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RESEARCH ARTICLE

EFFECT OF ACTIVITY BASED INSTRUCTIONS IN IMPROVING WRITING SKILLS AMONG CHILDREN WITH PROFOUND HEARING LOSS AT PRE-PRIMARY LEVEL

¹*Mrs . Aruna J. and ²Dr. Sridevi, K.

¹Academic Associate, Department of Education, Dr. BRAOU, Hyderabad, Jubilee Hills

²AYJNISHD (D), RC, Secunderad – 500009

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ABSTRACT

Assessment and evaluation are key aspects of teaching and instruction, which serve to promote learning through better planning. Writing as an integral component of literacy, deals with convention and purpose – essentials that need to be incorporated in children to develop them into quality writers. writing evaluation has been catered on holistic grounds for much of the time however, for novice and challenged writers some analytical criterion has been proposed in literature. The present study was designed to find out the impact of Activity based instructions in improving the prewriting skills among children with profound hearing loss at pre-primary level. The present study will address the impact of activity-based instructions by using Auditory, visual and Motor activities. Learning effectiveness was evaluated by comparing its results with traditional methods. The hypothesis was raised and field validated questionnaire was used as data collection instrument. The study was conducted in five sessions by using activity-based instruction. The pre and post test results appears to be a favorable progress in learning. Significance difference was found in the mean scores in achievements in literacy skills between pre and posttests. The main scores of post test scores are higher than the pretest. The activity-based instructions are more effective than the conventional method. It was recommended that teachers should use this method effectively at preschool level.

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INTRODUCTION

Writing is a mean of communication; it can also be a tool for reasoning and learning, (Bangert-Drowns, R. L., Hurley, M. N., and Wilkinson, B. 2004; de la Paz and Felton, 2010; Nuckles, M., Hubner, S., and Renkl, A. 2009). Writing being an integral component of literacy development has been identified as a challenge for the novice writers. The elements of writing as in reading are dependent upon purposive efforts conducted during instruction process. The art of writing comes natural to many as they tend to get involved in more reading experiences.

*Corresponding author: Mrs . Aruna J.,
Academic Associate, Department of Education, Dr. BRAOU,
Hyderabad, Jubilee Hills.

According to Sturm and Koppenhaver (2000), writing composition may involve a complex thinking process that must integrate multiple components including the topic or theme, i.e. choice of words, organization, purpose, audience, clarity, sequence, cohesion and transcription. Writing competence on the other hand relies heavily on coordinates that include vocabulary, knowledge of syntactical structures, planning, composing, reviewing and revising a written product. According to DSM-5 (American Psychiatric Association, 2013, pp. 66-74) the diagnostic criteria for "impairment in written expression" entails sub skills involved in spelling, grammar, punctuation and written composition. These sub skills include spelling accuracy, grammar and punctuation and clarity in organization of a written expression. Typical writing development has been addressed through certain theories and philosophies as it has been considered as a complex phenomenon.

Graham and Harris (2011) have summed up these theories as having cognitive and motivation basis. One category of such theories deal with the mental operations while the other talks about motivational resources. Students with disabilities are identified to suffer more challenges than their peers owing to different mental operations leading to sensory and/or motor deficits. The researchers have further identified a link between disabilities and writing development, i.e., about 19 of every 20 students with disabilities fail to acquire writings skills required for school success (ibid.). Deafness is a sensory disability which hinders language development and at times it is referred to as a disability of language itself. The limited language casts its effect on reading development because of the missing element of "phonological processing". The same is held responsible for a poorer writing skill in deaf students. According to Mather, Wendling, and Roberts (2009), poorer phonological awareness hinders a person to guess the order of sounds and poses difficulties in identifying and remembering orthographic forms of words. Researchers and scholars have long been working to find a crucial linkage that could serve as a bridge to neutralize the effects of hearing loss on writing competencies. Andrews, Shaw and Lomas, (2011) have reported that students who are deaf typically find reading and writing challenging. Many of them have found reasons in the cognitive domains, while others have raised elements in the process of writing itself.

