's Test of Sphericity^a

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Greenhouse-Geisser	Epsilon ^b Huynh-Feldt	Lower-bound
TESTS	811	1.049	2	.592	.841	1.000	.500

Table No. 1

Table No.1 above indicated whether the assumption of sphericity had been met or violated. In Mauchly's Test of Sphericity the most important column is the one that is comprised of significance value. The significance value is 0.592 which is more than the critical value i.e. 0.05, so it might be accepted that significant differences could be observed in the variances of differences in scores and assumption of sphericity had been met. Mauchly's Test of Sphericity indicated that the assumption of sphericity had not been violated, $\chi^2(2) = 1.049, p = .592$. It could be concluded that the variance differences are not significantly different. Mauchly's Test of Sphericity when assumed means that the null hypotheses had been rejected and the alternative hypotheses had been accepted concluding that the total communication technique when applied for teaching English to the hearing impaired children in an inclusive education classroom would affect the level of knowledge and understanding of the students with hearing impairment.

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent Parameter
Observed Power ^a							
TEST S	Sphericity Assumed	352.381	2	176.190	65.487	.000	.916 1.000
	Greenhouse-Geisser	130.973					1.000
	Huynh-Feldt	352.381	1.682	209.527	65.487	.000	.916
	Lower-bound	110.135					
Error (TEST S)	Sphericity Assumed	352.381	2.000	176.190	65.487	.000	.916 130.973
	Greenhouse-Geisser	1.000					
	Huynh-Feldt	352.381	1.000	352.381	65.487	.000	.916 65.487
	Lower-bound	1.000					

32.286	12	2.690
32.286	10.091	3.200
32.286	12.000	2.690
32.286	6.000	5.381

Table No.2

Table No.2 above indicated the most important outputs as it gave the results of ANOVA. F value for “Tests” factor would be discovered as it has been associated with significance level and effect size (Partial Eta Squared). Since our data had met the sphericity assumption we would see the values in the "Sphericity Assumed" row. The Sphericity Assumed line gives a p-value of .000 so it could be said that there is significant difference between the three tests. There was a significant main effect of teaching English to the students with hearing impairment in inclusive education using total communication strategy, ($F(2, 12) = 65.487, p = .000, \eta^2 = 1.000$). As the main ANOVA is significant this means that there is a significant effect of using total communication technique while teaching English to the hearing impaired students in an inclusive education class room on the academic achievement of students with disabilities as compared to their non-disabled peers.

Findings;

1. The significance value is more than the critical value i.e. 0.05, so it might be found that significant differences could be observed in the variances of differences in scores and assumption of sphericity had been met.
2. The assumption of sphericity had not been violated, it could be concluded that the variance differences are not significantly different.
3. The null hypotheses had been rejected and the alternative hypotheses had been accepted concluding that the total communication technique when applied for teaching English to the hearing impaired children in an inclusive education classroom would affect the level of knowledge and understanding of the students with hearing impairment.
4. The Sphericity Assumed line gives a p-value of .000 so it could be said that there is significant difference between the three categories of tests i.e. tests before intervention, during intervention and after intervention.
5. There was a significant effect of teaching English to the students with hearing impairment in inclusive education using total communication strategy.
6. As the main results and values is significant this means that there is a significant effect of using total communication technique while teaching English to the hearing impaired students in an inclusive education class room on the academic achievement of students with disabilities as compared to their non-disabled peers.

Discussion

The study entitled as Teaching English to Student with Hearing Impairments through Total Communication Technique in an Inclusive education classroom was aimed to investigate the effectiveness of teaching the students with hearing impairments and see the academic achievements of students taught through total communication technique in an inclusive education classroom. The purpose of the said study was to find out the effectiveness of teaching through total communication technique and implementation of inclusive education program. The study was carried out through ABA single subject experimental design. The population of the study was comprised of the hearing impaired students of the Kohsar Special Education for Hearing Impaired Children, Swat. The total population of the study was comprised of 14 students in which 07 were selected randomly as the sample of the study. 10 tests were developed for the purpose of the study in which the first three were conducted as the tests before intervention to check the current knowledge of the hearing impaired students taught through the sign language technique in their special education institution. Then 04 tests were arranged during the phase of intervention. These students were taught through total communication technique and then the tests were conducted to evaluate the progress of students taught through total communication technique. At the end of intervention 03 more tests were conducted as tests after the intervention. The data collected through these tests were analyzed using repeated measures ANOVA, in which the results of the study showed the null hypotheses was rejected meant that the teaching of English to the hearing impaired students through total communication technique had significant effect on students learning. Concluding the results of the study it could be stated that results of the mean scores of tests before the intervention was comparatively lower that the mean scores of results of the tests taken during intervention and after intervention. Using total communication strategy to teach English to the hearing impaired children in an inclusive education would have a significant effect on the academic achievement of the students with hearing disabilities. The tests before, during and after intervention in the subject concluded that the null hypotheses would be rejected resulting that the use of total communication strategy while teaching English to the hearing impaired children in an inclusive education had a significant effect on students learning.

Recommendations

After summarizing the study, research findings and concluding the findings the following recommendations might be made for further researches. Proper trainings of the teachers teaching in an inclusive education classroom to apply total communication technique might play a vital role in a better educational performance of the students with hearing impairments. There might be proper workshops and awareness sessions regarding people with disabilities, their characteristics and their needs so that the general education teachers and students without disabilities are aware of the special needs of people with disabilities. Numerous researches might be conducted to evaluate lower level of understanding of students especially the hearing impaired students in a special education classroom and in the inclusive education classroom as well.

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