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C O N T E N T S

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Editorial……

It is heartening to note that our journal is able to sustain the enthusiasm and covering various facets of knowledge. It is our hope that IJMER would continue to live up to its fullest expectations savoring the thoughts of the intellectuals associated with its functioning .Our progress is steady and we are in a position now to receive evaluate and publish as many articles as we can. The response from the academicians and scholars is excellent and we are proud to acknowledge this stimulating aspect.

The writers with their rich research experience in the academic fields are contributing excellently and making IJMER march to progress as envisaged. The interdisciplinary topics bring in a spirit of immense participation enabling us to understand the relations in the growing competitive world. Our endeavour will be to keep IJMER as a perfect tool in making all its participants to work to unity with their thoughts and action.

The Editor thanks one and all for their input towards the growth of the **Knowledge Based Society**. All of us together are making continues efforts to make our predictions true in making IJMER, a Journal of Repute

Dr.K.Victor Babu
Editor-in-Chief

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APPRAISAL OF ARITHMETIC WORD PROBLEMS AMONG STUDENTS WITH HEARING IMPAIRMENT AT PRIMARY LEVEL

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Abstract:

A study on Arithmetic Language Ability of students with Hearing Impairment at primary level was carried out with 50 samples. The samples were selected by using Purposive Sampling method. Assessment tool was prepared with 10 domains with 7 indicators. The tool was developed by analyzing and compiling the basic terms used in Math textbooks of Grade I to IV. Data was collected by approaching each student individually. The results revealed thatthe students faced significant hardships in domains 'division' and 'fraction'.Since they find it difficult to understand the language of mathematics, there is a need to create learning environments that are meaningful for children to meet their individual needs.

Keywords: Arithmetic, Language Ability, Division, Fraction, Measurement

INTRODUCTION:

For children learning the language of mathematics in the early days of vocabulary development is important. It was realized that if base words could be built upon to form vocabulary for more complex terms, then mathematics learning could go hand-in-hand with vocabulary learning. In contrast to their deaf/hearing impaired peers, hearing children are exposed to language from birth and have an understanding of everyday language. This acts as a launching pad for developing their understanding and use of mathematical language.

Flexer (1999) notes that "a child with a hearing problem may have a limited range or distance of hearing; that child may need to be taught directly many skills that other children learn incidentally". The implication of this for teachers is that they need to be aware of, and focus on, those areas of learning or language skills that deaf/hearing impaired children find particularly challenging because it is more difficult for them to incidentally acquire those skills from their environment. Thus, the present study focused on **"Appraisal of Arithmetic**

Word Problems Among Students with Hearing Impairment at Primary Level"has been undertaken with the following objectives to:

- Develop An assessment tool for arithmetic language ability of students with hearing impairment at primary level
- Assess the arithmetic language of students with hearing impairment at primary level.

METHODOLOGY:

The present investigation focused on students with Hearing Impairment in the age group 6-12 years and as the sample was residing at various regions in Coimbatore, Purposive sampling method was adopted for selecting the required sample. Fifty students with hearing impairment in the age range 3-8 years, 27 girls and 23 boys formed the sample for the present study. The sample were identified from the T.E.L.C Middle school, Infant Jesus Convent for the Hearing Impaired, Kasturba Gandhi Oral School, Varadharajapuram, C.S.I. primary school, Uppilipalayam, and T.E.L.C. Middle School, Town Hall, Coimbatore.

To assess the Mathematical Language Ability of the sample, the tool was developed based on the age of the selected sample, and by analyzing and compiling the basic terms used in textbooks of Grade I to IV. This covers the broad area of Mathematical Language used in word problems. Students have to answer the questions of respective classes. For example student from grade I have to answer the grade I questions. Student of grade V have to answer all the questions of 1-5 through which the mathematical language can be assessed effectively. The investigator conducted the assessment procedure individually for each child. The maximum time taken to assess the language ability of each sample was 45 minutes. Assessment enabled the investigator to score the individual sample on the basis of their performance, providing the score 1 for each correct answer and 0 for each wrong answer. Assessment of sample enabled the investigator to identify the areas in which each child required additional language inputs.The major phases in the conduct of the study involved:

Phase I: Identifying Students with Hearing Impairment in the Age Group 6- 12 years

Phase II: Developing a Tool to Assess Mathematical Language Abilities of Students

With Hearing Impairment

Phase III: Assessment of Mathematical Language Ability of Selected students with Hearing Impairment.

RESULTS AND DISCUSSION:

TABLE 1: MATHEMATICAL ACHIEVEMENT OF SELECTED SAMPLE WITH RESPECT TO CONCEPTS

Concepts	No of Students	Percentage (%)
Numerals	50	68.5
Place Value	50	62.5
Shapes	50	59.5
Addition	50	62.5
Subtraction	50	55.5
Multiplication	38	60.5
Division	24	60.4
Measurement	38	71.7
Time	23	67.7
Fraction	17	48.5

The above Table indicates that the concept of Numerals (68.5%), Place value (62.5%), Addition (62.5%), Measurement (71.7%) scored higher in terms of performance by the sample followed by 55.5 per cent in Subtraction.

The concept of Fraction was done only by 17 students (Grade IV&V), with the outcome of 48.5 percentage. It was observed that students faced significant hardships in doing Division and Fraction problems comparatively.

TABLE 2: PERCENTAGE SCORE IN ARITHMETIC LANGUAGE ABILITY WITH RESPECT TO GRADE

Grade	Total Score	Percentage Score Obtained							
		0-25		25-50		50-75		75-100	
		N	%	N	%	N	%	N	%
I	20	-	-	7	58	5	42	-	-
II	28	-	-	5	36	9	64	-	-
III	36	-	-	-	-	7	100	-	-
IV	40	-	-	-	-	4	100	-	-
V	40	-	-	-	-	12	92	1	8

The result reveals that all the students of Grade III and IV scored 50 to 70 percentage in Arithmetic language achievement. At Grade V out of 13 students 12 students scored 50-75 percentage while only one student was grouped under the category 75 to 100 per cent, thus indicating that an above average performance (50-75%) obtained by a majority of students at all Grades.

CONCLUSION:

There is always a need to create learning environments that are meaningful for children to meet their individual needs and encourage learning in an holistic, equitable and culturally sensitive way. The reality for students with Hearing Impairment is that they find it difficult to learn mathematical content and process in interpreting and understanding the language of mathematics.

It would always be beneficial to give students an opportunity to practice application of language in solving word problems. It is therefore, important for teachers to identify these children who are yet to reach clarity in concepts and understanding and then provide experiences to assist them in reducing this knowledge gap that prevails and tend to continue the same during the school years.

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EFFECT OF TRAINING PACKAGE ON DEVELOPING OPTICAL VISUAL SKILLS OF CHILDREN WITH LOW VISION

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Introduction

Vision loss and eye diseases may have different effects and consequences on visual functions. By assessing the visual functions of the eye we want to know about the eyes ability: to resolve fine details (visual acuity); to detect peripheral targets (visual fields); to interpret details within a low contrast environment (contrast sensitivity); and to identify and discriminate colour (colour vision). It is difficult to assess whether someone uses his eyes visual function or developed strategies to compensate the loss of visual function. Next chapters will describe some methods to evaluate the eyes visual functions.

All the described tests assess the visual functions in static situations, but in daily life we are involved with permanently changing situations. That's why it is also important to consider dynamic vision - on one hand the perception of moving objects and on the other hand the dynamic/adaptability of the eyes. By doing so functional vision is being evaluated which in the end reports on how a person is able to manage daily life situations with her/his individual eye-sight.

Purpose of the study

The purpose of the study is to develop Optical visual functioning skills of children with low vision and to create learning environment for students with special needs under inclusive setup.

The objectives of the study were to:

1. Identify children with low vision studying under inclusive setup by using comprehensive vision assessment checklist.
2. Prepare and use visual efficiency training package to enhance optical visual skills of children with low vision.
3. Find out the difference between the pre and posttests mean scores of visual skills with respect to optical visual functioning skills.

Methods

Subjects

Subjects were children enrolled in grade I to V. A total of **60 children** were selected and among them **45** were children having **blurred vision**, **7** children with **central vision loss** and **8** with **peripheral vision loss.**

Purposive sampling technique was used to select the samples. The investigator explored the low vision children enrolled in the primary schools of 22 Blocks in Coimbatore educational district. Out of which 9 schools were selected using purposive sampling technique. The children having visual acuity less than 6/18 after correction, considering the WHO working definition were selected. The study consisted of 60 children with low vision of which **34 boys and 26 girls.** This population was chosen for the study because there is a high prevalence of low vision among these groups.

. In this study the gender, age and grade level are selected as the independent variables. Types of vision loss, visual functioning skills (Optical), are used as the dependent variables.

The investigator carefully explored the inclusion of independent and dependent variables as presented under the table No.1.

Table No.1

Classifications of Low Vision Children as per Variables

S.No	Variables	Boys	Girls	Total	Percentage
1.	Blurred vision	26	19	45	**75**
2.	Central vision loss	03	04	07	**12**
3.	Peripheral vision loss	05	03	08	**13**
Total		**34**	**26**	**60**	**100**

Research Design

The researcher adopted Quasi - experimental design to **Develop Optical Visual Skills of Children with Low Vision.** The study was designed on the basis of pretest and posttest without control group.

Tools used for the Study

Based on the objectives of the study, the investigator selected suitable tools such as;

i. **Personal data bank** was used to collect the information about the subjects such as name, age, gender, onset of blindness, visual acuity, field of vision and causes of low vision.

ii. The **Functional vision assessment checklist** developed by Vijayan, P.andVictoria, G. (2006) was used to find out the visual efficiency of low vision children. The functional vision assessment checklist consisted of

optical visual skills consisted of activities under 6 main areas of visual skills **they are,** Visual awareness, Visual attention, Visual fixation, Visual focusing, Visual tracking and Visual scanning

Hypotheses of the Study

In this study the null hypothesis proposed are presented under:

1. There is no significant difference between the pretest and posttest mean scores of visual skills of **optical visual functioning of blurred vision**.
2. There is no significant difference between the pretest and posttest mean scores of visual skills of **optical visual functioning of central vision loss.**
3. There is no significant difference between the pretest and posttest mean scores of visual skills of **optical visual functioning of peripheral vision loss.**

Pilot Study

Pilot study was conducted by administering visual efficiency training package for 20 low vision students studying from 1-5 grade level. The functional vision skills were evaluated using again rating scale with two point rating. When the task is able to perform a score one was given. If the student is unable to perform zero score was marked. Based on the scores secured by the students the investigator incorporated certain modifications. The modified package was further scrutinized by expert's namely special educators, teacher educators and professionals working in the field of special education. Based on their opinion and ideas the package was modified and finalized.

Administration of Package and Data Collection Procedure

The present study used quasi experimental design with pre and posttest without control group. The study was conducted in four phases.

Data Analysis

The data pertaining to the visual skills of children with low vision were processed and analyzed with the used Quantitative analysis and the results obtained are discussed under the following sections.

Quantitative Analysis

1. Comparison of optical visual skills of children with low vision through pre and posttest scores after introduction of visual efficiency training (paired't' test).
2. Multiple comparisons with respect to different variables (ANCOVA).

