



EFFECT OF VIDEO BASED INSTRUCTION ON LEARNING NON - FIRE COOKING SKILLS AMONG ADOLESCENTS WITH INTELLECTUAL DISABILITY

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ABSTRACT

The Present study was conducted to investigate the effectiveness of video based instruction on learning non-fire cooking skill among adolescent with intellectual disability.”. A total 12 subjects with mild intellectual disability between the age group of 12 to 18 year attending pre-vocational class at special school in NIMH, Secunderabad was selected as a sample for the present study were selected for the study. The Experimental group and control group consists of 6 students’ .The Experimental method; Pre test post test control group design was used. Experimental group were taught through non-fire cooking skills (Bhelpuri making) through Video based instruction method and control group through conventional method. A total of 20 sessions were taught .The result indicates that video based instruction was more effective in learning non- fire cooking skill.

Keywords -Acts, Policies, UNCRPD, RPWD, Persons with Disabilities

Introduction

1.1. Learning

Learning becomes effective when students are actively involved in the teaching learning process. Meaningfulness and success of learning are determined by the extent to which their different senses are involved. For involving various senses by the learners different media and materials are utilized in the classroom and the learning experiences are made quite relevant and effective. Learning is the process by which an individual acquires knowledge, habits, skills, mental constructs, values and attitudes through study, experience, or teaching that are necessary to meet the demands of life. An individual starts learning immediately after his birth and continues the learning throughout his life.

Many authors have given various definitions of learning. According to **Kimble (1961)** "Learning is a relatively permanent change in behaviour or behavioural potentiality that result from experience and cannot be attributed to temporary body states such as those induced by illness, exhaustion or drugs.

Atkinsonetal (1968) defines learning as "Acquisition of any relatively permanent change in behaviour as a result of practice or experience". Strategies, learning style used during learning vary from person to person, situation to situation. Each individual is different from the other, so far as the learning pace learning rate and learning style are concerned. These variations contribute to the differences in learning potentialities of learners. Some people learn at a faster rate and pose and some are slow.

Though there exist variations in learning capacity of different individuals. The gap is not so wide when it comes to the classroom learning activities. Hence a common curriculum using common instructional strategies and common learning modalities can bring almost uniform learning outcome in a regular classroom (having children with average intelligence). But when it comes to the children with intellectual disability, the situation is entirely different as there exists wide gap in the rate and pace of learning and the learning style used for learning. Thus specialization method, specific instructional strategies multisensory input is used to facilitate learning among these students with intellectual disabilities.

1.2. Intellectual Disability

Intellectual Disability means significantly reduced ability to understand new or complex information and to cope independently (impaired social functioning) and begins before adulthood with a permanent effect on development. Disability depends not only on a child's health condition or impairments but also and crucially on the extent to which environmental factors supports the child's full participation and inclusion in society. The use of the term intellectual disability in the context of the WHO initiative "Better Lives" includes children with autism who have intellectual impairments. It also encompasses children who have been placed in institutions because of perceived disability or family rejection and who consequently acquire developmental delays and psychological problems.

1.2.1. Definition of Intellectual Disability:

1.2.2. American associated of mental retardation (AAMR, 1992) Definitions:

The definition of mental retardation was adopted in 1992 by the American association on mental retardation as "mental retardation refers to substantial limitations in present functioning. It is present characterized by significantly sub average intellectual functioning, existing concurrently with related limitations in two or more of the following applicable adaptive skill areas; communications, self-care, home living, social skills, community use, self-direction, health and safety, functional academics, leisure, and work. Mental Retardation manifests before age 18

"Mental Retardation is a disability characterized by significant limitations both in intellectual functioning and in adaptive behaviour as expressed in conceptual, social and practical adaptive skills. This disability originates before the age of 18" (AAMR, 2000).

1.2.3. ICD- 10(1992) Definition:

A condition of arrested and incomplete development of mind, which is especially characterized by impairment of skills, manifested during the developmental period, skills which contribute to overall level of intelligence i.e.

cognitive, language, motor and social abilities. Retardation can occur with or without other mental or physical condition”

1.2.4. Persons with Disability Act (1995) Definition:

Mental retardation means a condition of arrested and incomplete development of mind of a person which is specially characterized by sub normality of intelligence, while the medical and classification system of classification.

1.2.5. AAIDD (2008):-

American association on Intellectual Developed mental Disability Intellectual disability is a disability characterized by significance limitations both in intellectual functioning and in adaptive as expressed in conceptual, social and practical adaptive skills. This disability originates before age of 18.

1.2.6. AAIDD (2010):-

Intellectual disability is a disability characterized by significant limitations in both intellectual functioning and in adaptive behaviour, which covers many everyday social and practical skills. This disability originates before the age of 18.

1.3.1. Classification

All classification systems have their own fundamental purpose: classification can enhance communication d establish agreement in an area of study. It may be Component of determining eligibility for services and benefits. The major classification in the field of mental retardation is given by ICD-10. Four degrees of severity are specified reflecting the level of intellectual impairment IQ scores. Most of the Major professional organizations have retained this classification.

1.3.2. Mild Intellectual Disability

They have approximate IQ range of 50-70. They may likely to have some learning difficulties in the school. Many people with mild intellectual Disability are able to work and maintain good social relations and contribute to society.

1.3.3. Moderate Intellectual Disability

The IQ ranges of these people 35-49. They may likely to have effected with marked developmental delays in childhood but most can learn to develop some degree of independence in self care and acquire adequate communication and academic skills. They need varying degrees of support to live and work in the community.

1.3.4. Components of Mental Retardation

The condition of mental retardation is described and defined by AAIDD in terms of three major components. Intellectual functioning, adaptive behaviour and systems of support.

Across each of this component mental retardation varies along a continuum. Most individuals with mental retardation have mild cognitive disabilities and have adequate adaptive behaviour to live and work independently in the community and usually require considerable support. (Smith et al 2006).

“Adaptive behaviour is the collection of conceptual, social and practical skills that has been learned by the people in order to function in their everyday lives” Adaptive behaviour is what everyone uses to function in daily lives. One important component of adaptive behaviour is practical skills. Practical skills include such activities of daily life, eating, dressing, toileting, mobility skills, preparing meals, using the telephones, managing money, taking medication and housekeeping. Once the person learns to care all his basic needs such as eating, toileting, and mobility skills higher personal skill such as food preparation becomes the next target to be achieved.

1.4. CURRICULUM FOR THE STUDENTS WITH MENTAL RETARDATION

The curricular content of children with mental retardation requires a different focus. Due to the intellectual impairment, they cannot study like the other disabled children up to high school or beyond and hence the curricular focus here should be function oriented. Ideally, in special education, as in regular education, the curriculum should be derived from an analysis of the needs of society. Therefore, a good curriculum should focus on imparting social competencies to children with mental retardation so that they may perform as independently as possible in the community. With the trend toward integrated education, the curriculum for mildly retarded children is generally an adaptation of the regular education curriculum with a focus on vocational education. This training allows for appropriate job placement of the child when he/she grows up. These curricula include functional reading, writing, arithmetic, time, travel, money and other related skills. Curricula used for children who are moderately and severely retarded, emphasize training in functional activities. The content of the curricula are chosen from among the various tasks that have a high probability of being required in day-to-day living. These tasks include personal, social, occupational and recreational activities. Academic skills are incorporated with the children have the ability to learn them.