Berninger (2009) postulated a significant link between memories in general and working memory is particular while during writing that may cause a fault Malik and Naseer ud Din 3 especially for deaf writers. He has referred to problems with spelling, grammatical structures, morphological awareness, organizing information and translating thoughts in a written product. Literature has generously reflected upon measures that can improve reading and writing. Referring to writing itself, certain evaluation paradigms have been developed in past that could readily quantify a written sample on a given scale and may also comment on the missing links. Such analytical tools have identified many elements about good written products to the benefit of teachers and instructors investing in writing skill development. On a similar construct however, McCardle, P. (2002), has discussed "Inside-Out" and "Outside-In" skills as a pre-requisite for literacy development which have been reported to be predominantly effected in deaf children. Moores (1978) pointed out the deaf students lag significantly behind their peers with hearing issues in aspect of convention of writing. However, Mayer (2007) and Watson (2002) have identified severe language deficiencies as a factor contributing towards a poorer use of higher forms of language, including cohesion and coordination. Owing to the difficulties and delays in the writing process, Marschark, Lang, and Albertini, (2006) reported a gap in terms of writing skill levels among hearing and deaf peers by quantifying that a 17–18-year-old deaf student write at par with hearing peer who are 8-10 years old. Literature in general is indicative of a similar perspective about writing skills of deaf and talk about a lack of cohesion among sentences, higher syntactical errors, lexical variations and elaboration of content (Devilliers 1991; Maxwell and Falick, 1992). On the vocabulary fronts of language, research reflects upon a severe delay in terms of lexical items development, use of markers and spellings (Paul 2001; Marschark, Lang and Albertini, 2002). In light of the valuable information about written deficiencies of the deaf, linguists have established tools and protocols through which such challenges could be intervened.

The solution regarding these struggling writers and respective evaluation strategies of their written content could be traced back in models proposed by Berninger, Vaughn, Abbot, Begay, Coleman, Crutin, Hawkins, and Graham, (2002) and Saddler (2006). In an undaunted fashion, researchers have identified challenges for deaf writers in terms of grammar, spellings, punctuation at one hand (lower order skills), while generating ideas, sequencing and revising of the content (higher order skills) as on the other. Looking back the timeline, Yoshinaga- Itano and Synder (1985), while working on the writings of the deaf children, have proposed a five-point criterion through the use of which inadequacies could be witnessed in the writings of deaf students. The list includes of items include (1) number of sentences and words used in composition, (2) complexity of syntactic form, (3) analysis of error and their categorization, (4) quantitative use of parts of speech and (5) quantitative analysis of types of transformational grammar. Much Writing Skills Development among Students with Deafness at Elementary Level 4 earlier, however, Powers and Wilgus (1983) proposed a scheme based on syntactic domains for assessing the writings of deaf children. The key concerns highlighted were a repetitive usage of a single pattern, use of variety of simple patterns, and deficiencies in terms of usage of adverbial/gerundial phrase or compound and complex sentences. Heefer and Shaw (1996) worked upon six-dimensional syntactical criteria including ideas and content development, organization, voice, word choice, fluency and convention. On the qualitative sides, however, research signifies elements that reflect upon the quality aspects of a written product. Elements, e.g., ideas and content, voice, word choice, introduction, character, opening, ending, linkages across paragraphs, and originality, contribute to the qualitative aspects of a writing sample. Harris and Graham (1992) offered more specific suggestions for analysing the message quality including introduction to main character statement of time and stay, description of locale, actions of linked reactions.

Children with Hearing Impairment lacking writing skills due to with various reasons like poor memory academy curriculum. They also need to improve reading ability to become self-reliant and independent. As the activity-based instructions is appeals to those who enjoy learning through doing and gives fun to motivate the students, this activity-based instruction has been selected be an important technique to develop writing skills among the children with hearing impairment. Further this technique may be helpful in teaching other concepts like reading. Thus, it is very important to teach pre writing skills to children with and those without hearing impairment. Writing is the most sophisticated and complex achievement of the language system. In the sequence of language development, writing is typically the last to be learned although the early literacy approach encourages children to write even before they learn to read. Through writing, we integrate previous learning and experiences in listening, Speaking and reading. Proficiency in written language required and adequate basis of oral language skills, as well as many their competencies. The writer must be able to keep one idea in mind while formulating the idea into words and sentences, and the writer must be skilled in planning the correct graphic form for each letter and word while manipulating the writing instrument. The writer must also possess sufficient visual and motor memory to integrate complex eye-hand relationships. Mainly, there are five stages of writing process any stage can be skipped and returned it later.