Analysis of pre and post-test mean scores of optical visual skills of children with blurred vision

The 't' test was applied to find out significant difference in the pretest and posttest mean score of optical visual skills of children with blurred vision. The results obtained are given in the table 2.

Table No. 2

Analysis of pre and posttest mean score of optical visual skills of children with blurred vision

S. No	Visual Skill	Test	Mean	N	SD	Df	't'-Value
1.	Optical functioning	Pretest	13.69	45	4.48	44	17.08**
		Posttest	31.47	45	5.93		

**** Significant at 1% level**

With reference to the above table, paired sample t-test was applied to find out whether the pre and posttest mean scores of optical visual functioning of children with blurred vision differed significantly. The calculated t- value is greater than the table value 2.69 at 1% level of significance. Hence, it is inferred that there is a significant difference between pre and posttest mean scores of optical visual skills. Comparing the mean values obtained for the pre and post mean scores it is inferred that the posttest mean scores are higher than the pretest mean scores. Hence the hypothesis "***there is no significant difference between the pretest and posttest mean scores of visual skills of optical visual functioning of children with blurred vision "*** *is* rejected.

Analysis of pre and posttest mean scores of optical visual skills of children with central vision loss

The 't' test was applied to find out significant difference in the pretest and posttest meanscore of optical visual skills of children with central vision loss. The results obtained are given in the table 3.

Table No. 3

Analysis of pre and posttest mean scores of optical visual skills of children with central vision loss

S. No	Visual Skill	Test	Mean	N	SD	df	't'-Value
1.	Optical functioning	Pretest	06.00	7	3.74	6	5.20 **
		Posttest	27.86	7	8.75		

**** Significant at 1% level**

With reference to the above table, paired sample t-test was applied to find out whether the pre and posttest mean scores of optical visual functioning of children with central vision loss differed significantly. The calculated t- value is

greater than the table value 3.71 at 1% level of significance. Hence, it is inferred that there is a significant difference between pre and posttest mean scores of optical visual skills. Comparing the mean values obtained for the pre and post mean scores it is inferred that the posttest mean scores are higher than the pretest mean scores. Hence the hypothesis ***"there is no significant difference between the pretest and posttest mean scores of visual skills of optical visual functioning of children with central vision loss"*** *is* rejected.

Analysis of pre and posttest mean scores of optical visual skills of children with peripheral vision loss

The 't' test was applied to find out significant difference in the pretest and posttest mean score of optical visual skills of children with peripheral vision loss. The results obtained are given in the table 4.

Table No. 4.

Analysis of pre and posttest mean score of optical l visual skills of children with peripheral vision loss

S. No	Visual Skill	Test	Mean	N	SD	df	't'-Value
1.	Optical functioning	Pretest	08.25	8	4.50	7	5.62**
		Posttest	18.88	8	7.30		

****Significant at 1% level**

With reference to the above table, paired sample t-test was applied to find out whether the pre and posttest mean scores of optical visual functioning of children with peripheral vision loss differed significantly. The calculated t- value is greater than the table value 3.50 at 1% level of significance. Hence, it is inferred that there is a significant difference between pre and posttest mean scores of optical visual skills. Comparing the mean values obtained for the pre and post mean scores it is inferred that the posttest mean scores are higher than the pretest mean scores. Hence the hypothesis ***"there is no significant difference between the pretest and posttest mean scores of visual skills of optical visual functioning of children with peripheral vision loss"*** *is* rejected.

Major Findings of the Study:

1. Comparing the children with 3 types of vision loss, the children with blurred vision showed better performance in all optical visual tasks followed by central vision loss then peripheral vision loss.
2. Pertaining to optical visual functioning, blurred vision children secured higher score in optical functioning.

3. The study revealed that low vision skills such as visual closure and visual fixation a majority of the children showed poor performance than other visual skills.
4. While referring the pre and posttest mean scores of optical visual functioning of children with **Blurred vision, Central vision loss and Peripheral vision loss** the calculated t-value is greater than the table value at 1% level of significance.

Conclusion:

To summarize, early identification and intervention is the best means to minimize the eye defects associated with low vision. Despite enormous challenges encountered by the children with low vision in day to day activities, they can also achieve great deals in their life through the use of cent percent remaining vision which facilitate to promote inclusion of these children in the mainstream schools.

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STUDENT-TEACHERS' ATTITUDE TOWARDS INCLUSIVE EDUCATION: A STUDY TO INVIGORATE TEACHER EDUCATION

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Abstract

Research globally indicates that interpretations of inclusive education are changing and evolving. Although this is not misplaced, the goal is to develop best practices, principles and pedagogies that support enhanced and sustainable inclusive program for all children. Even though creating awareness about inclusive education among in-service teachers is on its track, the present pre-service teachers are getting enlightened through their curriculum. Thus measuring their attitude definitely will supportthe education system to channelize them into inclusion. In the present study the perception of student-teachers towards inclusive education was investigated in B.Ed Colleges of Coimbatore district where inclusive education is being supported by many reputed institutions, both at College and School levels. This study is descriptive and survey type. 400 student-teachers were selected as sample from B.Ed Colleges through purposive sampling technique. Structured questionnaire was used for data collection. The data collected were analysed using mean, SD, t-test, and ANOVA. The result of the study revealed that inclusive education is considered to be a desirable practice. The student-teachers believed that all learners regardless of their disabilities should be in regular classrooms irrespective of all the demographic variables and they showed more favourable attitude towards children with mild as well as severe disabilities. The investigator recognised student-teachers' ability as an essential component of inclusive education.

Key Terms: Disabilities, Inclusive Education, Student-Teachers, Pre-Service Training

Introduction

Inclusion is a new way of thinking about education. It not only challenges the orthodox and traditional segregated educational system which treats children on the basis of their ability, but also raises questions on policy, political, social and economic processes which support this educational system.Many researchers, the world over, have noted not only the educational benefits for children

suffering from impairment but also pointed out the improved socialization of these children.In spite of these educational and social benefits and economic viability of inclusive education, problems have been noted in its implementation, the world over. At macro level these problems include political non-commitment and lapses in inclusion-friendly policy transformation, intellectual base to support inclusion, meagre financial allocations, cultural and academic bias in favour of traditional school system. Whilst at micro-level these problems include school-infrastructural adjustment, inappropriate school leadership / management, teacher's professional training, in-effective curriculum adaptation / modification and special student's socialization issues.

Literature Review

According to Khan, Ahmed and Ghaznavi (2012), inclusive education expresses the obligation to provide every child with quality education in mainstream schools, to the maximum extent possible. An inclusive education system allows carrying educationalservices to the child, rather than carrying the child to the educational services. This system of education focuses upon children who are enrolled in schools, but are excluded from learning; who are out of schools, but can be educated if schools are accessible. These are children with severe disabilities, with specific learning needs and require a specialized environment. Inclusive education canbe successful if a child friendly and accessible learning environment is provided to all children to ensure their inclusion in mainstream education system.Fernando, Yasmin, Minto and Khan (2010) conclude that inaccessible school infrastructure; limited learning materials, limited capacity of teachers, poverty, disability, conflict and a lack of supporting policy frameworks are the major causes of exclusion of CWDs from the mainstream education system.Ghouri, Abrar and Baloach(2010) also recognize teachers' reluctance to educate CWDs as a barrier to inclusive education.Fakolade (2009) subscribes to the idea that professionally qualified teachers have more favorable attitude towards the inclusion of CWDs.Inclusive education is the process of responding to the diversity of children through enhancing participation in classrooms and reducing exclusion from education (UNESCO 2007).

Objectives of the Study

1. To study the attitude of student-teachers towards inclusive education
2. To study the attitude of student-teachers towards inclusive education based on the demographic variables:

(i) Gender
(ii) Educational qualification
(iii) Stream of study
(iv) Specialization in Teacher Education

(v) Locality
(vi) Disabled person at home

Hypothesis of the Study

1. There is no significant difference in the attitude of student-teachers towards inclusive education based on gender, educational qualification, stream of study, specialization in teacher education, locality, disabled at home

Methodology

The investigator selected 17 B.Ed Colleges from the Coimbatore district and 400 student-teachers were chosen by purposive sampling technique. A descriptive method was followed to collect the data as the variables of the study were examined in natural settings. The study was based on two approaches: (a) selection of sampling points, and (b) data collection from pre-determined survey points through questionnaire and Google forms.

Tool Administration

Likert Scale questionnaire called Viewpoint about Inclusive Education (VPIE) which was developed by Khan, Hashmiand Khanum was adopted. This was validated by experts, and pilot tested before gathering data from student-teachers about inclusive education and mainstreaming of different type of disabilities. Sixteen items were finalized based on the literature review, meeting with experts and pilot testing. Each item was rated on a five point agreement scale from 'Strongly Agree' to 'Strongly Disagree'. The data were obtained through questionnaire from 200 student-teachers and through Google form from the remaining 200 student-teachers.

Reliability and validity

Survey questionnaire was validated by experts and their suggestions were incorporated before administering the questionnaire in the field for data collection. The reliability of all items in questionnaire was tested using Cronbach Alpha method. All items (α= .802) were found to be reliable and internally consistent.

Statistical Analyses

The data collected were coded and processed for obtaining values. The t-test was employed to find out the significant difference between the means of samples. The data were analysed in relation to the objectives, and hypotheses formulated for the study was tested for significance.All results including mean, SD and t-test were combined in one table for convenience.

Hypothesis

There is no significant difference in the attitude of student-teachers towards inclusive education based on gender, educational qualification, stream of study, specialization in teacher education, locality, disabled at home

Sample	Sub-samples	N	Mean	S.D	t-value	Remark at 5% level
Gender	Male	50	55.2	5.75	11.05	Significant
	Female	350	48.8	4.21		
Educational qualification	UG	310	61.5	3.01	1.83	Not significant
	PG	90	62.3	5.34		
Stream of study	Arts	122	70.4	2.94	9.71	Significant
	Science	278	64.1	6.87		
Specialization	General Education	310	62.7	5.15	13.64	Significant
	Special Education	90	70.7	2.68		
Locality	Urban	215	61.6	2.24	0.17	Not significant
	Rural	185	61.7	7.83		
Disabled at home	Yes	365	71.4	2.15	1.06	Not significant
	No	35	71	1.89		

Findings of the Study

It is inferred that there is no significant difference between UG and PG student-teachers, Urban and Rural locality and Disabled person at home in their attitude towards inclusive education. It is also inferred that there is significant difference between male and female, Arts & Science student-teachers and general and special education student-teachers in their attitude towards inclusive education.

Discussion

The t-test reveals that:

1. There is significant difference between male and female student-teachers and this may be due to the level of maturity and exposure the male student-teachers got.
2. There is significant difference between Arts & Science stream of student-teachers and this may be because of the influence of subject strength. Arts students are more positive in attitude than the science students.
3. There is significant difference between general and special education student-teachers and this may be because of the inspiration the students of special education have on their specialization. The student-teachers of special education may be self-motivated and this may be the reason for difference in their attitude.

Conclusion

The attitude of the teachers plays a vital role in teaching learning process. If their attitude is on the right zone they can facilitate any kind of learners. This study is an attempt to comprehend the attitude level of student-teachers. It is also concluded that though the teachers are willing to accept children with disabilities in their schools, they have a limited capacity to address special educational needs. Teachers are not provided with training through regular professional development to address needs of all learners. Though policies support inclusive education system, the school infrastructures and facilities are not accessible forchildren with disabilities. Hence studying and bringing changes in the attitude towards inclusive education among the student-teachers will help the society and institutions to face the above mentioned challenges when they come to service. It has been found out that the student-teachers have good attitude towards inclusive education and this will self-motivate them in achieving the inclusion.