1.5. Importance of Teaching Domestic Skills at Pre Vocational Level

Traditionally, as the curriculum in domestic skill for students with disabilities has emphasized grooming dressing feeding and toileting and basic housekeeping tasks such as making bed and washing dishes.(snell,1993). As more people with disabilities have prepared to live in the community in their natural home ,group home ,foster homes, educators have become aware that a broader spectrum of skills is necessary to function successfully in domestic environment, currently, the emphasis is on skill area in the domestic domain including social-sexual, home management, home care and personal health care and hygiene.(Snell,1993) .Educational program designed to result in acquisition, maintenance and generalizations in domestic skill are important for all students. The programs are particularly critical for persons with disabilities for several reasons. They are as follows

1. If people with disabilities grow up without competence in the area they are very likely to place heavy burden on their families.
2. Competence in domestic domain can maximize an individual's chance of not only living in his community, but in least restrictive domestic environment within the community.
3. Competence in the domain projects a positive image of person with disability to those who are challenged by disabilities. (Eshilian et al., 1989).

1.6. IMPORTANCE OF LEARNING FOOD PREPARATION SKILLS.

The purpose of special education is to teach students to live as independently as possible, and then food preparation skills should be a high priority curricular area for persons with mental retardation. Students who “satisfactorily prepare a meal are on the road to independent living”. (Cox, 1982). This means students with mild to severe mental retardation must learn to perform daily living skills including food preparation skills. Food preparation skills represent a widely popular objective within program for people with intellectual disabilities. (Collins et al 1995, Schlock et al 1996, Melton 1998, Rodi&Hughes, 2000). Various reasons have been provided in support of this objective. Probably the most frequently cited reason is relevance of food preparation skills for independent living. In the view of Collin 1992, many people with intellectual disabilities are expected to live independently in the community and provided for their own meals. During a two year follow-up of persons placed in independent living environments, Schlock, and Harper (1978) found that along with other specific skill deficit; 80% of these individuals who failed in living independently lacked meal preparation skills. When performing a five year follow up of these same individuals, the exhibition of cooking skills was found to be an essential variable for successful placement. Based up on the above, the importance of cooking skills should not be minimized.

A second reason for considering food preparation skill as very useful objective is the view that such skills can serve multiple purposes such as leisure management, domestic, occupational and work involvement. Within this context, the teaching emphasis is not specially on peoples in dependent living, but rather on their own constructive, pleasant or remunerative daily activity. (Lancing, et al 1999). Cooking independently has other

financial benefits. Independent cooking is more economical than its alternative; eating out in restaurants and/or hiring someone to provide cooking services. (Snell Browder, 1987). Few skills are found across so many curricular domains.

A third reason, popular particularly with in group homes living management, is the peoples possibility of interacting constructively and fruitfully with staff members and fellow home inheritance during important session of the day, such as those concerning preparation of meals. In addition, many cooking and other food preparation skills are performed in social contents (e.g., dinner parties) with families and friends. Few skills are found across so many curricular domains. (Felce&Toogood, 1998; Sullivanetal., Bakeret al., 1998; Sinson, 1994)

1.7. Importance of Cooking Skills

The purpose of special education is to teach students to live as independently as possible and then food preparation skills should be high priority curricular for persons with intellectual disability. Students who can “satisfactorily prepare a meal are road to independent living” (Cox,1982). This means students with mild & moderate intellectual disability must learn to perform daily living skills including food preparation skills represent a widely popular objective within program for people with intellectual disability (Rodi & Hughes 2000) Over the past two decades food preparation has been frequently studied and identified as an essential skill for living independently across a range of setting (Graves, Coolins , Schuster & Kleinet,2005) Various reasons have been provided in support of this objective. Probably the most frequently cited reason is relevance of food preparation skills for independent living. In the view of a Collin (1992) Many people with intellectual disabilities are expected to live independently in the community and provide for their own meals. During a two year follow up of persons placed in independent living environments found that along with other specific skill deficit 75% of these individuals who failed in living independently lacked mean preparation skills.(Schalock & Harper,1978). When performing a live year follow up of these same individual the exhibition of cooking skills was found to be an essential variable for successful placement. Based upon the above the importance of cooking skills should not be minimized.

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A number of studies have been conducted to evaluate the effectiveness of teacher delivered prompts and procedures for teaching cooking skills to persons with disabilities.

1.8. Challenges in Teaching Food Preparation Skills

Cooking skills is a multi-step task and replicated practice in real setting is required to master the skills

1. Replication of real life like scenario within the simulated class room environment is not always possible.
2. Teaching food preparation is totally trainer dependent skill.
3. Community based instruction sometimes become difficult to implement with frequently student need because of inherent cost and logistically complex factor such as transportation and scheduling.(wissick etal,1999).

1.9. Teaching Strategies for Children with Intellectual Disability

Due to the intellectual impairment, children with intellectual disability have less capacity to learn skills, to maintain and generalize learned skills. Teachers either general educators or special educator do employ various strategies while teaching children in classroom. However special strategies and techniques need to be used for children with intellectual disability and sometimes individualization of strategies and techniques is required.

Task analysis, prompting fading modelling shaping and chaining are the most popularly and commonly used teaching strategies in teaching children with intellectual disability. In addition reinforcement methods are extensively used to strengthen the learning.

1.10. Task analysis

Task analysis is a process in which a task is analyzed into its component parts so that those parts can be taught through the use of chaining forward chaining, backward chaining and total task presentation.

1.11. Prompting

The present or therapist provides assistance to encourage the desired response from the student. Prompts are faced systematically and quickly as possible from a more intrusive prompt, with completely independent responding to the goal. The various prompt levels are verbal prompts are utilizing a vocalization to indicate the desired response for example "Take the toothpaste cap off".(should be avoided when possible as verbal prompt are the hardest. Gestural prompts are utilizing a physical gesture to indicate a desired response, example pointing at the tooth paste. Modelling is the desired response for the student, example taking the cap off to show the student how it is done. Physical prompts are physically manipulating the student to produce the desired response, E.g. Hand over hand manipulation of a faucet handle to begin hand washing.

1.12. Fading

The overall goal is for an individual eventually not to need prompts this is why the least intrusive prompts are used, so the student does not become overly dependent on them when learning a new behaviour or skill, prompts are gradually faded out as then new behaviour is learned.

1.13. Shaping

Shaping involves gradually modifying the existing behaviour into the desired behaviour. If the student engages with a dog by hitting it, then he or she could have their behaviour shaped by reinforcing interactions in which he or she touches the dog more gently. Over many interactions, successful shaping would replace the hitting behaviour with patting or other gentle behaviour.

1.14. Chaining

The chain of responses is broken down into small steps using task analysis. Parts of a chain are referred to as links. The learner's skill level is assessed by appropriate professionals and is then either taught one step at a time while being assisted through the other steps forward or backwards or if the learner already can complete certain percentage of the steps independently, the remaining steps are well worked on during each trial total task. As small chains become mastered, i.e. are performed consistently following the initially discriminative stimuli prompt, they may be used as links in larger chains.

