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A CRITICAL STUDY OF PROBLEMS IN MATHEMATICS TEACHING WITH REFERENCE TO THE BLIND STUDENTS STUDYING IN SPECIAL SCHOOLS.

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Abstract

Today "Education" is the main objective of the education. It plays an important role in our society that is it's traditions,idiologies,needs and aspirations,society,effect and reflects in the school activities, it's syllabi, it's curriculum, it's modes in which the school functions. In short we can say that both act and interact on each-other. Therefore the school is an important source of providing education. Schools prepare children for future life. So school curriculum must be effective. Mathematics is taught as an important subject in the school. In one of the dictionaries it has been given that mathematics is the science of number and spall while the other has defined it as the science of measurement, quantity and magnitude. These definitions clearly indicate that mathematics is an accepted science which deals with the quantitative aspects of our life and knowledge. It helps in drawing necessary conclusion and interpreting various ideas with useful meaning

Introduction

Education is an integral part of society and involves the transmission of knowledge and the activation of learning through the experiences of life and formal education. It includes planned and unplanned experiences that expand a person's information store house, also who by virtue of their physical and intellectual abilities, require a more relevant or appropriate instruction that is usually available within formal and informal educational structures. We call

these people exceptional or special and we have constructed a domain of education of education to satisfy their learning requirements and a special philosophy to justify if (Laura and Ashman, 1985). The domain is called "Special Education" is the individually planned and equipment, teaching procedures and other interventions designed to help the exceptional children achieve greatest possible self- sufficiently and academic success. (Heward and Orlasnsky, 1984)

Special Education is discussed as one of the essential input to ensure the quality of an individual. That is, fulfilling the responsibilities of adult life. It is relatively recent addition to the multidisplinary approach in the case of children with special needs. While various professional look at a special child from a therapeutic angle, a special teacher views him primarily a student, and one who is unable to benefit from the regular education and if for reason of either sensory, motor or intellectual impairment. He is unable to cope with the regular syllabus, then he deserves the benefit of special education which is tailored to suit his/her special needs. With this philosophy, Special education finds its place in the efforts made towards total rehabilitation of disabled individual. Paradoxically the aim of special educations is not for total disabled students but in the teaching those independent living skills that are necessary to live in the society with confidence. Special education has been defined differently according to the purposes.

Kirk and Gallagher (1979) defined special education as "Those additional services, over and above the regular school programmers that are provided for exceptional children.

According to black **hurst and berdine** (**1981**) special education is an instruction designed to respond to the characteristics of children who have needs that cannot be met by the standard school curriculum."

The curriculum in the special education depends on the child's potentialities and limitation. **Liberman (1985)** reported that "in regular education, school system dictates the curriculum but in special education individual need of the child dictate the curriculum." The methods of teaching are modified according to the individuals needs .special education can be delivered in a variety of settings, depending on the needs. special regular class with consultation, itinerant teacher,diagonostic prescriptive center,hospital/home bound institution, self contained classroom,special day school and special residential school.

History Of The Education Of Blind:

Education for the blind begins in France with the work of valentine hauy (1745-1822) a French philanthropist who in 21784, founded the national institute for the young blind in paris.

The first school for the blind in united states now the parkins schools for the blind in Watertown Massachusetts, was incorporated in 1829 with samuel gridley howe(1801-1876) as its first director crucial to the education of blind students was the development of a system of reading and writing. It was Louis Braille (1809-1857) blind from childhood and one of hauy's students, who developed the system of reading that had become universal. known as Braille the system 1903 and is now known as the sharp memorials school for the blind . Miss askwrith found the school for the blind in palayamkottai in 1890.

Dr. Nilkanthrai Dahybhai, Chhatrapati , an eminent medical practitioner in ahmedabad who became blind at the age of 38,decided to open a school for the blind in ahmedabad in 1895.