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IMPACT OF SCHOOL READINESS TRAINING PROGRAMME ON VISUALLY IMPAIRED STUDENTS (PRE-CANE TECHNIQUE)

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Abstract
The present study was experimental in nature. it was designed on the lines of pretest and posttest single group design. The treatment was assigned twenty four students. These skills are 'steps of Upper body Protection, Lower body Protection, Upper & Lower body Protection Skills' among visually impaired students. In this study, samples were drawn only from the special schools of Balasore, & Bhadrak districts of Odisha. The sample comprised of 24 students belonging to standard I, II, &III. Of these 24 students, 12 were boys and 12 were girls. The scholar followed the 'individualized instructional method' for Intervention training program. Personal databank regarding their name, standard, age , gender , school , type , age at onset, onset of impairment (congenital or acquired) and pre cane skills check list (asked and filled by the investigator) were studied to know about background of each student. Mean, Standard Deviation (S.D), and t-value were calculated to analyze significance of the study. Findings revealed that "both boys and girls were benefited from the intervention; yet, girls were performed well and better than boys. Intervention helped both gender to improve their pre-cane skills. Therefore, it is concluded that visually impaired student needs care and apathy not sympathy from school and society. Special educators should heed on it.

Keywords : Pre-Cane Skill, Indoor Area, Mobility, Early Intervention, Alternatives.

Introduction
Child development is a sequential process entails the biological, psychological and emotional changes that occur in a child from birth to the beginning of adulthood. It is nothing but a journey of a child from dependency to independency. Each and every child differs from other in some extent. Some perform easily while some other struggles to perform these same activities due to some physical and psychological issues held in them. These children are called special children. These struggles of such children can be reduced by identifying

and providing alternatives to them at their early stage. Child development researchers established that, the rate of human learning and development is rapid in infant and toddler stage. Early intervention services have significant impact on these special children including visual imp--aired infants and toddlers. Thus, it is important to identify children who have impaired vision at an appropriate time, which can help to make the best use of their vision (Vijayan, P. & Victoria, G., 2010). By early identification and appropriate programming, children can develop their potential (Karnes & Lee, 1978). Early intervention can be applied to special children having age group of 0-6 years. It is the key factor to reduce struggling in special children to cope up with their non-disabled sighted peers. Intervention helps to choose and use alternatives to be differently abled to perform their day-to-day activities independently. Therefore, early intervention initiates total rehabilitation process.

SIGNIFICANCE OF THE STUDY

Children having limited vision normally faced problems in playing, walking, roaming to-and-fro, and performing their day-to-day activities because of unawareness of mobility skills. Students with visual impairments qualify for special education services when their visual disorder interferes adversely with their educational progress need O & M services (Allison & Sanspree, 2006). So, it is very important to identify such children and provide them pre-cane skill training as if they can roam here and there and perform their academic activities as well as other day-to-day routine activities within the indoor area independently without any difficulties. By this, their struggle can be reduced up to some extent. This is the fact, which encouraged the scholar to do research on pre-cane skill training programme at their early stage.

STATEMENT OF THE STUDY

The statement of the problem involves the demarcation and formulation of the problem. The present problem is worded as “Impact of School Readiness Training Programme on Visually Impaired Students (Pre-Cane Technique)”

OBJECTIVES OF THE STUDY

Objective of the study is:

1. To lead Visually Impaired Students from dependency to independency.
2. To identify the impact of Pre-Cane Skills Intervention Training on visually Impaired Students
3. To identify the significant difference in Pre-Cane Skills performance among Visually Impaired Students with respect to their Gender.

HYPOTHESIS OF THE STUDY

1. There is no significant impact of Pre-Cane Skills Training Programme on Visually Impaired Students
2. There is no significant difference in 'Upper body Protection Skills' among Visually Impaired Students before and after Intervention Training with respect to Gender.
3. There is no significant difference in 'Lower body Protection Skills' among Visually Impaired Students before and after Intervention Training with respect to Gender.
4. There is no significant difference in 'Upper & Lower body Protection Skills' among Visually Impaired Students before and after Intervention Training with respect to Gender.
5. There is no significant difference in Pre-Cane Skills performance among Visually Impaired Students before and after Intervention Training with respect to Gender.

DELIMITATION OF THE STUDY

The delimitations of the study are:

1. The samples were drawn only from the special schools of Balasore, & Bhadrak districts of Odisha.
2. The sample limited to 24 and were drawn only from the selected Special school of above mentioned districts of odisha.
3. The study was confined to students from standard I, II, & III.

METHOD OF STUDY

Being an experimental study, it was designed on the lines of pretest and posttest single group design. The treatment was assigned to all the three groups.

R : O1 X O2

Here O_1 indicates pre experiment observation, O_2 indicates post experiment observation and X represents the treatment (intervention) where 'R' represents the randomization

Statistical Technique Used

Arithmetic Mean, Standard Deviation (S.D) and 't'- distribution test

Procedure of Data Collection

Each of the sample students were assessed against the following 15 activities. Students were awarded '1' mark for each correct performance and '0' otherwise. Pre-test and Post-test Scores were collected before and after the intervention programme for analysis.

Upper Body Protection

- ✓ Use of Stronger Arm (left or right arm)
- ✓ Hand Position(Initially hand will be kept on shoulder before moving forward)
- ✓ Distance between Shoulder & Hand (Should be 10-12 inches gap)
- ✓ Curl Finger (Finger will be curled after turning hand)
- ✓ Switch the Hand (left or right hand)

Lower Body Protection

- ✓ Use of Stronger Arm (left or right arm)
- ✓ Hand Position (Initially hand will be kept on thigh before moving forward)
- ✓ Distance between thigh & Hand (Should be 10-12 inches gap)
- ✓ Curl Finger (Finger will be curled pointing towards body)
- ✓ Switch the Hand (left or right hand)

Upper & Lower Body Protection

- ✓ Position of both Hands
- ✓ Distance between Body & Palm (Shoulder & Palm , Thigh & Palm)
- ✓ Hand Movement (Move, Turn, Curl)
- ✓ Switch both Hands (Up & Down)
- ✓ Leg Movement

RESULT AND DISCUSSION

1. To analyze impact of Pre-Cane Skills Training Programme on Visually Impaired Students.

The data in respect to analysis of pre-test and post-test scores of pre-cane Skill with respect to total sample were obtained separately before and after training program. The data analysed with the help of t-test and the results are given in the following table.

Testing	No	Mean	SD	t- value	df
Pretest	24	06.79	1.44	12.694^{**}	23
Posttest	24	11.71	1.23		

**** Significant at 0.01 level**

The critical t-value for the degree of freedom (d.f.) 23 at 0.01 level of significance is 2.500. Since the calculated t-value is greater than the critical value , we can say that, 't - value' is significant at level 0.01. It indicates that, there was a significant improvement on the 'pre cane Skill performance' of over all sample after the intervention. It means that, there was a significant improvement on the 'pre cane Skill' of overall sample after the intervention training programme. This contradicts the null hypothesis. In the light of this, the null hypothesis that, "**there is no significant impact of Pre-Cane Skills Training Programme on Visually Impaired Students**" is rejected. Therefore,

it may be concluded that, intervention training programme helped in improving pre cane Skills of all the students.

2. To analyze the difference in 'Upper Body Protection Skill' among Visually Impaired Students before and after Intervention Training with respect to Gender.

   The data in respect to analysis of pre-test and post-test scores of 'Upper Body Protection Skills' with respect to total sample were obtained separately before and after training program with respect to gender. The data analysed with the help of t-test and the results are given in the following table.

Testing	Gender	No	Mean	SD	t- value	df
Pretest	Boy	12	2.25	0.622	0.944^{NS}	22
	Girl	12	2.50	0.674		
Posttest	Boy	12	3.75	0.622	1.252^{NS}	22
	Girl	12	4.08	0.668		

^{NS} = Not Significant

It is clear from the pre-test and post sections of the above table that the calculated t- value is not significant during the assessment test before and after the intervention training program. It indicates that both boys and girls were performed up to same extent during pretest & Posttest. In the light of this the null hypothesis that, , "**there is no significant difference in 'Upper body Protection Skills' among Visually Impaired Students before and after Intervention Training with respect to Gender**" is accepted. Also from the mean scores of the study, it is found that though there is no difference in performance during pretest; yet, girls were performing some what better than boys after the intervention. Therefore, though both gender benefited from the intervention; yet, girls were benefited some what better than boys in 'Lower Body Protection Skills' training programme.

3. To analyze the difference in 'Lower Body Protection Skills' among Visually Impaired Students before and after Intervention Training with respect to Gender.

   The data in respect to analysis of pre-test and post-test scores of 'Lower Body Protection Skills' with respect to total sample were obtained separately before and after training program with respect to gender. The data analysed with the help of t-test and the results are given in the following table.

Testing	Gender	No	Mean	SD	t- value	df
Pretest	Boy	12	2.25	0.754	0.645^{NS}	22
	Girl	12	2.42	0.515		
Posttest	Boy	12	3.83	0.835	1.398^{***}	22
	Girl	12	4.25	0.622		

*** Significant at 0.10 level ^{NS} = Not Significant

It is clear from the pre-test sections of the above table that the calculated t- value is not significant during pre assessment test. It indicates that both boys and girls were performed up to same extent during pretest and hence in reference to this the null hypothesis that, "**there is no significant difference in 'Lower body Protection Skills' among Visually Impaired Students before Intervention Training with respect to Gender**" is accepted. The post test section of the table indicates that, the calculated t-value is significant at level 0.10. It refers that the intervention training programme imparted good impact on acquiring lower body protection skills among visually impaired students. Also from the mean scores, it is found that girls were performing well after intervention. In the light of this the null hypothesis that, "**there is no significant difference in 'Lower body Protection Skills' among Visually Impaired Students after Intervention Training with respect to Gender**" is rejected. Therefore, though both gender benefited from the intervention; yet, girls were benefited better than boys in 'Lower Body Protection Skills' training programme.

4. To analyze the difference in 'Upper & Lower Body Protection Skills' among Visually Impaired Students before and after Intervention Training with respect to Gender.

The data in respect to analysis of pre-test and post-test scores of 'Upper & Lower Body Protection Skills' with respect to total sample were obtained separately before and after training program with respect to gender.. The data analysed with the help of t-test and the results are given in the following table.