1.15. Advanced teaching strategies

In recent years, identifying functional curriculum goals for students with intellectual disability has become a major priority for special education. The strategy for teaching functional skills and adaptive behaviours in the environments in which they occur naturally is called community based instruction. But sometimes community based instruction may be difficult to implement with the frequency of the students need. When faced with limited ability to travel to community settings to teach skills and need for repeated practice, presentation through advanced prompting techniques appeared to be an effective mean for replicating the real life scenario with the simulated classroom environment. "Picture prompting and video prompting are among them. Without frequent access to community based instruction it facilitates generalization and act as valuable supplement to community training.(Brahman 1999).

1.16. Video Prompting

Video prompting is a combination of picture prompting, giving in number of potential advantages (Logic, 1992) the video displays sequence of behaviour in real time dynamic order thus providing model pattern of the action required. Movements may make cues more silent, thus assisting attention to key natural situation (Stephens & Ludy1975) while the sound track may provide verbal prompts and naturally occurring auditory cues.(Sparifkin,Gadow&Grayson,1984).

For the learner to use video prompting in an independent way, the principal skills needed beyond those needed to watch television are those require playing a video tap and imitating the behaviour displayed. The video recording is permanent record of the task sequence and can be reviewed by the learner as often necessary. At times when the trainer is not present through video recording the learner can review and maintenance procedures. These are all advantages for learner whose acquisition of new skills is slow and for whom maintenance may be more difficult (Frantz. Et.al. 1991: Tangent al, 1992).

Video prompting has advantages for the trainer as well since it exploits a widely available and familiar domestic technology. Video recording are easy to duplicate and can be easily transported to any setting where there is a video player and monitor.(Which themselves may be quite manageable) there by potentially facilitating transfer of training across setting. Finally video prompting is likely to be cost effective in that the largest costs are likely to be in cured in the initial production of training tape which then may be used by trainers who are not otherwise highly trained in instructional techniques needed by disabled individuals (Tinged al. 1992) There is a growing body of literatures demonstrating Video based Instruction can enhance learning of life skills.

1.17. What is Video Based Instruction?

Video materials provide a unique opportunity to present, teach, and internalize authentic information linguistic, cultural, and visual—about the target group. Because these materials can be edited for presentation, they are also excellent venues for focusing our students' attention on specific details and for creating exercise materials based on the video itself.

1.18. Video Based Instruction;-

Cooking programs often demonstrate food preparation on television, and these programmes can be used repeatedly for instruction if videotaped. Although the literature contains numerous investigations on systematic instruction of food preparation skills numerous investigations on systematic instruction using video, no investigation has used videotaped to teach food preparation skills to students with disabilities. Because most schools and homes have access to a videotape played and because the use of video has been effective in teaching other skills, this investigation focused on teaching food preparation skills through systematic instruction using video(Graves;Collins;Schuster,2005).

Studies have shown that video prompting can be effective in teaching cooking skills to individuals with intellectual disabilities and may even be more effective than video modelling for some individuals. Video modelling typically consists of showing the participant a video someone performing the target behaviour or completing the designated task. After viewing the entire video-from to end –the participant is then given the opportunity performs the behaviour or completes the designated task. After viewing the entire video form beginning to end the participant is then given the opportunity to perform the behaviour or complete the task in its entirety. Video prompting in contrast, consists of showing the participant a video clip of one step of the task and then giving him or her opportunity to complete that step before the next step is shown. With video prompting the video clip and is then given the opportunity to complete that step of the task (Goodson.J.et.al.2007).

1.19. Significance and Scope of the Study

To be more independent and functional in the society adaptive skills are essential. Individuals with intellectual disability have significant limitations in adaptive skills. Measures of adaptive skills are to attempt to determine whether the individual actually performs the everyday skills expected of a individual of that age in a typical environment. Acquisition of basic cooking skills will make the individuals with intellectual disability partially independent. A mastery of an adaptive skill such as cooking has lifelong benefits. Substantial efforts were made through this study, to break the monotony and sustained the interest of intellectual disabled

individuals through new and innovative techniques. One such technique is video based instruction. The present study made an attempt to find out the effect of video based instruction on learning non-fire cooking skills.

1.20. STATEMENT OF THE PROBLEM

- The present study is aims to find out the effect of Video Based Instruction on Learning Non-fire Cooking Skills among Adolescents with Intellectual disability.

• 1.20.1. VARIABLES:-

- **Independent Variable:**

Video based Instruction.

- **Dependent variable:**

Non-fire cooking skills.

1.20.2. OBJECTIVE OF THE STUDY

- To assess the cooking skills among adolescent with Intellectual Disability.
- To find the difference in pre and post mean score among adolescent with intellectual disability on non-fire cooking skills as a result of video based instruction .(experimental group.)
- To find the difference in pre and post score among adolescent with intellectual disability on non- fire cooking skills as a result of conventional method.(control group) .
- To find the difference between post mean scores among adolescent with intellectual disability on non-fire cooking skills between experimental group and control group on non-fire cooking skills.

1.21. Hypothesis

- There will be significant difference in pre and post mean scores among adolescent with Intellectual Disability on non-fire cooking skills as a result of Video Based Instruction (Experimental Group).
- There will be significant difference in pre and post mean scores among adolescent with Intellectual Disability on non-fire cooking skills as a result of conventional method (control group) .
- There will be significant difference between as post means scores among adolescent with Intellectual Disability on non-fire cooking skills between experimental group and control group.

1.21.1 OPERATIONAL DEFINITION

1.21.2. Video Based Instruction

- In the present study the Video Based Instruction involves showing the participant a video clips of one step of the task and then giving the person the opportunity to complete that step before the next step is shown.

1.21.3. Learning:-

Learning becomes effective when students are actively involved in the teaching learning process. Meaningfulness and success of learning are determined by the extent to which their different senses are involved. Learning to prepare non-fire cooking independently.

1.21.4. Non-fire cooking

- Non-fire cooking skill is simple skills to learn to make simple food without fire in the absence of his /her parents' .Ex:- Bhelpuri.

1.21.4. Adolescents with Intellectual Disability

For the present study Adolescents with Intellectual Disability means the persons who are diagnosed as mild mental retardation having IQ between 50 to 70.

Review of Literature

2.1. Introduction

The review of literature involves the organized recognition location and analysis of documents containing information related to the research problem. These documents include periodicals abstract reviews books and other research reports. The major purpose of reviewing the literature is to determine what has already been done in relation to the present study. The knowledge not only avoids involuntary replication but it also provides the understanding and insights necessary for the development of a logical frame work into which the problem fits.

The present study is conducted to investigate the effect of video based instruction on learning non-fire cooking skills among adolescent children with intellectual disability. An attempt is made to review the previous literature conducted in imparting skill training to children with intellectual disability using video based instruction and training of cooking skills to these students using different methods and techniques.

