SUMMARY

Mental retardation has been known for a considerable length of time and distinctive terms have been utilized to identify it. In the twentieth century, the terms moron, Imbecile, and Idiot clarified the three levels of retardation. Amid the 1940s the term feeble-minded was utilized. As of late terms like 'mental sub normality' and 'developmental disability' are being utilized.

Until the twentieth century, retardation was characterized as a person's powerlessness to meet the significant demands of society. In 1905, Alfred Binet built up a strategy for recognizing students who could be relied upon to flop in the consistent school educational programs and who in this way required an uncommon instructional program, which was deciphered and utilized in the USA by Henry Herbert Goddard. Terman's 1916 version of the Standard Binet Intelligence Scale was immediately adopted as a standardized, objective, norm referenced method for recognizing retarded kids. IQ turned into a standard for categorizing of mental retardation. But, David Wechsler, who conceived a progression of intelligence tests, warned against the inflexible utilization of intelligence test scores as the sole criterion for diagnosing retardation.

The Mental Deficiency Act of 1921 in England considered “Mental defectiveness as a condition of arrested or incomplete development of mind existing before the age of eighteen years, whether arising from inherent causes or induced by disease or injury.”

Reference book Britanica characterizes mental deficiency as “A state of subnormal evaluation of the human organism in consequence of which the individual affected is incapable of assuming the responsibilities expected of a socially adequate person, such as self-direction, self-support and social participation.” Sarason and Dorris

(1969) characterized, “Mental retardation refers to individuals who for temporary or long standing reasons function intellectually below the average of their peer groups, but social adequacy is not in question or if it is in question, there is little likelihood that the individual can learn to function independently and adequately in the community.”

All these definitions were common at various times and in various countries. But, none of them could sufficiently clarify mental retardation. The attributes brought up by various creators are likewise inconsequential to each other. Hence, the American Association of Mental Deficiency (AAMD) set up a board under the Chairmanship of Rick Heber to build up a thorough meaning of mental retardation. Heber characterized mental retardation as “significantly sub-average general functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period” (Heber, 1959).

This definition was along these lines repeated as: “Mental retardation refers to significantly sub-average general intellectual functioning, resulting in or associated with, concurrent impairments in adaptive behaviour and manifested during the developmental period.” This definition has three angles:

a. Sub-average Intelligence Functioning,
b. Developmental in Origin,
c. Impairment in Adaptive Behaviour.

A standard Intelligence test is administered to survey the IQ of children. On the off chance that the IQ falls beneath at least two standard deviation from the ordinary them the child has sub normal intelligence. In Stanford-Binet and Wechsler tests the IQ focuses are individually 68 and 70. The low intelligence shows amid the initial 18 years of life, and the children who classified as mentally retarded should likewise demonstrate weakness in adaptive behaviour. Adaptive behaviour is characterized as “the

effectiveness of degree with which an individual meets the standards of personal independence and social responsibility expected for an age and cultural group" (Grossman, 1977). Adaptive behaviour implies social change which fluctuates from basic self-improvement aptitudes to that of individual social alteration in adulthood. These are resolved on the premise of scores on an Adaptive Behaviour scale created by the AAMD Vineland Social Maturity Scale, or Adaptive Behaviour Inventory of children.

Adaptive Behaviour alludes to the adequacy of the individual or how much a man meets the standards of individual freedom and social duty expected of his age and social group. Desires contrast for various ages. Deficiencies are reflected in earliest stages and preschool years in the territories of sensorimotor skills, communication skills, self-help skills, and early socialization skills. In early school and teen age years, adaptive behaviour deficiencies are reflected in academic skills, activities of daily living, the utilization of suitable reasoning and judgment in mastery of the environment, and the utilization of social skills. In teenagers and adulthood, adaptive behaviour deficits might be reflected in any of the skills referred to for more youthful people or social obligations and performance, or vocational activities.

NEED OF THE STUDY

Education goals towards getting desirable change people to encourage alterations with one's condition, it manages giving important learning experiences to the students. Since in a formal learning circumstance the final result is predefined, planning and organizing and controlling of experiences to achieve the ends is easier. However in augmentation which is require based and "flexible" in nature it ends up noticeably hard to design and execute learning experiences in 'tailor-made' form.