Testing	Gender	No	Mean	SD	t- value	df
Pretest	Boy	12	1.92	0.668	1.045^{NS}	22
	Girl	12	2.25	0.866		
Posttest	Boy	12	3.33	0.492	4.632^{**}	22
	Girl	12	4.17	0.389		

** **Significant at 0.01 level** ^{NS} = Not Significant

It is clear from the pre-test section of the above table that the calculated t- value is less than the tabulated t-value at degree of freedom 22. It indicates that both boys and girls were performed up to same extent before the intervention training programme and hence in the light of this the null hypothesis that, "**there is no significant difference in 'Upper & Lower body Protection Skills' among Visually Impaired Students before Intervention Training with respect to Gender**" is accepted. The post-section of the above table indicates that, the calculated t-value is less than the tabulated t-value' at level 0.1. It indicates that, t-value is significant at level 0.1. It means that there was a significant difference in performance during posttest between boys and girls. It contracts the Null hypothesis that, "**there is no significant difference in acquiring 'Upper & Lower Body Protection Skills' among visual impaired students after Intervention Training with respect to Gender**. In the light of this the null hypothesis is rejected for post-test condition while the null hypothesis is accepted for pre-test condition. Therefore, though both gender benefited from the intervention; yet, girls were benefited better than boys in 'Upper & Lower Body Protection Skills' training programme.

5. To analyze the difference in Pre-Cane Skills performance among Visually Impaired Students before and after Intervention Training with respect to Gender.

The data in respect to analysis of pre-test and post-test scores of 'Total Pre-cane skills with respect to Gender' were obtained separately before and after training program. The data analysed with the help of t-test and the results are given in the following table.

Testing	Gender	No	Mean	SD	t- value	df
Pretest	Boy	12	6.42	1.379	1.290^{NS}	22
	Girl	12	7.17	1.467		
Posttest	Boy	12	10.92	0.9	4.325^{**}	22
	Girl	12	12.50	1.0		

** **Significant at 0.01 level** ^{NS} = Not Significant

Pre-test section of the table indicated that the calculated value less than the critical tabulated t-value. It means that both boys and girls perform up to same extent and there is no difference in their performance activities during pre assessment before giving intervention, which validates the null hypothesis during pretest. Therefore the null hypothesis that, "there is no significance difference in Pre-cane skills with respect to gender before intervention Programme" is accepted. But, the post-test section of the table indicates that, the t-value is significant at level 0.1. It indicates that, boys were performed well and better than girls in overall Pre cane training activities. It contradicts the null hypothesis.

In the light of this the null hypothesis that, "there is no significance difference in Pre-cane activities with respect to gender after the intervention Programme" is rejected. Therefore, though the 'pre cane skill training' improves the performance of both genders yet, girls performed well and better than boys during post-test.

FINDINGS OF THE STUDY

The findings as per the objectives of the studies are discussed below.

1.0 To lead Visually Impaired Students from dependency to independency

1.1 Intervention helped in improving pre cane Skills of all the students irrespective of Gender.

2.0 To identify the impact of Pre-Cane Skills (Upper Body Protection) Intervention Training on visually Impaired Students

2.1 It is found that though there is no difference in performance during pretest and post-test; yet, mean performance score indicates that, girls were performing some what better than boys after the intervention. Therefore, though both gender benefited from the intervention; yet, girls were benefited some what better than boys in 'Lower Body Protection Skills' training programme.

3.0 To identify the impact of Pre-Cane Skills (Lower Body Protection) Intervention Training on visually Impaired Students

3.1 In reference the study it is found that, there is no significant difference in 'Lower body Protection Skills' among Visually Impaired Students before Intervention Training with respect to Gender.

3.2 In the light of the study it is found that, there is significant difference in 'Lower body Protection Skills' among Visually Impaired Students after Intervention Training with respect to Gender.

3.3 Therefore, though both gender benefited from the intervention; yet, girls were benefited better than boys in 'Lower Body Protection Skills' training programme.

4.0 To identify the impact of Pre-Cane Skills (Upper & Lower Body Protection) Intervention Training on visually Impaired Students

4.1 In the light of this study it is found that, there is no significant difference in 'Upper & Lower body Protection Skills' among Visually Impaired Students before Intervention Training with respect to Gender"

4.2 It is found that, there is significant difference in acquiring 'Upper & Lower Body Protection Skills' among visual impaired students after Intervention Training with respect to Gender.

4.3 Therefore it is concluded that, though both gender benefited from the intervention; yet, girls were benefited better than boys in 'Upper & Lower Body Protection Skills' training programme.

5.0 To identify the impact of Pre-Cane Skills Intervention Training on visually Impaired Students

5.1 From the study, it is cleared that though the 'pre cane skill training' improves the performance of both genders yet, girls performed well and better than boys during post-test.

CONCLUSION OF THE STUDY

The result of the present study indicates a positive performance of pre-cane skills among vision impaired students. Though both boys and girls were performed up to same extent; yet girls' students acquired well and better from intervention programme, it signifies that the intervention programme helped each and every student in improving their pre cane skills in all environments. It indicates that, the real problem of blindness is not the loss of eyesight. The real problem is the misunderstanding and lack of information that exists. The society is required to aware of it and teachers' educator, management of schools, and various stake holders including state and union government should heed and take proper initiative on it.

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CURRICULUM FOR CHILDREN WITH AUTISM SPECTRUM DISORDER IN INCLUSIVE SET-UP

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Abstract

Curriculum is a totality of experiences, gained through direct and indirect methods and series of directed trainings and experiences, concerned in unfolding the abilities of the individuals. Traditional concept of curriculum was only concerned about learning of a group of subjects according to fixed syllabi, in a rigid pattern to enable the students to live in the future, according to their teachers' and parents' expectations. However, the recent concept of curriculum has emphasized on the individual differences and recognized education as the sole instrument to enable every student to live in the present society and espouse themselves accordingly to their need, ability and expectation of the society they live in. In the era of inclusion, need based curriculum is essential for promoting full inclusion of Children with Autism Spectrum Disorder (Children with ASD) in mainstream schools, as they (Children with ASD)lack in social and communication skills, exhibit repetitive and stereotype behavior and unusual way of sensory functioning and experience impairments in patterns of behavior. Therefore, it is imperative to address all these issues in curriculum to ensure academic success and social inclusion of Children with ASD. To say in all conscience, inclusion is happening only at physical level. The unique and special needs of Children with ASD are overlooked. Thus, need based curriculum, which focuses on the areas of difficulty, will be an instrumental for ensuring the holistic development of Children with ASD.

Keywords: Children with Autism Spectrum Disorder; Academic Inclusion; Need Based Curriculum.

Introduction

From ancient time onwards, Indian Philosophy of education has been stressing on the liberation of bondage than exchange of information and material gains.

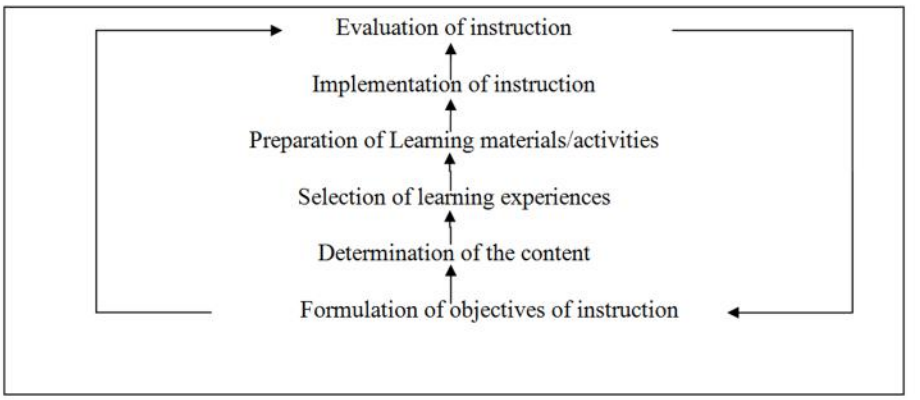
Caring, sharing and volunteering are the fundamental cores of special needs education in an inclusive environment. A school should be a welcoming school. A school should celebrate diversities (Sreekumari, 2007) and it must have an inclusive and enabling environments.In inclusive schools, the teacher must "facilitates" learning rather than "regulating" learning (Rao, 2010). However, in real it seems that, in mainstream schooling system, children with different needs are enrolled either by 'default' or by 'design'.Unless a child's individual needs are taken under serious account and dealt with due care, he/shewill become poorer and eventually drop out. This in turn reveals the fatalistic and methodical failure of the entire education system.

In this present era of inclusion, children with special needs (CWSN) are included in the mainstream classroom only at physical level, but we must spot out the status of academic success as well as social inclusion of CWSN in order to ensure full inclusion. Children with Autism Spectrum Disorders (Children with ASD) are not the exceptional group in this connection. Children with ASD, while taking their education in the mainstream settings with their non-disabled peers, should also follow the same curriculum, prescribed uniformly for all other children. It is essential because Children with ASD also need the all-round development of their personality and preparation of their future life as needed by their non-disabled peers (Mangal, 2007).

Curriculum: A Conceptual Framework

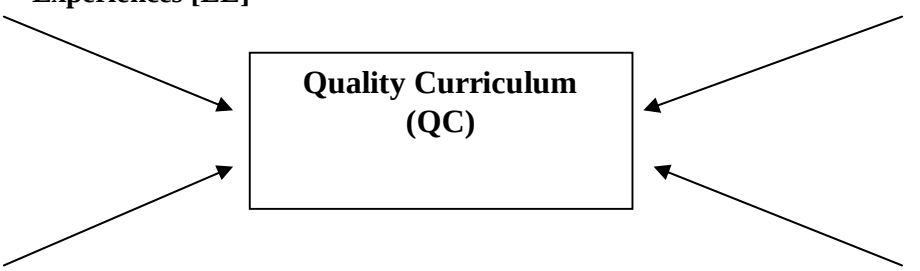
A curriculum is all the learning which is planned and guided by the teacher, whether it is carried on in groups or individuality inside or outside the school(Kerr, 1960).To define the curriculum in an inclusive andall-encompassing manner,it can be stated that 'a curriculum is all of the experiences that individual learners have in program of education whose purpose is to achieve broad goals and related specific objectives, which is planned in terms of framework of theory and research or past and present professional practice(Glen Hass, 1987).Initially curriculum was related to the concept of a course of studies followed by a pupil in a teaching institution. Recent concept of curriculum has emphasized the individual differences and identified education as a noncompeting instrument to aid the students to live in the present world and adopt themselves accordingly to their need, age, ability and the expectations of the social. In the era of inclusion, need based curriculum is exceedingly imperative for promoting inclusion.

Figure 1: Stages of curriculum development and instruction



There are four most important points that determine the quality and effectiveness of curriculum in any education system. In fact, quality curriculum is the function of four factors: QC= f [EO + LE + MM + ET]

Figure 2: four factors of quality curriculum



Source: Lulla, B. P. (2010). Curriculum development and special education: Meaning and concept of curriculum, p. 8. New Delhi: IGNOU.

Dimensions of curriculum planning

Lulla (2010) has spelt out the various dimensions of curriculum planning such as; (1) Educational objectives; (2) Learning Experiences; (3) Tools of evaluation; (4) Well trained teachers; (5) Proper instructional materials; and (6) Effective supervision.

Approaches: traditional curriculum vs. inclusive curriculum

Rao et al., (2010) has aptly portrayed the difference between traditional approach and inclusive approach. The following table is self explanatory.