The review of literature includes the following

The studies related to video based instruction

The studies related to non-fire cooking skills

2.2. Studies related to Video Based Instruction

A study conducted by **Mechling, Gast and Gustafson (2009)** on “**use of video modelling to teach extinguishing of cooking related fires to individuals with moderate intellectual disabilities.**” This study evaluated the effectiveness of video modelling to teach fire extinguishing behaviour. Three young adults with moderate intellectual disabilities were selected as sample. A multiple probe design across three fires extinguishing behaviours and replicated across three students was used to evaluate the effectiveness of the video

based program. Results indicate that video modelling was effective in teaching fire extinguishing skills. Skills were further generalized to novel examples and levels of performance were maintained up to 52 days.

Karman (2008) A study of comparison picture and video prompt to teach daily living skills to individual with autism. The sample is 2 Male Students autism and mild to moderate intellectual disability. The results show that of the instructional procedures were effective in increasing external prompts and prompts to use technology during instruction for both participants but some differential effects were observed between the conditions, video prompting appeared to be somewhat more effective than picture promoting across most dependent measures, especially when efficiency measures were analyzed.

Sanam (2007) studied “A Comparative study on Picture Prompting Vs Video Prompting on Acquisition and Maintenance of Cooking Skills among students with Mild Mental Retardation”. The purpose of the study was to compare the effectiveness of the Picture Prompting Vs Video prompting method in teaching cooking skills (Tea preparation) among students with mild mental retardation. 8 males and 2 females in the age group of 15 to 18 were participated in this study. The experimental design for the present study was quasi experimental design which includes post-test & pre-test method. The result of study demonstrated that video Prompting group reached acquisition level (80%) at the 6th session, further moved towards maintenance level (100%) and Picture Prompting group is also reached the acquisition level (80%) at 12th session and did not reach to the maintenance level. The present study supports the fact that video prompting is more effective than Picture Prompting.

A study conducted by **Linda, Mechling, Ortega and Hurndon (2007)** on “**computer based video instruction to teach young adults with moderate intellectual disabilities to perform multiple steps, job task in a generalized setting.**” The sample for this study was three adult with moderate intellectual disabilities, two male and one female. A multiple probe design across three job tasks and replicated across the students was used to evaluate the effectiveness of CBVI to teach job skills. All instructional sessions occurred through simulation that combines the technologies of video and computer based instruction. Generalization of skills was assessed at the actual job site. Results indicated that computer based video instruction (CBVI) was effective in teaching generalized multistep, job tasks which were maintained over time.

Malone, Sigafos, Reilly, Cruz, Edrisinha and Lancioni (2006) conducted a study on “modelling for teaching daily living skills to six adults with developmental disabilities. The sample consisted of six adults with developmental disabilities. The study compared two procedures (video prompting Vs video modelling) to set a table and put away groceries. Video prompting involves 10 separate video clips, each showing one step of the task analysis. Video modelling involves a single video showing all ten steps from beginning to end. After watching the respective video clips, participants were given the opportunity to complete the task. Video prompting and video modelling procedures were counter-balanced across tasks and participants and compared in an alternating treatments design. Video prompting was effective in prompting rapid acquisition across both tasks in all but one case. Video modelling in contrast was generally found to be ineffective. These findings suggest that the number duration and /or perspective from which the video clips are filmed may influence their effectiveness as teaching tools for individuals with developmental disabilities.

A study by **Laarhoven-Myers and Laarhoven (2006)** conducted a study on **comparison of three video based instructional procedures for teaching daily living skills to persons with developmental disabilities**. The study compared the effectiveness of three different video based instructional sequences. The sample was two males and one female with moderate disabilities between the ages of 17 to 19. All subject had similar skills requiring for instruction, IQ score and pre test scores on selected skills. The design for this study was within subject adapted alternative treatments design. With this design two or more treatment condition are introduced in a rapidly alternating fashion either the order of presentation being randomized. Results indicated that all of the procedures were effective were effective in increasing independent responding from baseline levels for all participants with the video rehearsal plus photo (video/photo) conditions being more efficient in terms of sessions to reach criterion. Two of the three participants engaged in more independent correct responding when they were taught skills with the video/ in vivo condition, while the other participant engaged in more independent responding on the target skill when the video-photo condition was the instructional procedure. In addition, the skills generalize to untrained settings.

Simpson, Langone and Avres (2004) conducted a study on embedded video and computer based instruction to improve social skills for students with autism. The sample was four students with autism were participated in this study. A multiple probe design across students was used to assess effects of the computer based video models on the target social skills. The teacher designed a computer based programme with embedded video clips of peer without disabilities displayed examples and non example of the targeted social skills: sharing following teacher directions and social greetings. Students were required to discriminate the examples from non examples displayed in the video clips. Computer based training; students participated in group activities with peers without disabilities. This allowed for evaluation of social skill acquisition. All students showed rapid improvements in targeted social skills in the natural environment.

A study conducted by **Hutcherson, Langone, Ayres and Clees (2004)** on **computer assisted instruction to teach item selection in grocery stores: an assessment of acquisition and generalization**. The purpose of the study was to evaluate the effectiveness of a computer based program designed to increase percentage of correct match to sample discrimination tasks and generalization of the skills to a natural setting. He sample for the present study was four students with moderate to severe intellectual disabilities. A multiple probe across behaviour of items and replicated across students was used to evaluate the efficacy of the intervention. Participants behaviour was evaluated across three separate condition and the conditions were introduced in the grocery store probes, which function to assess generalization, CBP which functional to assess acquisition and CAI in which the students were exposed to the independent variables. Results indicated that following intervention, the percentage of correct response in the community.

2.3. Studies related to cooking skills:

A study by **Aryes and Cihak (2010)** on **Computer and video based instruction of food preparation skills. Acquisition generalization and maintenance**. The purpose of the study was to evaluate the effects of a computer based video instruction (CBVI) program to teach the skills. The sample was three middle school students with intellectual disabilities with fifteen years old. A multiple probe design was behaviours design was used to evaluate for a functional relation between the software and skill acquisition. All the students increased

the percentage of steps, completed in correct order after receiving CBVI during maintenance probes, the performance of all students deteriorated: after the single review session with CBVI, all students retain previous levels of performance, tentatively indicating a role of CBVI as a tool for reviving previously mastered material. Results are discussed in terms of the use of CBVI for providing students sufficient learning trails on tasks that require the use consumable products (e.g. food).

Bozkurt and Gursel (2005) conducted a study on **a constant time delay on teaching snack and drink preparation skills to children with mental retardation**. The sample was three students between the age group of 14 and 17. A multiple probe design with conditions across behaviours was used to evaluate the effectiveness of constant tie delay on teaching snack and drink preparation skills o children with mental retardation, in addition generalization effects across settings, time, materials and maintenance effects were examined. Distributed trail formal was used in probe maintenance and generalization sessions to assess target behaviour. Results indicated that constant time delay was effective in teaching subjects to make a sandwich, to prepare a hard drink and to severe these foods and drinks.

A study conducted by **Graves, Collins, Schuster and Kleinert(2005)** on **using video prompting to teach cooking skills to secondary students with moderate disabilities**. The sample was three secondary students with moderate disabilities acquired cooking skills through a constant time delay procedure used with video prompting. A multiple probe design was used to evaluate the effectiveness of the procedure to teach preparation of food item on a stove in a microwave and on a counter top. The procedure was effective for each student. Guidelines foe using video tapes in the instruction of functional skills are discussed.