It is expected that the result of the present research will also be valuable to the professionals working with student trainees and teachers of children with special needs or even to parents and relatives of the child or to an institute for children having special needs in the society. These follows were constantly maintained by other researchers (e.g. Cotton and D. Mioduser at el 2000). A category of productive benefits can arise from the use of the approaches of computer assisted instruction concluded that computer-assisted instruction (CAI) approach as an intervention for low performing students or slow learner is much better than any other approach for intervention. (E. H. Kroesbergen et al, 2003). Gore, Morrison, Maas and Anderson (1989) tried to evaluate the meta analysis with regard to mathematics interventions for elementary school children with special needs. The finding demonstrated that the CAI program was viable in enhancing essential perusing aptitudes with and without utilization of drill and practice computer program.

Education of disabled children has been accepted slowly in India, as an important activity which requires special facilities and adoption of specially prepared curricula and teaching strategies. The challenges for educators regarding teaching various concepts to children are as old as education. Various strategies have been used to teach the children with slow learner. This topic is expected to throw light on the effects of computer assisted instruction on development of motor, academic and communication skills among children with mental retardation. The finding will be useful to develop more packages to teach the concept to special children and create awareness on this in special education. Hoogeveens (1989) study was focused on testing the approaches of the techniques of individual itself and he found it to be very effective. Having interest and experience in the field of special education, the researcher felt that using the educational software in teaching and learning could be helpful for the disabled

children to improve their performance according to their abilities. It is a common phenomenon that training with systematic planning enable a child to learn various skills with more efficiency and easily especially in the case of mental retardation. Very few studies are available related to implantation of ICT in special education and using educational software for improvement of various skills in the children with handicapped in India. The result of this study could be significant and likely to provide the input for charting an entirely new teaching and learning programme for the children with mental retardation. Therefore it is expectation that the findings of this study will be important and expected to provide the contribution for formulating or chartering a completely new teaching and learning programme for the mentally challenged children.

RESEARCH GAP

The main purpose of this review was to get information on the related area of Computer Assisted Instruction for Mentally Retarded children. Various studies have been conducted in the related areas in India and abroad. Although the conditions and available resources are different in developed countries. In one study the researcher has developed the CACSR (Computer Assisted Collaborative Strategic Reading) programme for improving reading and language skills among students with disability. The result shows that the CACSR intervention improved their reading by using computer assisted comprehension practice for students with disabilities. In another study researcher suggested that children should be provided with explicit instruction in order to learn new words. Children with learning disabilities do not use independent strategies to learn new words, therefore they should be deliberately taught the meaning of words and in that study the computer assisted instructional were used as self-learning materials. It is benefited to learning disabilities (LD) students with regard to better understanding, effective teaching methodologies, assistive technology and concepts

improvement. In the year 2011 Calhoun, James M. concluded in his study that computer-assisted instruction (CAI) approach as an intervention for low performing students or slow learner is much better than any other approach for intervention.

Cotton (2000) studied says that the CAI as a supplement to traditional teacher directed instruction (TTDI) produces more improvement to those obtained with traditional instruction alone. Those students learnt by CAI always benefited in certain areas which includes retention, attendance, attitude, motivation, save time and energy on task as well as cooperation and collaboration. Gore, Morrison, Maas and Anderson (1989) led an investigation in enhancing and fortifying essential perusing aptitudes through computer. The finding of the investigation demonstrated that the CAI program was viable in enhancing essential perusing aptitudes with and without utilization of drill and practice computer program. Haugland, (1992) revealed that the computer assisted instruction is useful in medicinal program on dialect improvement. In the year 2004 K. David and et al conducted a research on computer technology to teaching science among children with learning disability (LD). M. L. Campbell et al (2008) investigation shows that the computer program was best to teach learning technique in enhancing letter sounds to all children. It concluded that in little group guideline through intuitive white board innovation befitted to students while showing learning strategy or in enhancing letter sound practice. Mary Jo Noonan (2000) in his research work stated that by guided work on utilizing consistent time delay are under two conditions i.e., 1). Computer assisted instruction (CAI) with interactive programming, 2). Teacher assisted instruction (TAI) with manipulative. Some few researches are on computers on the vocabulary procurement of youth children with autism and some studies are on computer assisted instruction (CAI) in improving the efficiency of single digit without carrying addition. String Leung (2005) in an investigation on computer assisted