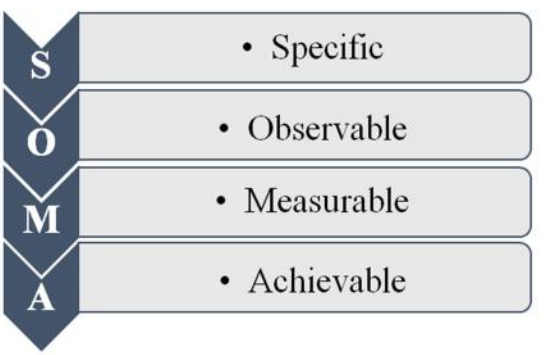
Table 1: Difference between traditional and inclusive curriculum approach

Traditional approach	Inclusive approach
Education for some	Education for all
Static	Flexible
Collective teaching	Individualized teaching
Learning in segregated settings	Learning in integrated settings
Emphasis on teaching	Emphasis on learning
Subject centered	Child centered
Diagnostic/ prescriptive	Holistic
Opportunities limited by exclusion	Equalization of opportunities for all

Curriculum in inclusive set-up

According to Rao and his fellow researchers (2010) there is an incredible demand for need based curriculum in order to ensure full inclusion of all children including children with ASD despite of their heterogenic attributes, exceptionality and individual differences in inclusive classroom. They also agreed that a curriculum needs to be designed and custom made for every child, taking into account social, cultural and individual factors. In order to fulfill the above notions a curriculum has to be modified in the lights of the following qualities

Figure 3: qualities of need based curriculum



The curriculum for "ALL" needs to be (Rao, et al., 2010)-

1. **Child centred**: CWSN needs a child centred curriculum which takes into account the individual needs of children. The curriculum needs to have specific, observable, measurable and achievable goals.
2. **Flexible**: A flexible, locally relevant curriculum, teaching and learning strategies are intrinsically important for children with special needs to participate in the educational process.
3. **Participatory**: CWSN require a learning environment in which they can actively participate and learn in 'small group learning settings'.

Curriculum for Children with ASD in inclusive set up

In traditional approach, is expected to 'fit in' to the school system.. Worldwide and now in India too, our education system has begun to acknowledge that inclusion is something quite different. It emphasizes on child first. Inclusive education involves accommodating and making adaptations for varying needs. Inclusive education is a process involving restructuring of the curriculum and classroom. When the teacher adapts instruction according to content, process or product, as well as the needs of each student, it increases the likelihood that all students can meaningfully participate in class activities. Activity based learning is well suited to including learners with a wide variety of educational needs and learning styles. Teaching material can be adapted to match the student's characteristics and interests (Module on Training of Resource Teachers under SSA on Autism Spectrum Disorders,).

As the teacher plans his/her lessons and implements instructions for the students, it is essential for him/her to consider each student's need, ability and uniqueness in this regard. It is vital to support each child's learning with multiple and flexible methods of presentation of the lessons while teaching. Similarly is also important to provide students with multiple and flexible means for engagement and expression of their learning. It is also important to empower students to make decisions and set goals (Module on Training of Resource Teachers under SSA on Autism Spectrum Disorders, mention year).

Teachers in inclusive schools can use cooperative groups and peer supports to capitalize on students' differences. It is important that the teacher learns the student's communication strengths and preferences and provides individualized sensory supports to maximize learning. Students in an inclusive classroom should be ideally placed with their chronological peers rather than their functional peers. Progressive schools should encourage students without special needs to be a buddy for students with autism particularly during unstructured times such as; break time, travelling by school bus and in the cafeteria (Module on Training of Resource Teachers under SSA on Autism Spectrum Disorders, mention year).

It is often seen that Children with ASD need and expect something more than their non-disabled peers in terms of their education and adjustment from the school education. Their deficiencies and deficits should also be covered and compensated through the formal and non-formal learning experiences of the school. The curriculum planning for the autistic children should therefore be enriched with provisions for filling up the gaps and deficiencies regarding their communication, social, academic, behavioural and daily living skills (Mangal, 2007).Thus, the implementation of enriched and appropriate curriculum with reasonable provisions can be suggested through individualized attention, co-curricular experiences and specific teaching and training provided through the support services (Mangal, 2007).

Curricular Domains

Considering the very purpose of education and keeping in mind the need, abilities, disabilities and the expected social role (to be played in the society) of children with ASD an appropriate and meaningful curricular for children with ASD in inclusive set up should embrace the following aspects-

1. **Critical goals:** The curriculum for children with ASD in inclusive set up should have critical goals to be achieved. This includes high priority skills and provides the basis for selecting the other goals. These goals have implications throughout the lifespan of children with autism e.g. communication, social behavior etc.
2. **Life skills:**This is the another important domain and it includes-

(a) **Social Skills:** As difficulty in developing relationships is central to children with ASD, effort has to be made to design specific strategies for improving their social functioning.

(b) **Self-preservation skills and safety skills:** It is imperative to work on the student's ability to recognize and respond to dangerous and life threatening situations.

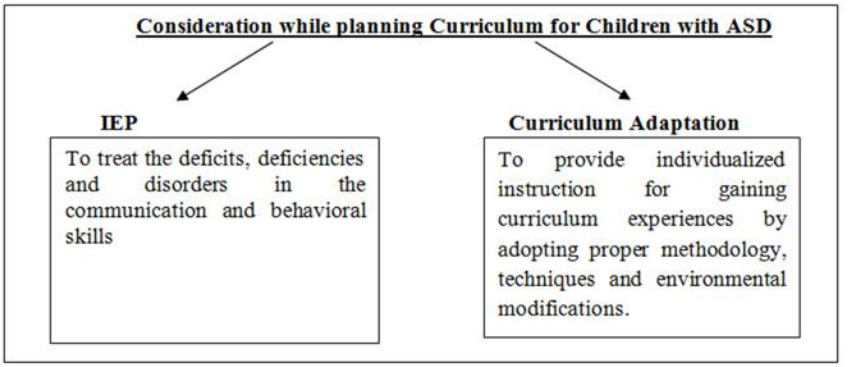
(c) **Daily life skills:** Programming in daily life skills is important to teach independence.

3. **Vocational skills:** This should begin at earlier stage as in later years it is a source of pride, self-satisfaction, personal fulfilment and income.
4. **Functional academics:** This is especially important for more severely affected children. They involve skills needed for everyday living. Academics are functional when they involve skills as knowing coin values, using a calculator to add up purchases, telling time.
   (Module on Training of Resource Teachers under SSA on Autism Spectrum Disorders)

Environmental modifications

Education of children with autism, in fact, is a big challenge for parents, teachers and educational authorities. These children are individuals first and foremost with unique strengths and weakness. They exhibit a wide variety of individual differences with regards to their nature and severity of their condition. Therefore, any planning about the methods and techniques for their education should always be done according to their individual functioning level and intellectual capacity. Therefore, it is always advisable to draw up an Individualized Education Programme (IEP) for the education and adjustment of every individual child in a mainstream set up (Mangal, 2007).

Figure 4: Consideration while planning Curriculum for Children with ASD



Besides the general curriculum considerations, special individualized efforts in terms of adequate care, attention and training should also be made for the children with ASD in overcoming their deficits and disorders related to communication, social, emotional and adaptive skills. Specialties of their deficit behavior, needs, motives and interests should always be given due consideration in providing desirable learning experiences to these children for their proper education, development and adjustment (Mangal, 2007).

Evaluation

It is important to assess and identifies the unique needs, strengths and weaknesses of the children with ASD in the mainstream schooling system. These will help towards grading the children with ASD in a comprehensive and lucid manner in order to provide them special attention and reasonable accommodations to ensure success in education and social life. The evaluation system needs to be more open, flexible, creative and student-friendly. As learners learn differently and thus they need to be evaluated differently. Therefore, inclusive schools are to be encouraged to develop a flexible and implementable

Continuous and Comprehensive Evaluation (CCE) system. Under this CCE system due importance should be given towards enhancement of learning which takes into account the physical and social environment and the facilities available in the school. Instead of employing only pen and paper evaluation mode for assessing the actual learning and other needs of children with ASD some other modes of evaluation; Oral testing, Interview, Observation, Objective type tests, Project work, Group work, Co-curricular work, exams without time limits, grades for attendance, punctuality, grooming etc. Also can be helpful in this regard to achieve the main purpose of evaluation. This trend will help to shift the focus of evaluation system from testing of memory to testing of higher level competencies such as; analysis, thinking, interpretation, problem solving etc. While evaluating the progress of the child there should be no biasness on the part of the teacher. The analysis of the response should be quantitative as well as qualitative. The evaluation must be continuous and lead to further programming of the children with ASD. (Module on Training of Resource Teachers under SSA on Autism Spectrum Disorders)

Concluding remark

Children with ASD portray impairments in social, communication skills, exhibits repetitive and stereotype behavior and unusual way of sensory functioning as well as experience disability in patterns of behavior. Today, access to the general education curriculum with special educational support is essential for children with ASD, yet many teachers struggle to develop and implement practices that facilitate such access. To ease such access and promote full inclusion of children with ASD need based curriculum is very essential. It has the potentiality to compensate the deficit areas as well as help them to be a part of inclusive curriculum. Thus it can facilitate the holistic development of the children with ASD. However, it is to spell out in this context that need assessment is also a pivotal and complex issue in development of a need based curriculum. The need based curriculum development model incorporates and encourages the utilization of different types of data. Each type of data is suited to process and acquiring information regarding needs or decision making process at a specific level.

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TECHNOLOGY: KNOWLEDGE AND SKILLS ON TECHNOLOGY AMONG STUDENTS WITH VISUALLY IMPAIRED

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"Technology can become the “wings” that will allow the educational world to fly farther and faster than ever before—if we will allow it." - Jenny Arledge

Abstract

The word "technology" can also be used to refer to a collection of techniques. In this context, it is the current state of humanity's knowledge of how to combine resources to produce desired products, to solve problems, fulfill needs, or satisfy wants; it includes technical methods, skills, processes, techniques, tools and raw materials. The study is investigated in the survey method and used the adapted tool on technology . the sample size is 20 irrespective of both independent and dependent variable . the conclude that their will be lack of knowledge and usage of technology for students with visual impairment. So the study revealed that to create more awareness on technology for visual impairment to develop their capacity and potentiality.

Introduction:

The word "technology" can also be used to refer to a collection of techniques. In this context, it is the current state of humanity's knowledge of how to combine resources to produce desired products, to solve problems, fulfill needs, or satisfy wants; it includes technical methods, skills, processes, techniques, tools and raw materials. The term "visual impairment" is used to describe a wide range of conditions which affect clarity of vision and visual field. Technology can be invaluable for people with visual impairments, both as a tool for learning and communication and for providing visual stimulation. By using a computer with appropriate software and hardware the visually impaired user can be given access to standard resources. For example, speech synthesis can read a word processed file to a blind person without the need to have it translated into Braille. Assistive technology devices are available in a variety of categories to address functional capabilities of students with disabilities. Categories of assistive technology include: academic and learning aids; aids for daily living; assistive listening devices and environmental aids; augmentative communication; computer access and instruction; environmental control;

mobility aids; pre-vocational and vocational and vocational aids, recreation and leisure aids, seating and positioning, and visual aids.

Assistive technology device means any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized that is used to increase, maintain, or improve the functional capabilities of a child with a disability. The term does not include a medical device that is surgically implanted, or the replacement of that device." -IDEA, 2004,

Need for the study:

Students with visually impaired can face many challenges in their day to day life because they loss vision. Visually impaired need special care and provision for their education training and rehabilitation to achieve educational and vocational competency as that of sighted.