A study by **Fisus, Schuseer, Morse and Collins (2002)** on **teaching elementary with cognitive disabilities food preparation skills while embedding instructive feed back in the prompt and consequent event**. The purpose of the study was to investigate whether the students with moderate to severe cognitive disabilities would acquire related instructive feedback stimuli embedded in the prompt and consequent event, as well as unrelated instructive feedback stimuli that was delivered in the consequent event. The trainer used constant time delay to teach three food preparation skills. (i.e making cheese and crackers, waffles with syrup, and chocolate milk) to four elementary students and instructive feedback stimuli were embedded within these

procedures. Results indicate that constant time delay was effective in teaching three of the four students all three food preparation skills, and that three of the four students acquired some of the related instructive feedback stimuli. Three of the four students acquired 100% of the unrelated instructive feedback stimuli while the fourth student acquired 80% of the material.

Agran, Fooder Davis, Moore and Martella (1992) conducted on **effects of peer delivered self instructional training on a lunch making work task for students with severe disabilities**; the study investigated the effects of peer delivered self instructional training on the work performance of three students with moderate to severe disabilities. Two students with mild mental retardation were trained to teach the participants two-task specific self-instructions and an interactive statement to a customer while they prepare sack lunches. A multiple baseline design across participants was used to assess the effects of training. The investigation included three major conditions baseline training and post training. Results indicated that two of the three participants learned to make sack lunches in the correct sequence and generalized their responding across novel customers. For the third participant increases in performance with generalized responding across novel customers occurred only after picture cues were added to a self instructional training package directed by non peer trainer condition probabilities were calculated to determine the correspondence between the self instructions and the tasks responses.

Schuster and Griffen (1991) conducted a **study on using constant time delay to teach recipe following skills**. The sample for the study was 5 intermediate aged elementary students enrolled in a classroom for students with moderate mental handicaps. A multiple probe design was used to evaluate the effectiveness of the procedure. A 5-s constant time delay procedure with picture and word recipe cards was used to teach drink preparation. Results indicated that the procedure was effective in teaching all students how to complete the task with the use of the recipe. When follow-up measures were collected up to 12 months after the completion of the study, students maintained the recipe following skill with at least 81% accuracy. The percentage of errors across the students ranged from 1-16%.

Methodology

This chapter deals with the methodology, it includes research design, sample, and sample size, sample technique development of the tool, treatment condition and setting, session, procedure and analysis of the data. The present study was conducted to find out the effect of video based instruction on learning non-fire cooking skills among students with mild intellectual disability.

3.1 Research design:

Experimental Research method and Pre test and Post test control group design was used for the present study. The experimental method is one of the reliable methods of the research that truly test hypothesis concerning cause and effect relationship. The pre test and post test control experimental group design was used, where pre test is conducted to know the baseline performance or homogeneity among participants in experimental and control group and post test is conducted to find out the significant difference between experimental and control group.

3.2. Sample

The sampling is defined as the process of selecting a number of individuals for a study a way that the individuals represent the larger group from which they were selected (Gay & Eurasian, 2009). The sample for the present study consisted of 12 students with mild intellectual disability within the age range of 12 to 18 years, studying in pre-vocational class, special education centre, NIMH, Secunderabad. , Twelve children have randomly assigned to two groups by performance matching individually. Each group is having 6 children. One group will be experimental and another will be control group.

3.3 Sampling technique:

Subjects were selected using probability sampling technique. The Sample was selected by using simple Random sampling technique.

3.4. Selection of the Sample

A group of 20 students with mild intellectual disability between the age group of 12 to 18 years were assessed using the checklist for pre-requisite skills among children with mild intellectual disability. Based on the performance 12 students were randomly assigned to two groups, such as experimental and control group. Each group consist of 6 students. The method of randomization was followed as it gives each individual equal chance of being in the experimental and control groups and free from subjectivity factor or personal error or bias and prejudices or imagination of the investigation.

Inclusion Criteria:-

- Mild Intellectual disability between IQ range 50-70.
- Age range between 12 to 18 years.
- Who scores between 30 to 35% in pre requisite checklist?

Table 1 : Characteristics of the Sample

S.N.	Students of Experimental group	Age	IQ	Gender	Students of Control Group	Age	IQ	Gender
1.	E1	13y	Mild	Female	C1	14y	Mild	Male
2.	E2	14y	Mild	Male	C2	14y	Mild	female
3.	E3	14y	Mild	Male	C3	13y	Mild	female
4.	E4	15y	Mild	Female	C4	14y	Mild	female
5.	E5	15y	Mild	Male	C5	15y	Mild	Female
6.	E6	15y	Mild	Male	C6	16y	Mild	male

The above table provides the characteristics of the sample selected for the present study. It is observed that the total number of subjects were 12 between the age group of 12 to 18 years. Among them 6 subjects were selected for Experimental group and 6 subjects were selected for Control group. In experimental group four male and two female and in control group two male and four female were participated in the study.

3.5. Tool

All research studies involved data collection to test hypothesis for collecting the data, the Researcher has administered self developed instrument which was validated by 15 special educators. Before developing the tool a review of literature on existing assessment tools was done. The search did not reveal much of information regarding the assessment tool to find out the performance level in cooking skills. However the literature available on teaching using video based instruction and it was considered while developing the present tool.

3.6. Development of the Tool

For the present study research has developed the Checklist mild intellectual disability.

- Checklist to assess pre- requisite skills.
- Checklist to Measure Performance skills on learning non-fire cooking skills (bhelpuri.)
- Developed a Video.

The literature available on teaching non fire cooking skills using video as a instruction has considered while preparing the checklist.

3.7. Content

Before developing this checklist the researcher observed all the cooking takes namely holding, cutting, measuring, peeling.etc taught at SEC.BAD. NIMH. Based on the observation and after discussion with teachers, the researcher list down the pre- requisite skills requisite skills required for learning cooking tasks. The total number of items in the checklist was 29 items and all the items have been arranged in increasing order of difficulty.

3.8. Format

The items were arranged in the checklist from simple to complex in logical sequence. There has a provision for recording the performance level of the child in each task session wise.

3.9. Scoring

Key is provided for recording the performance of the subjects. The following scale was used to record the performance of the students. The key are as follows independent =5, occasional cues=4, verbal prompt= 3, modelling prompt=2, physical prompt =1, dependent=0. The scoring was done using numerical codes ranging from 0-5. I=5, OC=4, VP=3, M=2, D=0.

3.10. Development of video

After the selection of skill and development the task analysis the research has developed a video clipping in a view the steps in the task analysis. It consists of one video clip of the target skill and arranged in a sequential order. To get the quality in picture, the researcher has used digital camera and clipping was recorded by focusing only on the task done by the researcher. To get clear vision of materials camera was zoomed. The video clip included with verbal instruction.

3.11. Treatment Condition

The subjects of experimental group were taught through video based instruction and the subjects of control group were taught through video based instruction method.

3.12. Experimental Group

3.12.1. Settings:

The researcher has arranged all material in the kitchen to make bhelpuri. The researcher taught bhelpuri making method through the video.

