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Bala Mani

BALA MANI
ABSTRACT

The present study investigated the effectiveness of specific learning strategies namely, learning through the visual mode, the auditory mode and the combined visual and auditory modes in the acquisition of a vocational task i.e., the assembly of a ball point pen by adults with severe mental retardation.

Mentally retarded individuals in India constitute 2-3 percent of the population, of which nearly 50 percent are capable of being vocationally trained. It is a common belief that individuals who are mentally retarded can perform only the simplest of tasks. However, research has increasingly indicated the possibility of employing mentally retarded workers for performing complex tasks (Ghai and Sen, 1991).

Despite the success demonstrated by researchers in relation to increased ability of mentally retarded workers for complex vocational tasks, such individuals continue to be precluded from employment in competitive work settings. The problems appear to be primarily related to the lack of appropriate training in vocational skills. Vocational training of the mentally retarded individuals needs to prepare them for competitive employment, and to enable them to become 'economically and socially self-dependent', which was critical to the overall rehabilitation of such individuals.
An essential aspect of the vocational training process is the identification of suitable instructional strategies, which would facilitate the learning and the acquisition of a vocational task. Individuals with severe mental retardation need powerful and systematic instructional techniques. These may include specific learning strategies in the form of visual, auditory and combined visual and auditory modes.

This study empirically tested, whether using these modes, the severely mentally retarded individuals can be trained to successfully perform a complex vocational task such as the assembly of a ball point pen. A pilot study was conducted to test the feasibility of the study particularly the efficacy of the three learning modes in the acquisition of the vocational task of assembling the ball point pen. In order to select a sample for the pilot study visits were made to schools for mentally retarded individuals. Among these several schools visited the Okhla Centre, New Delhi was selected as it appeared to be the most suitable for conducting the study.

The sample consisted of 20 individuals in the severe range of mental retardation. They were between 18 and 25 years of age of both sexes. "Severe mental retardation" had been determined on the basis of IQ tests namely Stanford Binet Intelligence Test administered by psychologists during the past two years. Individuals with associated handicapping
conditions, such as visual or hearing impairment or disabilities of gross and fine motor co-ordination were not included in the study. The results indicated that, if given systematic training individuals with severe mental retardation can learn through the visual, auditory and combined visual-auditory modes.

65 percent of the individuals responded to the visual mode of instruction. 35 percent of the individuals found the auditory mode more stimulating for their learning. All of them responded to the combined visual-auditory modes and were found to be at relative ease and attempted to complete the task.

Following the pilot study the final study was organized. The specific hypothesis tested were:

1. Given sufficient training, the severely mentally retarded individuals will learn and perform a complex vocational task such as the assembly of a ball point pen.
2. Since the basic deficit in individuals with severe mental retardation is of 'focalization and concentration', the learning materials presented in visual and acoustic forms will enable them to absorb the information presented.
3. If the learning materials presented to the severely mentally retarded individuals are well organized (in sequential order, broken into several steps and vividly
presented) they will be able to retain and store the information presented.

4. The level of I.Q. of the individual in the severe range of mental retardation will not be the determinant of his competency on the job.

5. All severely mentally retarded individuals will not respond equally well to different modes of learning, such as the visual mode, the auditory mode, or the combined visual and auditory modes.

6. All severely mentally retarded individuals will not progress at the same rate through successive trials in the acquisition of a skill.

7. Severely mentally retarded individuals living in isolated environments such as the Group Homes will perform better on vocational skills than those living with their families and attending day schools.

Thorndike's laws of learning were used to teach the task.

The study used a single subject research design to evaluate the treatment effects across the different phases of the study. An ABAB design was used which permitted examining the effects of the intervention by alternating the baseline condition (A phase), when no intervention was in effect, with the intervention conditions (B phase). By altering experimental conditions in the design it was possible to
compare phases and to test whether the intervention was responsible for the change in performance.

The sample consisted of 50 individuals with severe mental retardation. They were selected from two cities of Delhi and Bangalore. As for the Pilot Study the individuals selected were in the 18-35 age group, free of associating handicapping conditions, free of health problems such as having frequent seizures and not having behavioural problems such as being aggressive and disruptive towards others and abusive towards self. These individuals were put into two categories: Stratum I and Stratum II. Individuals in Stratum I lived in residential facilities (Group Homes) and individuals in Stratum II lived with their families and attended Day Schools.

The following procedures were used:

The first phase consisted of using the combined visual and auditory modes of training in the acquisition of the task namely assembling a ball point pen. A total of 20 trials were given towards achieving accuracy on the task. Four trials constituted one unit. For the purpose of quantification each correct response was identified with a check mark and was assigned a score of 1 and an incorrect response was assigned a 0. Following training, in the subsequent phases the individuals were tested using the visual mode, the auditory mode and the combined visual and auditory modes to establish
which of these modes facilitated learning and acquisition of
the task.

Individuals were also trained to self-monitor their
performance on the task. Self-monitoring was used as a check
on their performance.

Qualitative Data

Behavioural observations of individuals with severe
mental retardation were made and interviews with some of the
parents, teachers of Day Schools and staff of Group Homes were
conducted. Information about the Day Schools, namely, the
setting, classroom management, students' participation in the
class and school activities, and information about the Group
Homes, namely the residential facilities given to the
residents, the in-house and out-door activities, visits and
involvement of the families of the residents were collected.

Data Analysis

Data were analysed by using both the quantitative and
qualitative methods. Data on training effects were analysed
by using,

(a) percentages
(b) Chi Squares
(c) ANOVA, and
(d) t tests.

Results revealed the following main findings:
1. The severely mentally retarded have the potential to learn a vocational task. Thorndike's laws of learning were used to teach the task, which enabled the individuals to learn and perform the task with good accuracy, despite severe cognitive impairment.

2. Since the individuals with severe mental retardation are deficient in areas of focalization and concentration, the learning materials presented in visual and acoustic forms facilitated learning and the absorption of the information.

3. Learning is found facilitated among the severely mentally retarded individuals, when the material is systematically organized (in sequential order, broken into several steps and vividly presented). It enables them to retain and store information.

4. Individuals having a low IQ in the severe range of mental retardation can achieve the same level of competence as individuals having a relatively higher IQ.

5. All severely mentally retarded individuals do not respond equally well to different modes of learning i.e., the visual mode, the auditory mode or the combined visual and auditory modes. They learn best through the mode that they prefer.

6. All individuals in the severe range of mental retardation do not progress at the same rate. They operate with wide variations in the time taken to respond to a given stimulus.
7. Severely mentally retarded individuals living in Group Homes perform better on the task than those living with their families and attending Day Schools.

An analysis of the qualitative data consisting of behavioural observations of the individuals and interviews with some of the parents, teachers of Day Schools and staff of Group Homes indicated that individuals with severe mental retardation were unable to attain a level of independence and acceptance due to some of their behavioural characteristics considered essential for adequate adult functioning. Being disadvantaged constituted a personality disorder with deficits in areas of adaptive behaviours, sense of control and inadequate or inappropriate societal roles.

Interviews with some of the parents, teachers and staff of Group Homes indicated that a number of factors such as acceptance of the individual by the family, providing of the needed emotional support, opportunities for the development of skills towards independence in activities of daily living and appropriate functioning in the community affected the functioning of the individuals in the severe range of mental retardation. Exposure to learning environments, such as the Day Schools/Group Homes which can equip the individual with skills needed for independent functioning were also considered essential.

The implications of the findings are discussed and some suggestions are offered.