Disability condition have many implication in the life of an individual. They have direct and indirect impact on their daily living skills, orientation & mobility, Education, Vocation and carrier field. So it is important to know the extent to enhance their skills and competency of all field by using TECHNOLGY, because technology is boon to visually impaired student so it will enhance and develop their knowledge, skills, potential and attitudes it will leads to success in life.

Statement of the problem:

The problem of the study is stated as “Knowledge and skills on technology among students with visually impaired”.

Definition of the term used in the study:

The term used in the study are as follows:

a. Technology:

Technology is the collection of techniques, skills, methods, and processes used in the production of goods or services or in the accomplishment of objectives, such as scientific investigation. Technology can be the knowledge of techniques, processes, and the like, or it can be embedded in machines to allow for operation without detailed knowledge of their workings.

b. Knowledge;

According to Webster's Dictionary, knowledge is "the fact or condition of knowing something with familiarity gained through experience or association". In practice, though, there are many possible, equally plausible definitions of knowledge. A frequently used definition of knowledge is "the ideas or understandings which an entity possesses that are used to take effective action to achieve the entity's goal(s). This knowledge is specific to the entity which created it."

c. Skills:
A skill is the ability to carry out a task with determined results often within a given amount of time, energy, or both. Skills can often be divided into domain-general and domain-specific skills.
d. Visually Impaired:
(b) "blindness" refers to a condition where a person suffers from any of the following conditions, namely:
(i) total absence of sight; or
(ii) visual acuity not exceeding 6/60 or 20/200 (snellen) in the better eye with correcting lenses;
(iii) limitation of the field of vision subtending an angle of 20 degree or worse;

Objectives:
The objectives of the study are to:
- Study the knowledge on technology among visually impaired.
- Study the skills on technology among visually impaired.
- To compare the knowledge and skills on technology among visually impaired students with respect to variable.
- To compare the knowledge and skills on technology among visually impaired students with respect to variable.

Hypothesis:
- There is no significant difference between the knowledge and skills among visually impaired student with respect to variables.

Methodology:
Settings:
The present study was conducted in special school and inclusive schools of the visually impaired. The schools are clustered in the main cities of the districts.
Sample Selection of the Study:
Sample selection is a significant aspect of research study. The sample selection should be done with maximum care. Selection and application of proper sampling procedures make a research study more objectives. The right approach depends upon the design used, the nature of statistical treatment and availability of the sample with awareness. The students comprising 10 from special schools and 10 inclusive school were selected by purposive sample techniques.
Variables of the study:
Selection of proper variables is an important aspect of an research. The present study aim at finding the knowledge and skills on technology among students with visually impaired. The main independent variables are age, gender, nature

of disability and types of schools. The main dependent variables are knowledge on technology and skills on technology.

Design of the study:

The study aim to find the level of knowledge and skills on technology among visually impaired students. Interview method was followed to get required data with in the particular time.

Interview:

Interview method of research typically involves face to face meeting in which a researcher(interviewer) ask an individual a series of question.

Research tool:

The researcher constructed the tool with help of expertise in the field of research. The tool which consist of two dimension aspects 1. Knowledge on technology it carried 15 question and 2. Based on skill on technology it carried 20 question it used to investigate the level of knowledge and skills on technology inventory had 2 point rating scale namely yes or no settings.

Scope of the study:

This study will benefit the visually impaired students to again knowledge on technology.

It is expected to benefit both special educator and students to understand the usage of technology in their life

The finding would be helpful for the administrator to understand the level of using technology in the school sector.

Analysis and Interpretation:

1.2 knowledge and skill on technology for students with visual impairment.

The table 1.2 present the knowledge and skill on technology for students with visual impairment.

Correlations

		Knowledge	Skill
Knowledge	Pearson Correlation	1	.530*
	Sig. (2-tailed)		.016
	N	20	20
Skill	Pearson Correlation	.530*	1
	Sig. (2-tailed)	.016	
	N	20	20

*. Correlation is significant at the 0.05 level (2-tailed).

For the above table 1.1 it is evident that the co-relation of value is 0.530 with df 20 for the knowledge on technology for students with visual

impairment. The correlation value is 0..016 with df 20 of skills on technology for students with visual impairment. It shows that the exposure and knowledge on technology of students with visual impairment did have impact in the technology of students with visual impairment . hence the hypothesis stated that " there is a significance difference in the mean knowledge and skill on technology score of visual impairment students.

1.2 knowledge and skill on technology for students with visual impairment with respect to Gender.
The table 1.2 present the knowledge and skill on technology for students with visual impairment with respect to Gender.

Group Statistics

Gender		N	Mean	t-test	Std. Deviation	Std. Error Mean
Knowledge	1.00	10	10.8000	3.673	.78881	.24944
	2.00	10	8.3000	3.673	2.00278	.63333
Skill	1.00	10	14.9000	6.518	2.76687	.87496
	2.00	10	7.9000	6.518	1.96921	.62272

The above table 1.2 reflects, it is evident that the co-related t- value is 3.673 with df 11.7 for the knowledge on technology of students with visual impairment and the co-related t-value is 6.518 with df 16.25 for the skills on technology of students with visual impairment with respect to gender is significant. It indicates that the knowledge on technology for boys and girls with visual impairment does have significantly difference. Hence the hypothesis stated that " there is a significant difference in the mean score of knowledge on technology and skills on technology for student with visual impairment with regard to Gender is rejected.

1.3 knowledge and skill on technology for students with visual impairment with respect to Type of Disability.
The table 1.3 present the knowledge and skill on technology for students with visual impairment with respect to Types of Disability.

Group Statistics

Types of disability		N	Mean	t-test	Std. Deviation	Std. Error Mean
Knowledge	1.00	7	10.1429	.993	1.21499	.45922
	2.00	13	9.2308	1.180	2.24179	.62176
Skill	1.00	7	10.7143	-.515	4.19183	1.58436
	2.00	13	11.7692	-.525	4.45634	1.23597

The above table 1.3 reflects, it is evident that the co-related t- value is 0.993 with df 17 for the knowledge on technology of students with visual impairment and the co-related t-value is -0.515 with df 13.0 for the skills on technology of students with visual impairment with respect to types of disability is significant. It indicates that the knowledge on technology for totally blind and low vision students does have significantly difference. Hence the hypothesis stated that " there is a significant difference in the mean score of knowledge on technology and skills on technology for student with visual impairment with regard to types of disability is rejected.

1.3 knowledge and skill on technology for students with visual impairment with respect to Type of Schools .

The table 1.3 present the knowledge and skill on technology for students with visual impairment with respect to Types of school.

Group Statistics

School type		N	Mean	t-test	Std. Deviation	Std. Error Mean
Knowledge	1.00	10	10.8000	3.673	.78881	.24944
	2.00	10	8.3000	3.673	2.00278	.63333
Skill	1.00	10	14.9000	6.518	2.76687	.87496
	2.00	10	7.9000	6.518	1.96921	.62272

The above table 1.4 reflects, it is evident that the co-related t- value is 3.673 with df 11.7 for the knowledge on technology of students with visual impairment and the co-related t-value is 6.518 with df 16.5 for the skills on technology of students with visual impairment with respect to types of school is significant. It indicates that the knowledge on technology for inclusive and special school of students with visual impairment does have significantly difference. Hence the hypothesis stated that " there is a significant difference in the mean score of knowledge on technology and skills on technology for student with visual impairment with regard to types of school is rejected.

Conclusion:

In current scenario Technology is very important to all of them especially for the visually impaired students technology is a boom because its easily access and adopt as per the level of their convenient. So first this study has revealed that the students with visual impairment to create an awareness of the knowledge about technology and also provide the hand on experience to them then only he/she might be exposure on technology to create accessible

environment to them and also to enhance and empower the efficacy of techno lifestyle for easily adapt the world.

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A STUDY ON TEST ANXIETY AND PROBLEM SOLVING ABILITY OF STUDENT TEACHER TRAINEES

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Abstract
The study examined the test anxiety and Problem solving ability among the student teacher trainees. For these purpose 300 B.Ed teacher trainees from three colleges was selected .Test Anxiety scale constructed by Dr.Sarason.I.G. And Problem Solving ability scale from the module constructed for a training programme in NCRT was used. The result showed that there is no significant difference between test anxiety and problem solving ability of student teacher trainees. This study may develop an insight to authorities that they can find the reasons of test anxiety. The results of the study may provide the ways of solving the problem related to anxiety.

Key Words: Test Anxiety, Problem Solving Ability, Students, Teacher, Trainees.

Introduction
Education is the process of bringing desirable change in to the behaviour of human beings. It can also be defined as the process of imparting or acquiring knowledge and habits through instruction or study when learning is progressing towards the goals that have been established in accordance with a Philosophy, which have been defined for and is understand by learner. Teachers have a critical role in keeping consistent and clear, Engaging students using a variety of learning styles to help them think more critically and using signals. Anxiety is characterized by exaggerate attention to threat. This threat bias plays a causal role in the development and maintenance of anxiety disorders. Many More factors are involved in learning problem solving skills than in other strands. Problem solving calls on all of a student's mental capacities including logical thinking, reasoning, and Creativity. Reviewing daily lessons, assigning more time for difficult chapters are also useful for the students to reduce their anxiety and increase problem solving ability.

Test Anxiety

The Word Anxiety Is Derived From Latin word Anxieties which denotes as expression of varying blends of uncertainty, agitation and dread. The term test anxiety as a scientific construct, refers to set of phenomenological, Physiological and behavioural responses that accompany concern about possible negative consequences or failure of an exam or a similar evaluative situation (Sieber et al.,1977).

Definition

Krohne and Laux (1982): Students at all levels who suffer from test anxiety choose and pursue careers which involve infrequent evaluations and which consequently, may not fully challenge their cognitive abilities.

Causes of Anxiety

Lack of preparation as indicated by

- Cramming the night before the test
- Poor time management
- Failure to organize test information
- Poor study habit

Worrying about the following

- Past performance on test
- How friends and other students are doing
- The negative consequences of failure

Managing Test Anxiety

Study at least a week or two before the exam, in smaller increments of time and over a few days. Try to simulate exam conditions by working through a practice test ,following the same time constraints. Maintain a positive attitude.. Creating a system of rewards and reasonable expectations for studying can help to produce effective studying habits. There is no benefit to negative thinking. Concentrate on the test, not other students during your exams. Try not to talk to other students about the subject material before taking an exam. If you feel stressed during the exam, take deep, slow breaths and consciously relax your muscles, one at a time. Visit the counselling centre. Schools are aware of the toll exams can take on students. They have offices or programs specifically dedicated to helping you and providing additional educational support so that you can be successful.

Problem Solving Ability

Dunckerkarl(1945) Problem solving takes place as soon as the problem is perceived by the problem solver and is aimed at to reach the goal stated by the problem. The problem is supposed to be not only new and novel but also at the

same time, there is supposed to no direct solution available to the problem solver at the time of its presentation.

Steps in Problem Solving Behaviour

John Brandsford and Barry Stein (1984) advocated five steps that are basically associated with the task of problem – solving. They referred to these steps as IDEAL thinking and arranged them in the following order;

I-Identifying the problem.
D-Defining and represent the problem
E-Exploring possible strategies
A-Acting on the strategies.

Statement of The Problem

A study on Test Anxiety and Problem solving ability of student teacher Trainees" was chosen as the topic for the present Government , Government Aided, Private Education colleges were selected from Chennai city to conduct the study.