3.12.2. Sessions:

The intervention program was conducted for 20 sessions for each group. The duration of this session was 45 minutes for experimental group and control group and 5 minutes for the evaluation. The session wise performance of the subjects was recorded in the checklist for both video based instruction method.

3.12.3. Procedure

The researcher has explained the purpose of the study then consent was taken from the parents to include their children in the study. The permission also was taken from the principles, secondary to conduct the experiment.

The experiment was conduct in the kitchen at NIMH Secunderabad. The participants were brought to the kitchen. Video on Bhelpuri preparation was shown to the students. The researcher has explained each step in preparing Bhelpuri then participants were instructed to prepare the bhelpuri. Whenever necessary prompt was given. Students have prepared bhelpuri.

3.12.4. DATA ANALYSIS:-

Data was analyzed by using appropriate statistical technique.(S P S S) .

RESULTS AND DISCUSSION

Analysis of the data is a very important aspect of our study as we draw results from analyzing the data collected throughout our study. The primary objective of this study was to find out the effect of video based instruction in enhancing non-fire cooking skills among adolescent with intellectual disability. In our study the participants were 12 students with mild Intellectual Disabilities, age range of 12 to 18 years studying at **Special Education Centre, NIMH, Secunderabad**. For the present study, Experimental method of Pre & Post test, control group design was used.

As per the research design the selected subjects has been allocated to six subjects to Experimental group (Video Based Instruction) and six subjects to Control Group (Conventional Method) by one to one matching in their present level performance. The subject has been trained in the kitchen at Special Education Centre, NIMH, Secunderabad, for 20 sessions of 45 min each. Training has been given for six subjects in experimental group

and six subjects in control group. Pre –test scores have been collected before the intervention started. After 20 sessions post –test scores have been collected. The performance of each student has been duly entered in the performance check list after every session to measure the performance of the subjects, which is subjected to statistical analysis.

SUMMARY AND CONCLUSION

The purpose of the study is to find out the effect of Video Based Instruction On Learning Non -Fire Cooking Skills Among Adolescents With Intellectual Disability between the age range of 12-18 years were selected for the study. The study was pursued with the following objectives.

Objectives

- ✚ To find out the achievement of non-fire cooking skills among children with mild intellectual disability who received Video Based Instruction (Experimental Group).
- ✚ To find out the achievement of non-fire cooking skills among children with mild intellectual disability who received Classroom Instruction (Control Group).
- ✚ To compare the achievement of non-fire cooking skills between Experimental Group and Control Group.

The total number of the students participated in the study was 12. The subjects were drawn from Special Education Centre NIMH, Secunderabad. The parents of the subjects were informed about the aims and objectives of the experiment. All the parents agreed for their children's participation in the experiment as it involved in learning on non-fire cooking skills. For the conducting the experiment pre-test post-test control group was used.

The students in the experimental group were taught non-fire cooking skills through video based instruction and the control group through classroom instructions. A total of 20 sessions were taught for both the groups. After completion of 20 sessions of teaching of non-fire cooking skills. The performance of the experimental and control group was evaluated.

Post – test mean scores of experimental and control group in non-fire cooking skills was 114.16 and 70 respectively. This showed that the achievement scores of the experimental group was much higher than the control group. The independent t-test was conducted to find out the significant difference between experimental and control group. The Paired t-test (27.59**) was higher than the table value. So t- value showed highly significant at $P < 0.01$. This showed that experimental group who were taught video based instruction showed higher performance than the subjects of the control group who were taught through instruction in classroom.

Conclusion

Computer has never replaced the teacher. But the effective use of computer enhances the desired learning. This is an era of technology. Hence in the training of the students with intellectual disability there should be appropriate application of technology, which is expected to evaluate the performance of the students with disability and give a feeling to these students the satisfaction of being part of technology standards in education. This is not the end. But there is a long way to go before reaching excellence in the international scenario. Let us strive for creating high- tech classroom to make our children to have global outlook.

The present study favours technology application in special education can accelerate the appropriate development of children with intellectual disabilities. By using video based instruction, the special educators can handle these children in proper way. Students can learn with their own capacity and speed. The technology can be useful helpful in implementing individualized education programme for students with intellectual disability. The teacher and students both can make self evaluation and determine the goal achievement.

The results of the study further support the video based instruction was effective method in teaching children with intellectual disability in learning non- fire cooking skills. The findings of the study have implications for innovate way of teaching functional skills through this method. A variety of audiovisuals should develop by the teacher where motivation, interest, creativity can be aroused to perform the given task successfully.

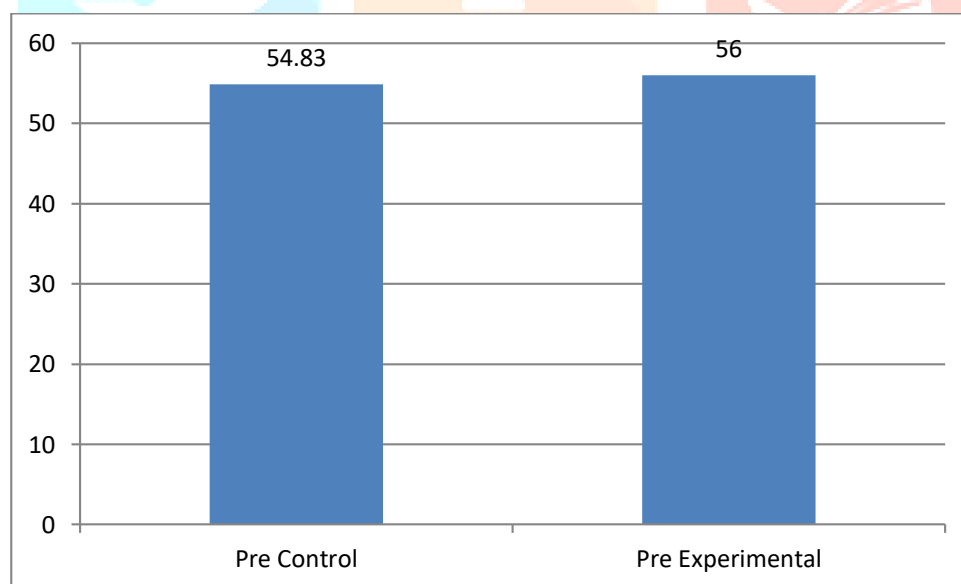
Table 2. Comparison of pre test means scores of experimental and control group.

N=6

Group	Pre test Mean Scores	SD	t-value
Experimental	56	1.67	.848* (df=5)
Control	54.83	2.92	

$p > 0.05$ NS.

Table 2. The above table describes that show pre –test mean score of experimental group is **56.00** and control group is **54.83**. To find out the significant differences independent d t-value was calculated. The obtained t-value of video based instruction are less than the table value. It indicates that the difference is not significant t at .05 level.

Figure. 1. Comparison of pre test means scores of experimental and control group.

Homogeneity group of Pre test of Experimental and Control Group

Figure. 1. indicates that there is a not much difference between experimental and control group which establishes homogeneity among both the group in pretest mean scores.

- **Hypothesis-1.** There will be significant difference between in pre and post mean scores among adolescent with mental retardation on non-fire cooking skills as a result of Video Based Instruction in Experimental Group.

Table-3. Comparison of pre and post test mean scores of experimental groups on non-fire cooking skills.