instruction (CAI) in enhancing the productivity of single digit without conveying expansion. Some studies were conducted on the efficacy of using Computer assisted instruction (CAI) to supplement a phonics-based reading curriculum for preschoolers and kindergarteners in an urban public school system. Pekka Rasanen et al (2009) led an examination on, "computer assisted instruction (CAI) in showing number aptitudes in kindergarten children". In the year 2011 Ramdossa et al worked on a systematic analysis on computer based interventions (CBI) in improving literacy skill e.g., reading, writing and vocabulary of students with autism spectrum disorder. Rhailju and Richardson (1986) and Shiah, Mastropieri, Scruggs, and Fulk (1994-1995) examined the adequacy of computer assisted instruction in enhancing math accomplishment of fourth grade students. Tzu-Hua Huang et al (2012) contemplated on, "Computer assisted instruction in enhancing mathematical problem i.e., word based addition and subtraction solving system as far as a system direction site to help low-accomplishing second and third grade students in Taiwan. You-Jin Seo (2009) did a study to conduct a meta-study of computer assisted instruction (CAI) studies in mathematics concepts with regard to students with learning disabilities (LD). Traynor, Patrick L. (2003) directed an examination to look at the Computer assisted instruction program in enhancing whole learning. Vashisht K. C. and Malik S. (2001) recommended that the advantages and beneffits standpoint of computer technology in special education. You-Jin Seo (2009) did a study to conduct a meta-study of computer assisted instruction (CAI) studies in mathematics concepts with regard to students with learning disabilities (LD). In India many studies were conducted on effect of computer assisted instruction on learning of multiplication among children with mild mental retardation. Kumar, M (2012), conducted a study on the evaluation of computer assisted instruction in teaching language & arithmetic to children with mild mental retardation. Narayan et. el. (1994)

developed a software package under CAI for children with Mental Retardation (CAI) multicentred projects-1. The first package included 1. Reading functional words, 2. Numbers upto 10 and prepared for DOS environment. CAI was found to be feasible for students in 1996, second package was developed, field trial report by the project showed beyond doubt that children with mental retardation can learn and generalize skills. Sharma in (2004) conducted a study to find out the efficacy of computer assisted instruction in improving mathematic concepts of students with mild mental retardation. Rai Kamlesh (2008) conducted a study on technology. The studies conducted by D. Mioduser at el (2000), E. H. Kroesbergen et al (2005), Evelyn H. Kroesbergen et al (2003), Gretchen, L. Robertson (2002), Jennifer M. Suh (2011), J. M. Ortega-Tudela et al (2006) , Mastropieri, Scruggs, and Shiah (1997), Sargent, Laurence R : Lehman, Regina; Smith Darrell L.S. Hilderandt, Carol (1982), Robert L. Morgan, Aim Charls L. And, Salzberg (1992) were not related to CAI.

Out of small number of studies conducted in the area of special education only one thing emerges i.e. the beginning has been made but the researchers are either at the awareness level or exploratory in nature. More specific, precise and scientific researches are needed to make special education a reality in practice on a much larger scale than what has been happening of today.

More teacher training modules need to be developed so that not only pre-service but in service teachers also could be trained in inclusive practices.

A great need of research has been felt in the area of curriculum development to make it more need-based and provide score for curricular adaption. Feasibility studies need to be conducted by using multi instructional approaches and testing variety of instructional strategies at various levels. Parameters of assessment and evaluation need to be looked into and necessary modification need to be done and validated across the

age levels and standards. The administrative and management aspects of inclusive education need to be studied at the micro and macro levels both in rural and urban setting so that the models thus developed could be replicated in varied situations. Conscious efforts are required to bring in attitudinal changes in the teachers, managers, non-disabled students and the community through the use of multi0media. The researches could be conducted to develop and test the efficacy of the multi-media packages for different target groups.