Mr. Lal bihari shah set up the Calcutta school for the blind in 1897 and miss annie millard of the American Marathi mission in Bombay established a school for the blind in 1900. In 1947 when india became independent we had altogether 33 institution thea provide educational rehabilitation services to the visually impaired

In 1958 the first attempt at starting the integrated scheme of education on some scientific lines was made in Bombay and facility for providing a resource teacher in a regular school was initiated. Subsequently the scheme of integrated education was started in Haryana kerala and delhi. Education of visually impaired children is now a century old phenomenon. There were 30 school for the blind before independence in undivided india. During past independence period. There has been a rapid growth of educational services for visually impaired children in the country. At present about 300 schools is imparting education to the blind and visually impaired children. Besides this the movement of integrated education is catching up in India. Consequent to the growth of educational services requirement to trained teacher was felt. During 1960 govt. of India ministry of welfare started training of teacher in india.

Provision Of Educational Opportunities To Visually Impaired In National Policy Of Education (1986)

It was in May 1986 that a national policy of education was decided and adopted by government of india. Education of disabled did not receive adequate attention from the framers of the NPE in early stages of its formulation as is evident from the first document "challenge of education :policy perspective" MHRD (1985).

Publication of this document evoked reaction to the virtual omission of special education special educators and other boluntaruy organization working for education of disabled approached MHRD and the policy formulation machinery for justice to this special group of children just like others then education of disabled received a break through in NPE.

The objectives of education of disabled according to the N.P.E., is to integrate the physically impaired (including the visually impaired) with the general community as equal partners, to prepare them for normal growth and enable them to face life with courage and confidence. The measures suggested to realize this cherished goal are:

1 Wherever it is feasible, the education of children with motor disables and other mind disables will be common with that of other.
2 Special school with hostels will be provided as far as possible at district headquarters, for the severely disabled children.
3 Adequate arrangement will be made to give vocational training to the disabled.
4 Voluntary effort for the education of the disabled will be encouraged in every possible manner (MHRD,1985)

Educational Implications Of Visually Impairment

Certain implication of blindness for education needs consideration. It is true blindness imposes some constraints to education, but it does not rob away the educational opportunities. Following are some of the important facts per-training to educational implications of blindness:-

1. The visually impaired student need conceit experience in order to make up for wealth of knowledge which vision allows sighted children to gain in the casual way.
2. They need unifying and structuring experience in order to learn about objects and situations in their totality.
3. They need increased opportunity for reduced environment sitmulationand its result inertia. Self activity and opportunity for creative expression strengthens the child's feeling of self-confidence and successful management of skills and situations contributing to a positive self concept (Lowendeld, 1973).
4. A misconception that visually impaired children posses extra power in their auditory and tactile ability should be corrected.

Problems In Teaching Mathematics

1. In black board observations teachers and blind students face the problems in teaching/learning mathematics. So black board writer materials should be verbally explained to the students.
2. Teachers and students face the problems in teaching/learning mathematics as the two dimensional embossed diagrams are used to explain three dimensional concepts
3. In solving the mathematics problems teachers and students face the problem as it is a slow process in writing on Braille slate and have to turn the paper whatever they have to read. On the other hand in Taylor frame the words cannot be written.
4. Teachers and students both face the problems in teaching/learning mathematics formulas and mathematics equations as the standard Braille codes have been standardized in India.
5. Blind students face the problems in drawing diagrams as the diagrammatic concepts are not clear to them. Moreover devices and equipments are not easily available to them.
6. Students face the problems in reference the tables because the tactual scanning is difficult and time consuming. It is problematic to write the table on Braille slate.

Need Of The Study

As stated earlier, teachers face a number of problems in teaching maths with reference to blind students. Review of Literature reveals that not much research work has been done to study

the problems in teaching/learning maths with reference to blind students. Therefore researcher has decided to conduct this study.It is significance to improve the maths teaching by knowing the opinions of teachers.This study is also significant to optimize the use of available facilities in teaching math's. The quality of teaching math's need to be improved. This study is also helpful in this direction.

Definitions Of Important Terms

BLIND:-

A person who satisfies one of the following three conditions is termed as legally visually impaired person.