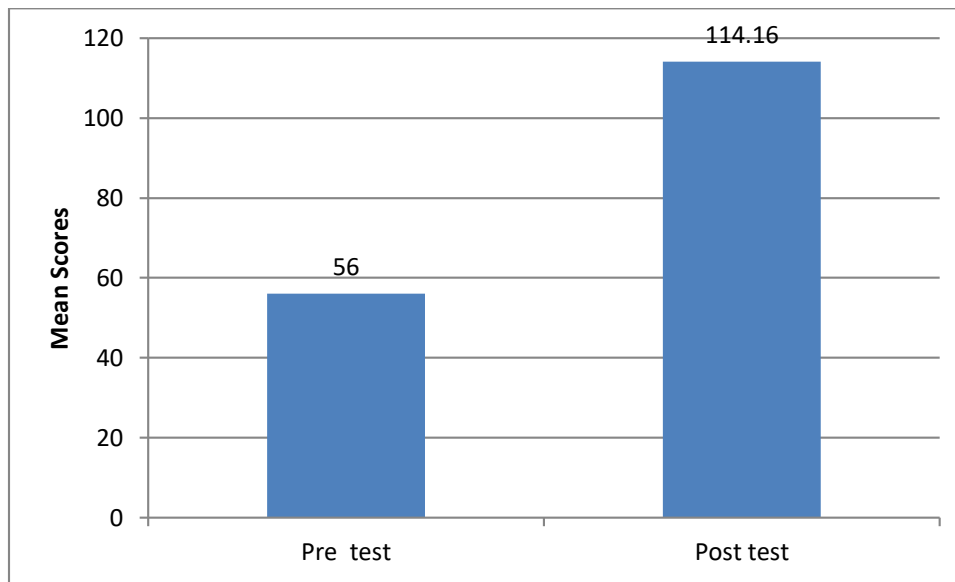
N=6

Experimental Group	Mean	SD	t-value
Pre test	56.00	1.67	34.59** (df=5)
Post test	114.16	3.76	

**- $p < 0.01$ highly significant at 0.01

Table-3. The above table describes that pre –test mean score of experimental group is **56.00**. and post – test mean score of experimental group **114.16**. the difference is means score is 58.16.. To find out the significant differences paired t-value was calculated. Which is highly significant at 0.01 level's <0.01.

Figure 2. Comparison of pre and post test mean scores of experimental groups on non-fire cooking skills



Pre and post test of Experimental Group

Figure 2. indicate that there is a highly significant difference between pre & post mean scores. Pre score Indicate **56.00** and post score Indicate **114.16**. It Indicate that video based instruction was effective on learning non-fire cooking skills among children with mild intellectual disability. The result was in accordance with the study conducted by

Mechling, Gast and Gustafson (2009) on “use of video modelling to teach extinguishing of cooking related fires to individuals with moderate intellectual disabilities.” which indicates video based instruction was effective on learning cooking skills.hence the hypothesis that There will be significant difference between in pre and post mean scores among adolescent with mental retardation on non-fire cooking skills as a result of Video Based Instruction in Experimental Group is accepted at 0.01 level

Hypothesis-2. There will be significant difference in pre and post mean scores among adolescent with Intellectual Disability on non-fire cooking skills as a result of conventional method (control group) .

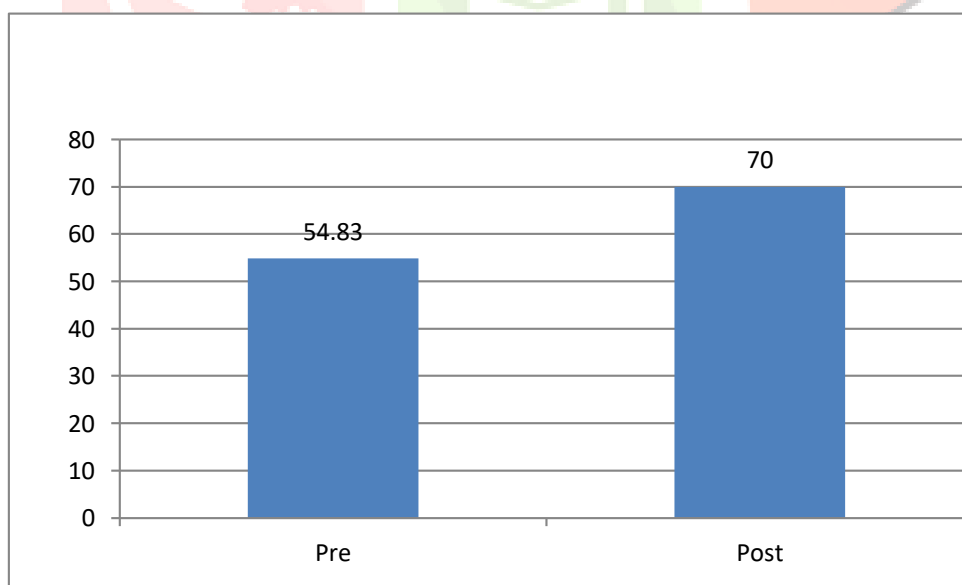
Table. 4. Comparison of pre and post test mean scores of Control groups on non-fire cooking skills..

N=6

Control Group	N	Mean	SD	t-value
Pre test	6	54.83	2.92	14.49** (df=5)
Post test	6	70.00	1.05	

** - $p < 0.01$ highly significant at 0.01

Table. 4. Data table show pre –test mean score of control group is **54.83**. And post – test mean score Control group **70.00**.. To find out the significant differences t-value was calculated and the **Paired t-test** is **14.49**. Which is highly significant at 0.01 level's < 0.01 . **Figure 3. Comparison of pre and post test mean scores of Control groups on non-fire cooking skills.**