After reviewing relevant studies the researcher realized that very little empirical research has been taken up on aspect of present research in India. Some researches that were done in foreign countries do not directly relate to the aspects taken up by the researcher and there learning situation and societal perspective is different from India. Thus, a comprehensive study was required to be taken up with the use of CAI for Mentally retarded children.

STATEMENT OF THE PROBLEM

"***Impact of CAI on the development of Motor, Academic and Communication Skills in Children with Mental Retardation"***

OPERATIONAL DEFINITIONS OF THE TERMS USED

The terms used in the study have been defined as under:

Computer Assisted Instruction (CAI):

A list of simple problems/examples is stored in the computer. The learner communicates with the simplest set first and if learner responds corrects then next problem is given and the same time difficulty level increases otherwise it would help to fixed learning by repetition. Wrong answer is supplemented with the information and similar new problems are presented.

Mental Retardation (Intellectual Disabled)

"It 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 age of 18 years" **(Luckasson et al. AAMR, 2002).**

Skills

The skills are the purposeful behaviours of person in the environment and functional assessment is the measurement of such type of behavior of a person, while interacting with the environment which is interpreted according to the assessments intended use. NIMH developed FACP which covers four areas e.g. personal skill, social skill, academic skill and occupational skills.

Academic skills

In the present study, academic skills include identification of colours, receptive language, reading, concept of size etc.

Motor Skill

A motor skill is an intentional movement involving a motor or muscular component that must be learned and voluntarily produced to proficiently perform.

Communication

Communication is simply the act of transferring information from one place to another, whether this be vocally, written or visually or non-verbally.

OBJECTIVES OF THE STUDY

1. To compare the motor functioning level of experimental and control groups before training.
2. To compare the academic level of experimental and control groups before training.

3. To compare the communication level of experimental and control groups before training.
4. To compare the motor development of experimental and control groups after training.
5. To compare academic level of experimental and control groups after training.
6. To compare the communication level of experimental and control groups after training.
7. To compare the motor development of experimental group after one month of training.
8. To compare academic level of experimental group after one month of training.
9. To compare the communication level of experimental group after one month of training.

HYPOTHESES

1. There exists no significant difference between experimental and control group in motor functioning level before training.
2. There exists no significant difference between experimental and control group in academic level before training.
3. There exists no significant difference between experimental and control group in communication level before training.
4. Motor functioning level of experimental group is better than control group after training.
5. Academic level of experimental group is better than control after training.
6. Communication level of experimental group is better than control group after training.

7. Motor functioning level of experimental group in post-test-II is better than the experimental group in post-test-I.
8. Academic level of experimental group in post-test-II is better than the experimental group in post-test-I.
9. Communication level of experimental group in post-test-II is better than the experimental group in post-test-I.

DELIMITATIONS OF THE STUDY

The present study was restricted to special school of mentally challenged students of Rohtak and Mahendergarh Districts of Haryana. The study was done only in classroom setting. CAI package developed by NIMH was used in training of the sample. A small sample of 38 students with mild and moderate intellectual disability were taken for study. Teaching through computer is difficult unless the teacher and parents takes extra efforts.

METHODOLOGY

The Pre-Post Test design is followed in this study. The present research was carried out in four stages. At the pre-testing stage, current level of motor functioning, academic level and communication skill were assessed in mentally challenged children of both the groups i.e. experimental and control groups with the help of Behavioural Assessment Scale for Indian Children with Mental Retardation (BASIC-MR).

At the second stage, training was given with the help of CAI to every mentally challenged children of experimental group only and the same was implemented by researcher for three months. In which Computer Assisted Instruction was used to teach them academic skills viz. colour concept, size concept, addition, alphabets, reading and writing to the experimental group. No computer assisted instruction was used to teach the control group. Control group has attended the formal traditional classes only.

At the third stage, level of motor functioning, academic level and communication skill of both the groups viz., experimental and control groups were evaluated as post-test with the help of Behavioural Assessment Scale for Indian Children with Mental Retardation (BASIC-MR).

At the fourth stage, again a post-test II was taken. After the evaluation at third stage the experimental group was free and both experimental and control group were following formal traditional class routine. After one month of third stage again a post-test II was taken to evaluate level of motor functioning, academic level and communication skill of both the groups viz., experimental and control groups.