These are; Prewriting, Drafting, Revising, Editing and Publishing. Learning the writing process is important for the student as it enables students to express their thoughts. Writing is not automatically acquiring, but has to be taught. For the children with Hearing Impairment learning to write becomes more difficult as they learn language and writing at the same time. Sometimes writing is also used to develop language. Therefore, development of writing skills should start early being very early at the preschool. Each activity is designed to have a component of literacy. The writing programme needs to be more differentiated, aims clearly defined as activities vary to the needs of children. The writing programme should provide materials, experience activity to learning to write as well as for writing to learn. In the Traditional Method of teaching the instructor is viewed as the pivot in the classroom, responsible for all actions and guaranteeing that all classroom messages go through him or the deductive strategy for instructing. Conventional technique is content focus. In this, the instructor remains more dynamic, more subjective and less affective (Singh (2004)). Conventional techniques are concerned with the review of true information and mainly disregard higher levels of rational outcomes (Rao, 2001). Traditional teaching strategy works against the normal working of the human mind (Weber, 2006). Students are involved in repetitive learning. The instructor forces the students to repeat the material that has been told to them. Corporal punishment, hatred of the teachers and the frightening role of the commanding teacher is noticeable generally in our classrooms. During the long conventional teaching periods, interests and consideration of learners can't be looked after (Cangelosi, 2003).

Conventional strategy is an instructor-focused technique. In the conventional technique, a lot of tension is laid on the educating of the course book by utilizing the technique, which is alike, an adjustment of the Grammar-interpretation strategy. Traditional teaching strategies are defined as being teacher-arranged, in a speech style and are firm. Lessons are typically educated by the teacher presenting skills utilizing a blackboard joined by a verbal clarification or lecture. According to reformers, traditional instructor-centred techniques concentrated on repetition learning. Traditional teaching strategies tend greatly toward class address book knowledge through repetition and retention of actualities, equivalences and formulas. Recitation as a general rule comprises repeating without tending what the book or teacher has communicated. "The teachers are ignorant of the current investigations in the field of dialect educating. The part of the instructor inside the class is dictator with the minimum contribution of the learners." (Behlol, 2009, pp.2-3).

Activity-based instruction is the form of learning, the learner is actively young aged in a task the focus is on making the abstract to concrete learning. It can be teacher-driven, which direction form and instructor- or learner-driven with the learner having with freedom to explore. With younger children there will be definitely we lost of the recognizable physical activity- perhaps physically manipulating coins to learn money, are moving the hands on a paper clock to learn to time. With older children there will still be active problem-solving curing – even if it is with pen and paper more than blocks and counters. Even students in tertiary study can experience active learning. (Francis Harris, 2007 May 07). The purpose of the study is to examine which of activity instruction or conventional method is a better practice to be followed in pre-writing skills to children with hearing impairment or in other words to the activity-based instruction is more effective than the traditional

way in teaching pre-writing skills to children with hearing impairment. Pre-writing skill is a complex task and so it was chosen for the study. The researcher would like to compare the differences in the experimental group.

Review of Literature: Karchmer and Mitchell (2003) reported that 75% of all children who are deaf or hard of hearing receive their education in local public schools. A common goal of professionals working with children who are deaf or hard of hearing is to give children age and developmentally appropriate skills in order for them to be equivalent to their hearing peers. Having equivalent writing abilities is no exception. A study by Anita, Reed and Kreimeyer, which looked at the writing of children who are deaf or hard of hearing in public schools, reported that these students score within the low-average range when tested on contextual conventions, contextual language, and story construction. The study also indicated that although approximately half of the students scored in the below-average range, 17% scored above-average and 32% scored average (2005). In a literature review of a study conducted by Conway (1985), Williams (2004) looked at the purpose of writing for children who are deaf or hard of hearing. For seven months he observed and collected writing samples of children five to six years of age who were enrolled in a self-contained auditory-oral kindergarten program. Conway suggested that writing is a meaningful activity for children who are deaf, and also fulfills individual as well as sociocultural purposes alike those of hearing children (Williams, 2004). In other words, writing in itself is a social process that represents a means to communicate a message to someone else and this applies to all children (Dorn, Soffos, 2001).

The study by Rule and Stewart (2002), researchers found that fine motor activities benefit all kindergartners. In this quasi-experimental study, 186 kindergartners were divided into experimental and control groups. Again, the assignment was not random or matched, but based on voluntary teacher participation. The researchers used a pre-test and post-test to assess participants' fine motor skills through a penny posting test. After receiving a treatment of 50 unique activities embedded into daily curriculum to promote fine motor development spread across a 6-month period of time. The fine motor activities were inspired by Montessori's emphasis on "practical life" materials including tweezers, tongs, and spoons to handle objects (Rule and Stewart, 2002, p. 10). The authors also reported there was no significant difference in performance by gender. In an experimental study, Bara and Gentaz (2011) found a link between visual-motor skills, perceptual skills, and handwriting. The 23-study included 38 typically developing native French-speaking kindergartners who were divided into two training groups. Groups were created by matching children on various measures including: 1) letter recognition, 2) phoneme identification, and 3) hand-eye coordination as determined by scores on screenings conducted by the researchers. One group received visual training for five letters and the other group received visual-haptic training. Training involving visual-haptic (visual perceptual and tactile perceptual) activities increased the letter recognition and global handwriting quality of the participants vs. those who only received visual training after five training sessions. It should be noted that both groups' scores on letter recognition, letter handwriting, letter copying, and global quality of handwriting increased significantly on assessments after training.