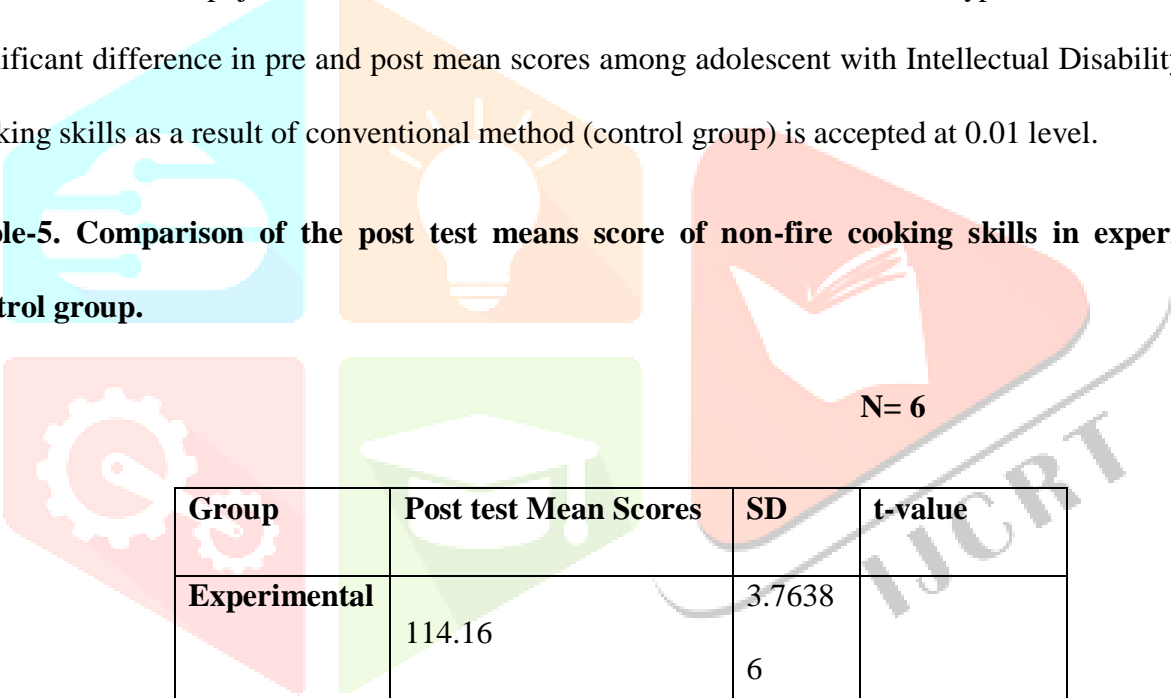


Pre and post test of Control Group

- **Figure 3.** The above indicate that there is a highly significant difference between pre & post result. Pre score Indicate **54.83**. And post score Indicate **70.00**. It Indicate that conventional method on learning non-fire cooking skills some Improved in control group. The result was in accordance with the study conducted by

Linda, Mechling, Ortega and Hurndon (2007) on “computer based video instruction to teach young adults with moderate intellectual disabilities to perform multiple steps, job task in a generalized setting.” The sample for this study was three adult with moderate intellectual disabilities, two male and one female. Results indicated that computer based video instruction (CBVI) was effective in teaching generalized multistep, job tasks which were maintained over time. Hence the hypothesis that There will be significant difference in pre and post mean scores among adolescent with Intellectual Disability on non-fire cooking skills as a result of conventional method (control group) is accepted at 0.01 level.

Table-5. Comparison of the post test means score of non-fire cooking skills in experimental and control group.



N= 6

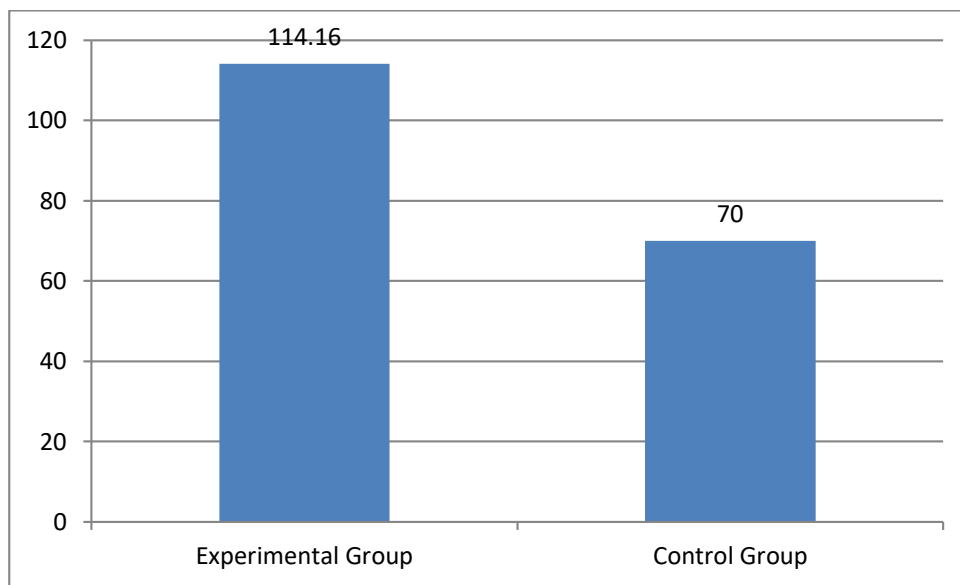
Group	Post test Mean Scores	SD	t-value
Experimental	114.16	3.7638 6	27.59** (df=4)
Control	70.00	1.0954 5	

**-. $p < 0.01$ highly significant at 0.01

Table-5. Indicates post test mean scores of experimental group and control group. The students in experimental group have received video based instruction and the students of control group received direct instruction in conventional classroom for learning on non-fire cooking skills. The post test mean score of experimental group is **114.16** and the post test mean score of control group is **70.00** respectively. The difference between post test experimental group and post test control group mean

scores is **44.16**.. To find out the significant differences t-value was calculated and the **Paired** t-test is **27.59**. Which is highly significant at 0.01 level's <0.01 .Hence hypothesis is accepted.

Figure -4. Comparison of the post test means score of non-fire cooking skills in experimental and control group.



Comparison of Pre and post test of Experimental Group and Control Group

Figure -4. The figure show experimental score is 114.16. And control group score is 70. It indicates that there is a highly significant difference between experimental and control group on video based instruction on learning non-fire cooking skills.

However, the results are consists with previous studies on video prompting, these data are difficult to reconcile with the numerous studies that have demonstrated consistently positive effects with video modelling (Char lop-Christy & Johnnesheshvar 2003). Similar study conducted by Ayres & Cihak (2010) Stated that the use of computer based video instruction for providing students sufficient learning trails on tasks that require the use of consumable proved that use of video prompting in teaching food preparation was effective.

4.2. Educational Implications:-

The results of the study supports that the video based instruction was effective method than the conventional method in teaching students with intellectual disability in learning non-fire cooking skills. Teachers can employ this method for teaching various functional skills like grocery skills, purchasing skills and laundry skills etc. for different levels and age groups.

With the use of the video based instruction the teacher can create various videos. By using this teacher can develop classroom teaching by using video based instruction which will be more effective interactive and sustain interest among students with intellectual disabilities.

Video based instruction is one of the software techniques. This is being worldwide used technology. So every school teacher can use if they can put interest and effort in learning future techniques. They can easily prepare teaching learning material to suit the needs of students in his /her classroom.

4.3. Limitation of the study

- The sample size was very small to generalize the finding to a population.
- The duration of the study has not permitted the researcher to record the maintenance level.

4.4. Future Research

- Researcher conducted the study for a smaller group with shorter duration. Hence, there is a scope to conduct study for larger group with longer duration.
- The study was conducted for individuals with ID age ranging from 12-18 years studying in Special School, NIMH Secunderabad. So the study can be conducted for different age group of children belonging to various levels of intelligence and studying in different special schools in the country.
- Different video based instruction can be developed for the students with sever and profound mental retardation on various functional skills such as grocery skills, purchasing skills and laundry skills and test the efficacy of the instruction.
- Since the present study showed positive results among children with mild intellectual disabilities, students should be exposed to computer as a self instructional material in the classroom by the special teacher and by parent at home.

4.5. Major Findings of the study: -

- The subjects of experimental group who received video based instruction showed significant achievement on learning non- fire cooking skills.
- The subjects of control group who received conventional method also showed significant achievement on learning non- fire cooking skills.
- During the intervention, participants who trained through video based instruction have committed less sequential errors than the participants who trained through conventional method and maintained the skills over time, with 85% of accuracy.

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