SAMPLE OF THE STUDY

The sample of the present study comprised of 38 mentally challenged children with I.Q. range of 35 to 69 and with age group 06 to 14 years, who were selected from various special schools located at Rohtak, Rewari and Narnoul in Haryana State by using purposive sampling technique. Out of these 38 mentally challenged children, 19 formed the control group and 19 formed the experimental group.

TOOLS USED

The following tools were used to collect data in the present study:

3.4.1. Case History Performa developed by the researcher himself.

3.4.2. Behavioural Assessment Scale for Indian Children with Mental Retardation (BASIC - MR) by Peshawariya and Venkatesan.

3.4.3. Computer Assisted Instruction Software developed by NIMH.

PROCEDURE OF EXPERIMENTAL RESEARCH

Collection of data is must in any type of research so that hypothesis formulated at planning stage may be tested. Collection of factual information or data required adaptation of a systematic procedure, because as per Whittery (1950), 'Data are the

things we think with. They are the raw material of reflection until by comparison, combination and evaluation they are stepped up to higher levels of generalization, where again they serve as basic material for further and higher thinking'. Further, collection of relevant data must be adequate in quality and quantity and as reliable and valid as possible. The present study was conducted in four stages, detail of which is given below.

Pre-testing stage

In the beginning stage, the general background information of all the 38 mentally challenged children was collected. The general background information obtained from the parents and class teacher on a Case History Performa. To maintain ethical norms, permission before collect the data was taken from the Heads of concerned schools as well as the parents of the subjects. Special carefulness had also been taken so that the emotions of the subjects and their parents are not hurt. During the pre-testing stage, Behavioural Assessment Scale for Indian Children with Mental Retardation (BASIC-MR) as assessment tool was administered on all the 38 mentally challenged children to assess their motor functioning level, academic level and communication level. The scores, thus, obtained for each skill of every subject was recorded both graphically and numerically in Behavioural Profile of BASIC-MR.

All the 38 mentally children were further equally divided in two groups i.e. experimental group and control group. The subjects of both the groups have been taken from the separate special school intentionally so that the subjects belonging to control group may not feel ignored as no special teaching technique was being used for them.

Experimental Stage

At this stage, training was given with the help of CAI to every mentally challenged children of experimental group only and same was implemented by

researcher for three months. In which Computer Assisted Instruction was used to teach the academic skills viz. colour concept, size concept, addition, alphabets, reading and writing to the experimental group. No computer assisted instruction was used to teach the control group. Control group has attended the formal traditional classes only.

The needs, requirements, priority of each subject were also taken into consideration during experimental stage. All the special educators of the concerned school where the experimental training was carried out, were made aware of the objectives and nature of the experimental training to be conducted. These special educators were also given special instructions and guidance for implementing the Computer Assisted Instruction (CAI) in teaching and it was implemented on the experimental group for 3 months. Objectives were evaluated to see the progress of subjects.

No special instruction or teaching method or CAI was used for the subjects of control group. Subjects of control group has attended formal class in routine and teacher has taken traditional class.

The medium of training was Hindi. Training was given to each subject of experimental group for one hour daily. Appropriate and accurate instructional materials were prepared and used for training according to the subjects.

Post-testing Stage

After the training of three months each subject of both the groups i.e., experimental and control groups were again evaluated individually to record their progress in their motor functioning level, academic level and communication skills with the help of Behavioural Assessment Scale for Indian Children with Mental Retardation (BASIC-MR). It was recorded numerically and graphically to check whether the subjects of experimental group have achieved the predetermined set of objective of

research or not. The mean gain scores were also recorded for both the experimental and control groups of the subjects.

Post-testing II Stage

At the fourth stage, again a post-test was taken. After the evaluation at third stage the experimental group was free and both experimental and control group were following formal traditional class routine. No special instruction or technique was used to teach experimental or control group by the class teacher or researcher. Teacher has followed regular teaching method during this period. After one month of third stage again a post-test II was taken to evaluate level of motor functioning, academic level and communication skill with the help of BASIC-MR of both the groups viz., experimental and control groups.