Need and Significance Of The Study

Problem solving takes on an increasingly important role in the curriculum. Students cannot be considered technologically literate until they understand that technology involves making changes to our environment to solve problems or meet human needs. Equally important is that students appreciate that the solution to one problem often creates other problems and/or other benefits. A systematic method of identifying and dealing with these impacts must be developed. Students should be encouraged to develop and discover their own problem solving strategies and become adept at using them for problem solving. This will help them with their confidence in tackling Problem solving tasks in any situation and enhance their reasoning skills.

Objectives

- To study the test anxiety of B.Ed teacher trainees.
- To study the problem solving ability of B.Ed teacher trainees.
- To study whether the students belong to different groups based on Gender, types of institution and Educational qualification, differ significantly in, Test Anxiety, Problem solving Ability.
- To study whether the students studying in different types of institution differ significantly in,Test Anxiety, Problem solving Ability.
- To study whether the students belong to different groups based on optional subject, educational qualification differ significantly in,
  Test Anxiety, Problem solving Ability.

- To study the relationship between Test Anxiety, and Problem solving Ability.

Hypotheses

- There is no significant difference between male and female students in, Test Anxiety, Problem solving Ability.
- There is no significant difference between the students studying in Government and Government aided colleges in,Test Anxiety ,Problem solving Ability.
- There is no significant difference between the students studying in Government and Private colleges in,Test Anxiety, Problem solving Ability.
- There is no significant difference between the students from rural and Urban area in,Test Anxiety, Problem solving Ability.
- There is no significant Relationship between Test Anxiety and Problem solving Ability.

Method

In this study was adopted by survey method. The research design is descriptive design. The sample size of this study was total 300 students were taken for the study of which 100 from government , 100 from government aided and 100 from private B.Ed colleges . The data have been subjected to the following statistical analysis Arithmetic Mean, Standard Deviation and differential analysis , F-test ,correlation .

Tools

The tools used were

1. Personal data sheet
2. Test Anxiety scale – Dr. Sarason I.G.
   This tool is consisted of 37 items. It is a two point scale namely Yes or No.
3. Problem solving Ability scale
   This tool is consisted of 32 items. Using 1-6 point rating scale. This tool taken from the module constructed for a training programme in NCRT.

Results

The results of the present study are discussed under the following table:

Test Anxiety and Problem solving Ability with respect Gender and Types of institution and Educational Qualification

Variables			N	Mean	S.D	T-VALUE	Level of significant
Test Anxiety	Gender	Male	150	20.43	4.78	2.68	0.05 S
		Female	150	40.77	24.98		
	Types of institution	Government and Government Aided	100	20.95	5.25	3.52	0.05 S
			100	18.80	3.35		
		Private and Government	100	21.00	5.21	0.10	0.05S
			100	20.95	5.25		
	Qualification	UG	200	29.88	11.2	2.00	0.05S
		PG	100	21.03	9.21		
Problem solving ability	Gender	Male	150	109.32	14.49	0.53	0.05NS
		Female	150	108.53	11.70		
	Types of Institution	Government and Government Aided	100	111.3	12.54	1.52	0.05NS
			100	108.5	12.0		
		Private and Government	100	106.8	14.49	2.35	0.05S
			100	111.3	12.54		
	Qualification	UG	200	107.6	14.6	1.22	0.05NS
		PG	100	109.5	12.3		

From the table the result indicates that there is significant difference between male and female in Test Anxiety . The result indicates that there is significant difference between Government and Government Aided and Government and Private college , students with respect to their Test Anxiety. The result indicates that there is significant difference between UG and PG teacher trainees in Test Anxiety.

The result indicates that their is no significant difference between male and female in Problem solving Ability . The result indicates that there is no significant difference between Government and Government Aided students with respect to their problem solving ability. The result indicates that there is significant difference between Government and Private college teacher trainees with respect to their Problem solving ability. The result indicates that there is no significant difference between UG and PG teacher trainees in Problem solving ability .

Relationship between Test Anxiety and Problem solving ability of Total sample

S.No	Variables	N	R-Value	Level of significance
1.	Test Anxiety	300	-0.049	0.05NS
2.	Problem solving ability	300		

From the table obtained r- value is no significant at both 0.01 and 0.05 level.

Findings

- Male students do not differ significantly from the female students in their Problem Solving Ability.
- Male students differed significantly from the female students in their Test Anxiety.
- Government college students do not differ significantly from the Government aided students in their Problem Solving Ability.
- Government college students differ significantly from the Government aided students in their Test Anxiety .
- Government college students differ significantly from the Private students in their Test Anxiety and Problem solving ability.
- UG students differed significantly from the PG students in their Test anxiety.
- UG students do not differed significantly from the PG students in their Problem solving ability
- There is no significant correlation between Test Anxiety and Problem solving ability of student' teacher trainees .

Conclusion

The purpose of the study was in test anxiety and Problem solving ability of students teacher trainees with reference to some selected personal variables. This study may enrich the educator's in the field of teacher education and the findings of this study may serve as a data base for future research.

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http://www.eric.com/onlinejournels

ATTITUDE OF TEACHERS TOWARDS INCLUSIVE EDUCATION

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Abstract

In this present scenario, the concept of 'school for all' which means inclusive educational set up has become an important aspect of any educational organisation. Despite the limited facilities, schools encourage and support students even with disabilities to study with non-disable students in a regular setting. Even government requires all the schools and colleges to provide inclusive education. However, for teachers it is a herculean task because they have to meet the needs of all students in the same classroom by maintaining uniformity. Further, teachers require high level of ethical orientation, commitment and cooperation. This paper deals with the attitude of teachers towards inclusive education in the present scenario and their view points on various circumstances in inclusive education along with a few recommendations to encourage and support inclusive education.

Key words: inclusive education, disability, uniformity, ethical orientation, commitment.

Introduction:

Inclusive education happens when children with and without disabilities participate and learn together in the same classes. Research shows that when a child with disabilities attends classes alongside peers who do not have disabilities, good things happen. For a long time, children with disabilities were educated in separate classes or in separate schools. People got used to the idea that special education meant separate education. But we now know that when children are educated together, positive academic and social outcomes occur for all the children involved. We also know that simply placing children with and without disabilities together does not produce positive outcomes. Inclusive education occurs when there is ongoing advocacy, planning, support and commitment.

OBJECTIVES OF INCLUSIVE EDUCATION:

- School for all.
- Education for all.
- Protection of rights.

- Identification of skills.
- Development of social consciousness.
- To equip for new challenges.
- To improve quality of education.

OBJECTIVES OF THE STUDY:

- To analyze the attitude of the teachers towards inclusive system of education.
- To understand the progress of the students in inclusive schools.
- To become aware of the potential barriers of students with disability and teachers' view on that.
- To understand the general perspectives of inclusion.

NEED FOR THE STUDY:

- The study is conducted to analyse the attitude of teachers towards inclusive education.
- The result conveys the positive and negative impact of blending students with and without disabilities during the learning process.
- This helps in modifying the strategies of teaching and classroom setting focusing the students of special needs.
- To analyse the teaching experience of teachers in inclusive educational set up

METHODOLOGY:

The method used to find the attitude of teacher towards inclusive education is Survey method. Survey methodology is the study to gather data through questionnaire on the sample from a population. A questionnaire is constructed in order to conduct a survey. This method was adopted to find out the percentage of positive and negative attitude towards inclusive education.

SAMPLE SIZE

Sample consists of convenience sample of 20 teachers in the Department of Education of Avinashilingam Institute for Home science and Higher education for Women. Teachers included in the study belong to an inclusive classroom setup. The teachers who responded were only females. All the participants were between the ages of 40 – 60.Most of the teachers are doctorate degree holders.

MEASURING TOOL:

A self-made tool on measuring attitude of teachers towards Inclusive Education was used in this survey. The survey item responses are: agree, and disagree. They are categorized into two types of attitude namely, positive and negative

attitudes. The questions are based on teachers and their experience in inclusive classroom and the problems in communicating with the special needs students.

DATA ANALYSES:

Survey response data compiled in excel sheet for statistical analysis. Percentage scores were calculated for further descriptive analysis of the responses. Responses were also examined with respect to the positive and negative attitude of teachers towards inclusive education of the survey items for similarities or differences.

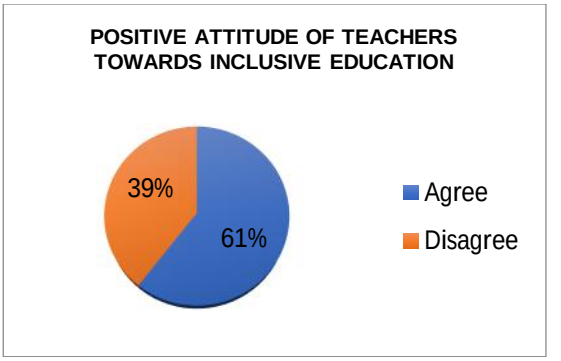

Figure.1

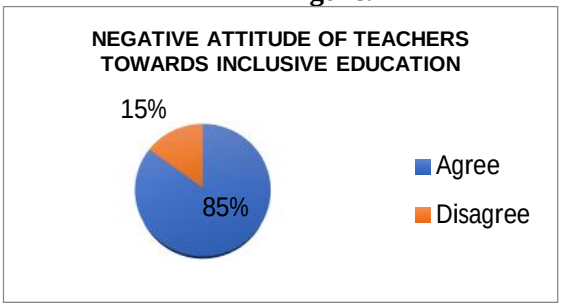

Figure.2

INTERPRETATION:

It is clear from the figure 1 that most of the teachers about 61% agree with the idea of inclusion and they feel there can be progression if all students are put together in the same classroom regardless of their ability.On the other hand there were some teachers about 39% who were against the idea of inclusion which is less but not significantly very low when compared to who agree with the positive idea of accomodating all students.

From the figure 2 it is determined that the majority of the teachers about 85% is against the negative attitude about inclusion while only 15% which is

comparatively less number agreed with the negative attitude of teachers towards inclusive education.

In general, it is clear from the pie charts, that there is a favorable perspective towards inclusion while the negative thoughts may be due to lack of knowledge and awareness about disabilities of students.

RECOMMENDATIONS FOR FUTURE RESEARCH:

- Teachers' abilities to teach students with special needs are largely affected by the availability of resources. Further research can be done to find out teachers' beliefs about the availability of resources and the usefulness of such remedies.
- Training for general teachers can also be made effective by teaching them to use appropriate teaching aids exclusively for students with disabilities.
- Workshops and seminars can be conducted to teachers to create an acceptance of inclusion.

CONCLUSION:

Based on the findings, following conclusions were drawn. All participants were in favour that students with mild disabilities can easily adjust with normal students and most of the teachers were of the opinion that inclusive education can be implemented. This is inferred from the survey done with teachers in an inclusive educational set up. The only barrier to the success of the concept 'school for all' is inadequate knowledge /training of general teachers which would be better if trained or given knowledge about special needs education.