The researchers indicated that utilizing visual-haptic exercises, including feeling physical letter shapes, increased the participants' abilities in letter recognition and global handwriting quality. The authors noted that "the representation of letters in the brain is not only visual but includes a motor component" (Bara and Gentaz, 2011, p. 756). In a correlational study by MacDonald et al. (2016), preschool children's visual motor integration skills (tracing, copying, imitating a building with blocks, folding a paper with specific instructions, etc.) assessed in the fall were found to have a small correlation with executive function skills later in the school year. The study was conducted with 92 children ages 3 through 5. All participants were administered 21 a pre-test and post-test that assessed visual-motor integration and executive function skills, once in the fall and again in the spring of their school year. A small correlation was found between fall time visual motor integration skills and spring time executive function skills, suggesting that visual motor integration skills provide "the foundation for the development of executive function skills" (MacDonald et al., 2016, p. 404). However, the authors noted that in this study, visual motor integration skills assessed in the fall of the school year did not have a statistically significant correlation with the change in executive function over the year (.10 effect size).

Objectives of the Study

The objectives of the study were

-) To study the difference between pre and post-test achievement of mean scores of pre writing skills among children with profound hearing loss in experimental group taught through activity-based instruction
-) To find out the pre-test and post-test achievement mean scores of pre writing skills among the children with profound hearing loss with reference to motor activity.
-) To find out the pre-test and post-test achievement mean scores of pre writing skills among children with hearing impairment with reference to visual activity
-) To find out the pre-test and post-test achievement mean scores of pre writing skills. among children with profound hearing loss with reference to the auditory activity.

RESEARCH METHODOLOGY

The study was adapted quasi experimental one group pre and posttest design. The purposive sampling technique is used to collect the data and the sample consists 30 hearing Impaired children with profound hearing loss from various centers of Hyderabad and Ranga Reddy Districts.

Tool Development: Besides a thorough review of literature, an observation was conducted before any formal attempt on tool development was made. The population consists of Children with hearing Impairment studying in preschool from Hyderabad and Ranga Reddy Districts. The sample for the study was drawn from various centers located at Hyderabad and Ranga Reddy Districts. The chronological age of the subject ranges from 8-12 years. The total sample size was 30 (Girls + Boys) sample from preschool stage children. The children with profound hearing loss were included for the study.

A Total of 30 students with profound hearing loss between age range of 3-6years were assessed using the writing skills assessment tool for identifying the writing abilities. A self-designed tool was prepared to teach pre writing skills to the single experimental group the researcher used to teach improving writing skills through three activities i.e (Motor, visual and Auditory) for developing motor activities used the real object clay , paper , balloon , spoon , thread , beads , stone , jug and flash cards ,for developing visual activities used the real objects flower , banana , apple , brinjal , ball , paper ,pencil and shapes of triangle , circle with appropriate amplification in suitable environment To develop auditory activities the researcher used the real objects of model of Alphabets, crayons, red, blue, green copy, book etc.

Procedure: The tool was administrated to the selected profound hearing loss Boys and Girls in accelerated learning camp for the deaf, Hyderabad. The investigator personally met the student and explain about the nature and purpose of the study. The conducted pre-test and post-test evaluation for each sample. Before intervention researcher conducted a pre-test on pre writing skills and scoring was recorded. the subjects in the experimental group were taught through three skills for motor, visual and auditory activities to improve pre writing skills. For the present study task analysis check list was used for the assessment and recording the achievement for pre and post-tests of students related to pre writing motor activities Like;

1)Take clay and do round shape 2) press the balloon in your hand leaves it 3) take paper and made shape 4) put the beads in the thread 5) with the help of fingers take the stone and put it in other jug, and for Visual activities like 1)Join the dots 2)Draw the picture 3) Draw the state line 4)Draw the triangular 5) Draw the circular and for Auditory activities;1)Listen the alphabets and show 2)listen the word and show the difference 3)listen word and do action4) Tracing the word 5) Join the dot and complete the picture. The researcher conducted the single experimental group intervention for teaching through motor visual and auditory activities to improve pre writing skills. the sample was collected from the government special school for the deaf.