Major Findings

1. The motor functioning level of experimental and control groups before training was seen and found that mean of the motor skill scores of the experimental and control group in pre-test phase are 115.74 and 116.32 which means that both the two groups are homogeneous. Therefore, the 'motor functioning level of experimental group is likely to be same as control group before training. It indicates that experimental and control group do not differ significantly in pre-test phase so far as motor functioning of the children with mental retardation is concerned.

2. The academic level of experimental and control groups before training was checked through BASIC-MR Part A and it was found that that mean of the motor skill scores of the experimental and control group in pre-test phase are 145.68 and 145.84 which means that both the two groups are homogeneous. This shows the significant difference between experimental and control group in academic level before training. It also indicates that experimental and control group do not differ significantly in pre-

test phase so far as motor functioning of the children with mental retardation is concerned.

3. The communication level of experimental and control groups before training was checked with the use of BASIC-MR Part A. It shows that the mean of the motor skill scores of the experimental and control group in pre-test phase are 98.89 and 98.37 which means that both the two groups are homogeneous. It means that there is no significant difference between experimental and control group in communication level before training. It indicates that experimental and control group do not differ significantly in pre-test phase so far as motor functioning of the children with mental retardation is concerned.

4. The motor development of experimental and control groups was again checked after training through BASIC-MR Part A. It was found that the mean values of the experimental and control group after the post test-I is 118.83 and 122.84 respectively which shows the significant difference between them. Therefore it is stated that motor functioning level of experimental group is better than control group after training.

5. The academic level of experimental and control groups was again checked after training with the use of BASIC –MR Part A. It was found that the mean values of the experimental and control group after the post test-I is 181.74 and 147.89 respectively; which shows the significant difference between them. Hence the academic level of experimental group is better than the control group after training.

6. The communication level of experimental and control groups was again checked after training. It was found that the mean values of the experimental and control group after the post test-I is 118.68 and 99.37 respectively which shows the significant difference between them. Hence the communication level of experimental group is better than the control group after training.

7. The motor development of experimental group was checked after one month of training to see the continuation level of motor skill. The mean values of the post-test I and post-test II of the experimental group is 122.84 and 122.81 respectively which shows that both the groups are homogeneous. It means that the improvement in motor skill is not continued and reduced after the discontinuing of training. The result shows that the motor functioning level of experimental group in post-test-II is better than the experimental group in post-test-I.

8. The academic level of experimental group after one month of training was checked. The mean values of the post-test I and post-test II of the experimental group is 181.7 and 178.53 respectively which shows the significant difference between them. The result stated that the academic level of experimental group in post-test-II is better than the experimental group in post-test-I.

9. The communication level of experimental group after one month of training was checked and found that the mean values of the post-test I and post-test II of the experimental group is 118.68 and 118.47 respectively; which shows that both the groups are homogeneous. The result stated that the communication level of experimental group in post-test-II is better than the experimental group in post-test-I.

10. The overall result shows that after practicing through computer assisted instruction (CAI) the learners were learning in an effective manner with full interest and enthusiasm. The result of pre-test reflects the equal status of all the three skills i.e. motor skill, academic skill and communication skill. With reference to the post test-I there was no sign of improvement was seen in motor skills of experimental group. But there was an improvement in academic skills and in communication skills. After post-test II there was no sign of improvement in motor skills and communication skills of

experimental group in comparison to post test-I. But there was an improvement in academic skills.

DISCUSSION

In the era of science and technology the progress in the last few decades has brought not only the economy globalization and expansion of technologies but changes in culture, social relations, and education with inclusion in education. Rapid development of computer assisted instruction in the classroom, telecommunications, media, and information communication technology bears huge potential for improving the quality of life. Children with special educational needs do not get these technological assisted instructions. Although the advancement of technology has unveiled meaningful social opportunities for children with special educational needs by providing convenient access to information and communication tools. The concept of the world now becomes a global village is strongly built on the massive use of information and communication technology (ICT) and which has become an important component in the education of children with special needs throughout the world. The current definition of social development and equal opportunity is characterized by the equal and sustainable approach for every citizen. The government is in the process of developing smart cities in the country. The concept of smart city means every facility must be available by one click on technology that too excess by normal and differently able persons. It helps in changing our society, thought of people, and involvement of special children in the main stream where information of every field is present. The use of computer based technology has become the need of the day due to many reasons for children with special needs and specially intellectually disabled children. The technological advancement has brought the use of sophisticated hardware and software like television, radio, films, tape recorder, and transparency in the field of education.