A) Absence of vision in both eyes.
B) Visual acuity less than 6/60 or less in better eye after best possible correction.
C) Field of vision 20 or less in better eye after best possible correction.

Special School:-

Special schools are those schools which impart individualized instructions to the children's with special needs.

Objective Of The Study

1. To study the problems in teaching mathematics to blind students.

Delimitation

1. Only Two special schools from Haryana were selected.
2. Only six Mathematics teachers were selected.

Sample

In present study, considering the importance and nature of sample investigator collected the data. Purposive sampling procedure was followed. There are 2 special schools for the blind situated in Haryana and 6 math's teachers from these 2 schools were also selected.

Tools Used

One schedule for assessing the problems in teaching math's with reference to the blind students were prepared by the investigator Questionnaire/schedule to study the problems encountered in teaching math's to visually impaired student contain 16 items. All questions are closed one with options yes/no questionnaire/schedule to study the problem encountered by teacher one with option yes/no.

Collection Of Data

The investigator after selecting the sample and deciding the tool and techniques for collection visited 2 special schools situated in Panipat and Hissar. He met the principals to get the permission to meet the teachers and students. Then investigator administrated the schedule on individual basis and collected the data. The investigator asked the question from the student and noted their responses in yes/no form. Investigator also asked question from the teachers out of which 4 teachers were blind from Panipat and 2 teachers were seeing from Hissar. The investigator also asked suggestion for improvement of maths teaching and problems encountered in maths teaching.

Techniques Used For Data Analysis

The Frequency distribution of responses was calculated and chi-square was applied.

Findings Of Teachers In Teaching Maths:-

1. Teachers reported that the books of maths subjects in Braille are easily available in the schools.
2. Teachers reported that they taught the complete syllabus of maths.
3. Teachers stated that maths related aids are not sufficiently.
4. Teachers stated that they use the teaching materials in teaching maths.
5. Teachers reported that there are sufficient no. of embossed diagram in the maths Braille books.

6. Teachers stated that student are able to lunerstand the embossed diagrame in the Braille books .
7. Teachers reported that they teach maths with full interest to the blind students.
8. Teachers reported that they make desirable adaptation in curriculum before teaching maths .
9. Teachers stated that they do not believe that maths should be taught in higher classes .
10. Teachers stated that they do not know how to use the abacus.
11. Teachers stated that students do not know how to use abacus.
12. Teachers stated that they teach how to use Taylor Frame.
13. Teachers reported that students are know the use of Taylor Frame.
14. Teachers reported that most of the students do not know how to write maths on Braille slate.
15. Teachers stated that they do not teach the use of Geometrical devices.
16. Teachers stated that most of the students do not remembered the Braille maths codes.

Conclusions:-

1. There is lack of general math's related books in Braille.
2. There is no math's room in the special schools.
3. Although students reported that sufficient no. of embossed diagrams are present in math's text book in Braille but majority of the teachers do not agree with it.
4. Students find it difficult to read and write math's formulas. Teachers also find it difficult to teach.
5. Students as well as teachers feel that student some time find it difficult to understand embossed diagrams.
6. Teachers face problem in teaching that it is difficult to teach figure based concepts.
7. Teachers reported that it is difficult to introduce the topic.
8. Teachers reported that teaching aids are not easily available.

Suggestions

1. Math's equipment should be adapted for the blind.
2. Teachers need to be committed.

3. Remedial measures should be taken by the teachers to teach maths to the blind students.
4. More teaching aids should be provided to make process of learing maths interesting.
5. More emphasis should be given on maths teaching.
6. Maths books should be modified according to the special needs of the blind students.

Educational Implication:-

1. Study reveals that blind students perceive maths as an interesting but not difficult subject.It means that blind students can learn maths concept satisfactory if appropriate teaching strategies are adopted adequate facilities are provided to the students.
2. General maths books in Braille should provided in sufficient no.
3. Maths room should properly equipped.
4. Special attempts should be made to teach embossed diagrams.
5. Maths code must be taught so that students can understand maths formulas and logic.

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