Intervention: The five sessions made for each activity, the duration of one session was 30 min for each experimental group. in 30 min the teaching was about 20 minutes for each experimental group. In intervention process out of 30 minutes for teaching session was about 20 minutes and remaining 5-10 minutes allotted time for evaluation activity. After evaluation of the test papers marks were taken as a score.

Analysis of the data: Data was analyzed by using descriptive statistics used calculate Mean and SDs for pre- and post-scores. Inferential Statistics used to Test hypothesis paired t-test was used to compare the pre- and post-scores on the performance.

Scoring criteria: Following is the tabulation of data which was considered while making inferences and conclusion. Table 1, 2 and 3 below reflect the findings about the Pre writing skills.

Objective – I: Pre writing skills in experimental group taught through Activity-based

Table 1.

	N	Mean	SD	T value -7.56 P< 0.01 df=29
Total Pre test	30	14.63	2.27	
Total Post test	30	20.87	1.68	

Mean and SDS for pre and post score son performance of students by using activity-based learning scores were computed. The findings of this study indicates that post-test mean scores are higher than the pre-test mean scores and t - value indicates that there is a significant difference at 0.01 level

Objective -II: Pre-Writingskills with reference to Motor Activity

Table 2

	N	Mean	SD	T value 3.17 P< 0.05 df=29
Pre test	30	4.00	.87	
Post test	30	4.70	1.06	

Table -2 shows that Mean and SDS for pre and post test scores were significantly different and t values indicated the difference between pre and post scores at significant at 0.01 level of significance indicating that intervention is effective.

Objective – III: prewriting skills with reference to visual perception

Table 3.

	N	Mean	SD	T value -10.42 P< 0.01df=29
Pre test	30	6.53	1.33	
Post test	30	8.57	0.77	

Table -3 shows that Mean scores obtained by the sample in the pre-test is 6.53 and SD post-test mean score is 8.57. the calculated t – value is significant at 0.01 level. Hence pre and post-test mean scores of pre writing skills among children with hearing impairment with reference to visual perception is significance.

Objective -IV: prewriting skills with reference to Auditory activity.

Table 4

	N	Mean	SD	T value -7.56 P< 0.01 df=29
Pre test	30	4.10	1.32	
Post test	30	7.60	1.33	

The above table 4 Shows that the combined mean score of students on the auditory skill was 4.10 which increased up to 7.60 and the SD 1.32 to 1.33. The increase the mean and decrease in SD, reveals the achievement scores of auditory skills of children with hearing impairment at pre-primary level is significant at 0.01 level.

Findings of the study

The following findings were drawn by the study

There was a significant difference inpre and post-test achievement of mean scores of pre writing skills among

children with profound hearing loss in experimental group taught through Activity-based instruction.

-) There was a significant difference in pre writing skills among the children with profound hearing loss taught through auditory activity.
-) There was significant difference in prewriting skills among the children with profound hearing loss with reference to motor activity.
-) There was a significant difference pre writing skill among children with hearing impairment with reference to visual perception

DISCUSSION

Development of pre writing skill in children with hearing loss is a complex task, the findings of the study reveal that activity-based instruction is more effective than the conventional method of teaching. The results in table 1 shows that there was no significant difference in the pre-test means scores and post-test mean scores of experimental groups on developing pre writing skills. The results of table -2 shows that there was a significant difference between pre and post scores in developing pre writing skills with reference to motor activity.

The findings of the study support that earlier study findings in Stewart (2002), the fine motor activities were inspired by Montessori's in developing pre writing skills. The results of table 3 shows that development of pre writing skills with reference to visual perception in developing pre writing skills among children with hearing impairment significance. The results of table 4 shows that the development of prewriting skills with reference to Auditory activity in developing pre writing skills in preschool learners reveals the achievement scores of auditory skills of children with hearing impairment at pre-primary level is significant. The findings of the study reveals that the findings of the Bara and Gentaz (2011) found a link between visual -motor skills, perceptual skills, and handwriting.

CONCLUSION

Activity based instruction is more effective in development of pre writing skills in children with profound hearing loss at pre-primary level.

Recommendations

The findings of the study would be beneficial teacher, and other professionals working in the area of hearing-impaired children to educate them. (b)The teachers, principals or learners and professionals would employee whole world.(c)Method for teaching writing to children hearing impairment in the various settings, where special education is offered. On the basis of the research conducted by the investigator, the following suggestions are made for further study

-) Similar studies can be conducted between the hearing aidusers and cochlear implants children with hearing impairment for Activity based instructions.
-) Similar study may be conducted in at primary level for developing writing skills.

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