The computer assisted instructions can show tremendous advancements in the teaching learning process for intellectually disabled children. Today information communication technology (ICT) supported teaching methods and materials in the classroom enhance the degree of teaching-learning process.

The intellectually disabled children/ Mentally Retarded children cannot study in normal schools. These children cannot learn in ordinary schools because of their specific disabilities. The present study is an attempt to provide computer assisted instructions to intellectually disabled children to develop their motor skills, academic skills and communication skills. The teaching of this step was taken by the researcher to minimize the psychological trauma of intellectually disabled children. It also removes learning barriers.

Children with special needs are exceptional individuals such as the visually impaired, speech disordered, hearing impaired, multiple handicapped, mobility impaired, the gifted and talented, and a the one who require adaptable curriculum. The present study suggests that in these fields computer assisted instructions could show more and more positive and sustainable result.

The National Policy on Education (2009) classified special needs children into two categories: A. The physically challenged, who are impaired (physical, sensory), and whom because of this impairment cannot cope with conventional school/class organization and methods without formal special educational training and facilities. They include:

1. Visually impaired (blind and the partially sighted);
2. Hearing impaired (deaf and the partially hearing);
3. Physically and health impaired;
4. Mentally retarded (educable, trainable, bed ridden);

5. Emotionally imbalanced (hyperactive, hypoactive/the socially maladjusted/ behaviour disorder);
6. Speech impaired;
7. Learning disabled (have psychological/neurological educational phobia or challenges);
8. Multiple handicapped.
9. The gifted and talented: people (children and adults) with very high intelligent quotient and are naturally endowed with special traits and therefore find themselves insufficiently challenged by the regular school, college/ university programmes.

The National Policy on Education (2009) defined special needs education as a formal special educational training given to people (children and adults) with special needs. Educating persons with special needs could take place either in a special school setting or in an inclusive class. Children with special needs are said to be educated in a special or segregated school setting where students with disabilities receive classroom instructions separately from students without disability. On the other hand, inclusive education presupposes that children with special needs receive educational instruction alongside non-disabled children in the same classroom with necessary modifications to accommodate the peculiar needs of the special children (Florian and Hegarty, 2004).

The purpose of this study is to assess the role of computer assisted instructions on Educable mental retardation in Rohtak district of Haryana. The study reflects positive node in many other areas other than the objectives mentioned at the beginning are as follows:

1. Computer Assisted Instructions (CAI) enhance teaching-learning of children with Educable mental retardation.

2. Computer Assisted Instructions (CAI) improves effective instruction of children with Educable mental retardation.
3. Computer Assisted Instructions (CAI) alleviate environmental challenges of children with Educable mental retardation.
4. Computer Assisted Instruction (CAI) enhance the learning of children with Educable mental retardation.
5. Computer Assisted Instructions (CAI) helps in self-sustainability.

The regular class teacher as well as paraprofessionals can easily handle the CAI and make understand the intellectual disabled children better in an interesting manner. It also helps in social adjustment and social integration of the intellectually disabled children. At the end future researches can be conducted by taking use of this research.

EDUCATIONAL IMPLICATIONS

The present study has an educational implications in the institute specially running for the educational purpose of person with disabilities. The publication of this study will sensitize school teachers, teacher training institutions for special children and normal children, parents of mentally retarded children and parents of the children having other disabilities towards the betterment. This study is useful if such kind of teaching methodology will be used in the classroom. Therefor the school authorities and teachers can take a step to introduce and facilitate the school system with computer assisted instructions (CAI). The Government of India is also in the process of establishing Information and Communication Technology Laboratory in every school across the country. The target set to achieve by the end of the year 2018. By this time every government school is presumed to be equipped with ICT laboratory with WiFi facility. Implications of the present study in various areas as follows:

Implementation for teaching methods, teaching strategies and teaching techniques

There were many advantages noted for using the right technique. The first and the foremost was that it helped save time and energy. For example, for all the tasks selected for teaching the 20 students, the student being taught with computer assisted instruction (CAI) had an advantage over the student being taught with traditional method. CAI group of student used to learn adaptive behaviour skills more quickly so these students had ample time to generalize it to other situations.

The special teachers working CwSN to be patient with their students. If they apply the right technique, there is progress of the time and the patience continues, otherwise the transfer also gets frustrated and does not feel like working with special needs students. The present study has its implications for multisensory approach. While training with CAI to experimental group students were used multisensory approach viz. visual, auditory, kinaesthetic and tactile approach.

Implications for curriculum transaction

The efficiency in curriculum planning and development rests upon the need to link the level of concept with the cognitive level and ability of learners. The curriculum transaction for mentally retarded children is personalized because every child has a specific characteristic, specific need, different Intelligence Quotient and different associated conditions. Therefore teacher needs to prepare invidualized instructional methods and then transact the same in the classroom. The teacher will prepare individualized curriculum and consequently used the teacher method, teacher strategies and teacher module, teaching techniques and teaching aids. The curriculum should be developed in such a way through which learner can acquire meaningful acquisition of concepts. If the curriculum aims to be learner cantered then learner's characteristics and

their predisposition should be major determinant in planning and development of the curriculum.

Implication for motivation and reinforcement to teachers and learners

The advantage noted, that it was reinforcing to the teacher as well as learner when the task was achieved quickly. The quick and steady progress in motor, academic and communication skills sustained the motivation in teacher as well as student. This achievement was every reinforcing to teacher as well as student. Whereas the less achievement found among students with intellectual disability when taught with traditional method.

Frequent presentation of the tasks and quiz improves the memory of the intellectually impaired adolescent. Rapid change in figures and colours of tasks improve concentration as well as interest for personal and social skill.

It also helps in the achievement of concept such as personal and social skills. It can be said that it is possible only because of the attractiveness of the task and its presentation on electronic screen.

Implications for special teacher

The present study has its implication for the special teachers and professionals working the in the field of disability. It helps them to select and appropriate teaching method which would impart the skill in time saving manner and would also keep up their level of motivation.

Implication for society

The present study has its implications for society in general and teacher in particular. It will help them problem exhibited by the children along with teaching them, which facilitates better learning for each child. It will also enable them to explain the parents the methodology which is also to be carried out at home effectively.

Education for all, irrespective of whether they are children with disabilities, is a national concern and agenda of the government. Reaching out, where special education rehabilitation science is unreached due to geographical locations being remote such as dessert, hills or mountain coastal and forest areas can also be overcome by CAI programme.

The study has implications for social welfare organizations also. It will help them to spread awareness through CAI programme, media and in identifying and giving suitable reinforces as and when required.

The present study locates itself in this concern, that through distance and online education we can impart education or solve educational problems and reach the un-reached in our country, especially children with special needs. Likewise through this approach, children with intellectual disability could become part of the educational system and derive benefits that improve the quality of their lives.

SUGGESTIONS AND RECOMMENDATION FOR FURTHER RESEARCH

The present study was conducted with 38 children with mental retardation in a controlled situation in a classroom setting. Though study was conducted in a scientific manner, certain delimitation of the study was observed, on the basis of which the following suggestion and recommendation were made.

- The sample taken for the present study was 38 students with intellectual disability. It is recommended that future research could be conducted on a large sample.
- The present study was restricted to only children with mild and moderate intellectual disability. Further research could be conducted on various disability like down syndrome, autistic, children with ADHD etc.

- Only two teaching methods were compared in the present study which could be increased for further research. The suggestive teaching methods could be demonstration method for personal skills.
- The objective selected for training were motor, academic and communication skills. Further research could include more skills. The suggestive skills were social skills, personal skills etc.
- The present was restricted to classroom setting. In future the study could be conducted in other setting i.e. home setting, institutional setting and inclusive setting.
- Providing fantasy context and providing the learner with choice over his/her own learning, student growth comparisons among the various types of students could be made using a computer assisted instruction programme that incorporates the remaining two mechanisms, (1) personalizing information, and (2) animating objects on the screen.
- Further studies could be conducted with severe mentally retarded children, learning disability children and autistic children as well.