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POSITIVE BEHAVIOURAL INTERVENTION AND SUPPORT FOR STUDENTS AT RISK FOR DISABILITIES IN INCLUSIVE SCHOOL

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Introduction

Schools today face a number of challenges in educating students. In addition to the responsibility of effectively teaching academic subjects such as math, reading, science, the arts, and writing, educators and teachers must increasingly deal with nonacademic factors that influence the instruction they provide. Among these factors, one of the most challenging is emotional and behavioural disorders. It is estimated that approximately 10% of children and adolescents globally suffer from some form of mental illness that significantly impairs their ability to function in everyday settings (Lassen, Steele, & Sailor, 2006; Shaffer et al., 1996). Students who present challenging behaviour certainly consume a great deal of teacher and school resources.

Studies of Malhotra 2002, and Gupta 2001 concentrating on mental health problems amongst school going children showed the prevalence figures varying from 6.33% to 43.1% in Indian context. International context showed similar variability. With this premise, a study was planned and currently on going using Positive Behavioural Intervention and Support approach in Indian public schools.

Positive Behaviour Intervention and Support (PBIS) is a systematic, proactive approach for promoting adaptive behaviours and reducing behaviours that interfere with meaningful community participation and social relationship. This Whole-school discipline programs emphasize preventive intervention. Preventive intervention works with identifying pro-social student behaviours, establishing a system to positively reinforce those behaviours, and fostering cooperation among all members of the school community.

Review of Literature

A positive approach integrates valued outcomes, behavioural science, empirically validated procedures, and systems change to enhance an individual's quality of life behaviours (Carr, et al, 2002Horner, 2006).

Positive Behaviour and Intervention Support (Horner, Sugai, Todd, etal. (2005); Sugai & Horner, 2006; Sugai, Horner, & Gresham, 2002) is one such

whole school prevention framework that seeks to enhance the school's capacity to prevent disruptive behaviour by creating and sustaining primary, secondary, and tertiary intervention.

PBIS enhances the education of all students. Especially those with challenging social behaviours because it establishes clearly defined outcomes that relate to academic and social behaviour, systems that support faculty efforts, practices that allow for student success, and data used to guide decision making (RI PBIS 2010).

Prosocial skills and behaviour are taught and encouraged in order to decrease inappropriate behaviour. When inappropriate behaviour is present within a school environment, the negative climate is often linked to loss of instruction, pooracademic achievement; poor standardized test performance, and increased dropout rates (Paul V. Sherlock Center, 2010).

Objectives

1. Design and implement positive behavioural intervention and support for students at- risk for disabilities in inclusive school through a tiered system of intervention
2. Compare the mean scores of positive behaviour before and after implementation of behaviour support

Design of the Study

PBIS is the integration of research based practices and interventions, data based decision making and positive student supports. The critical factors in the PBIS are: Universal Screening, Tiered instruction, and Data based decision making.

Universal Screening for Behaviour of Students

Universal screening here means the entire school children are screened of their behaviour. Students' behaviour was screened administering two types of tools: Teacher Nomination tool and Student Behaviour Screening Scale (SBSS) eliciting from students their internalizing and externalizing behaviours.

The teacher nomination scale consists of 25 items focusing student's behaviou. The teacher has to give nomination of each student using this scale. This tool was developed/ adapted based on literature and the existing tools. The tool has five major components such as i) Study Skills ii) Emotional Concerns iii) Behavioural Concerns, iv) Social Skills and V) School Discipline. Each major area has five sub skills and thus identifying 25 behaviour problems.

Tiered Instruction

The data collected in the Universal screening identified the behaviour problems which includes children with low, high and moderate risk for

behaviours. Based on the intensity of behaviour problems, the students were grouped in to different Tiers for intervention. The high risk students were grouped for Tier3 intervention, moderate risk in Tier2 and Low risk in Tier1.

Tier1 Instruction

Tier1 instruction consists of rules, routines, and physical arrangements developed for teachers to prevent initial occurrences of behaviour the school would like to target for change. Here in the research appropriate behavioural expectations were described and taught to students with various ways. Building leadership team for teaching and practicing Behaviour Expectations in school was done through Tier 1 intervention. Tier1 instruction usually takes half an hour everyday mostly during first hour in the morning session for all students in the classroom.

Tier 2 Instruction

Tier2 Instruction was given to Students with Moderate risk behaviours. They received instructions at various setting such as the classroom, hallways, in the play ground and during lunch or recess time. The instruction includes: teaching the students to use new skills as a replacement of problem behaviour, rearrangining the environment so that problems can be prevented and desirable behaviours can be encouraged, and monitoring, evaluating and reassessing this simple behaviour plan over time. This type of behaviour correction was given on daily basis. The average time consumed for intervention for each student was 30 minutes a day.

Tier3 Instruction

This instruction was given to students who were at high risk for behaviours. This is called targeted individual prevention of behaviour problem. Individualized and more intensive supports were provided for a few individual students with problem behaviours for whom universal and group/classroom supports have not been fully effective in teaching expected social- interpersonal behaviours in all school settings.

Data Based Decision Making

Based on the data, decision has been taken involving classroom teachers. In this process, behaviuor score is reviewed and decision taken on which Tier the individual child is to be grouped, and any change is needed in the intervention and any further clinical or rehabilitative services are needed.

Implementation of Behaviour Intervention Strategies

Implementing evidence-based intervention practices are critical factors to a successful PBIS programme. Components/ programmes include school wide programme, individual student programme, Classroom programme and non classroom programme.

a) School-Wide Intervention

i) Leadership team

Four students exhibiting desirable behaviour from each class were selected for leadership team. The role of the teacher here was to model out the appropriate behaviours to the leadership team and train them for role play and give appropriate feedback and reinforcement. The leadership team used to demonstrate the behavioural expectation to other students.

The behaviour of 'Be Respectful' is taught in the following manner.

Students in the leadership team who have been pre-taught to model the behaviour with a role play to the group. Ex: How to walk on the corridor. The team demonstrates on walking on left side without banging or touching or waving or running. The other students are asked to respond and demonstrate the same behaviour.

b) Behaviour purpose statement

The crucial behavior statements are:

i) Be Safe ii) Be Respectful and iii) Be Responsible

Based on these three rules behavioural expectations in various situations were framed. For example " Be Respectful" – The behaviour situations include: Respect Yourself, Respect Others, and Respect Property. The behavioural expectations are positively stated, and they are easy to remember.

c) Individual Student Programme: It is provided through tiered instruction – such as Tier 1, Tier 2 and Tier 3 based on behaviour challenges.

d) Classroom

Classroom routines like subject timetable with independent work time, and study time expectations are to be clearly defined

e) Non classroom (lunch, recess & prayer times)

Students are being monitored by school staff actively in all school settings. Before the undesirable behaviour occurs, positive expectations and routines are to be taught in a regular basis in Tier 1 and encourage on the particular occurrence of expected behaviour.

Procedures for teaching school and classroom expected behaviours

These behavioural expectations were portrayed in flex banners and displayed in and around the school campus. This helps the students to remember the appropriate behaviour

For example, classroom, routines include: 1) be on time, 2) listen to the teacher, 3) appropriate voice level , 4) raise hand to speak, and 5) do the class work.

Observing and Praising Appropriate Behavioural Actions

Specific praise is extremely important in increasing the reoccurrence of appropriate behaviour. The Tier 1 behavhioural support would encourage occurrence of positive behaviour with appropriate appreciation. The teacher with the help of leadership team would "catch" students exhibiting the appropriate behaviours. They will be honoured with labels of praising such as 'Good Listener', 'Obedient Master', 'Obedient Mdadam' and so on. These honours may be given during morning assembly so that all other children in Tier 1 will be motivated to exhibit appropriate behaviour.

While monitoring, the teacher can provide immediate feedback to students who are and who are not engaging in respectful behaviour and quickly take data to assess how well students' responded to the instruction.

Findings

Finding 1: Identification of Children with Behaviour Challenges Measured with Student Behaviour Screening Scale and Teacher Nomination Scale on Student Behaviour

In the first universal screening measures, the research identified the children with behaviour challenges. The percentage of students with behavior challenges at the beginning of the research project, in each class is given below:

S.No	Grade	Percentage	
		Students' Checklist	Teacher Nomination Scale
1	I	32	38
2.	II	33	34
3.	III	40	47
4.	IV	41	46
5.	V	54	58

The above table shows that higher the class, more the number of children with behaviour challenges. In GradeI, the students with behaviour challenges are between 32-38% whereas it is between 54-58% in GradeV.

Finding 2: Grouping of Students in Tiered Instruction – Phase I

The students were grouped into Tier II and Tier III. Tier II needs supplementary Intervention and Tier III students need intensive intervention.

Grade	Universal Screening 1		
	Tier 1	Tier 2	Tier 3
I	62%	27%	11%
II	66%	19%	15%
III	53%	35%	12%
IV	54%	26%	20%
V	42%	31%	27%

The table above reveals that on an average 27.6% of students are Tier III and 17% of the students needed intensive intervention and the beginning of the research.

Finding 3: Behaviour Challenges before and after implementation of PBIS

Grade	Effect of Intervention (%)			
	Students' Screening Scale		Teacher Nomination Scale	
	Before Intervention	After Intervention	Before Intervention	After Intervention
I	32	27	38	33
II	33	26	34	30
III	40	33	47	35
IV	41	33	46	30
V	54	38	58	36

The above table states that there was reduction in the percentage of children with behavior challenges after implementation of behaviour support programmes measured both by Student's Screening Scale and Teacher Nomination Scale. Average percentage of students with behavior challenges before and after intervention: i) Students' Screening Scale Score before Intervention was 40% and after intervention it was 31.4%. Similarly the Teacher Nomination Scale on Student behavior before intervention, the average score was 44.6% and it was reduced to 32.8% after introducing PBIS.

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WRITING SKILLS IN MORPHOLOGICAL DEVELOPMENT AMONG CHILDREN WITH HEARING IMPAIRMENT

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Abstract

The present study was quasi-experimental with one experimental group was employed. Performance of children with hearing impairment in writing skills especially in spelling level was the dependent variable and type of hearing loss is an independent variable. The study was designed on the basis of levels of students. The study was planned to conduct in four phases. **Writing Skill in Morphological Development for Primary Level (WSMD)** is used to find the level of writing in morphological development, **intervention purpose the investigator developed the Tool for Package on Tamil Finger spelling based Word List (TFSWL) (based on Tamil Finger spelling Package for 30 Tamil Alphabets prepared by the investigator in 2015)** The result exposed that the children with hearing impairment are very poor writing skill in word order and they proved the **Gormley & Sarchandeily, (1987)** statement that severely and profoundly deaf children produce grammatical errors in their writing. Because the child with hearing impaired is retarded in reading and writing. Due to unawareness of the graphic representation of each alphabets and knowing, understanding and comprehension of each alphabet, this enhances the problem in abstract writing \ independent writing and memory writing

Key words: Hearing impairment, Writing skill, Morphological development, Tamil Finger spelling,

Introduction

Writing is the most essential form of communication, but in the hierarchy of language abilities, it is usually the last to be learned. Written language allows one to communicate with others, to express ideas and feelings, and share knowledge. In school, the quality of written expression demonstrates that the child has mastered concepts and measures of academic learning in test. Unfortunately what is often overlooked is the fact that writing is a complex skill that needs coordination of several abilities. As Hughes noted (1955) Writing also requires the acquisition of skills in a certain, logical sequence. When a child

enters school, there is a distinct hierarchy of writing tasks he is likely to encounter.

Spivak, et al (2000) stated that, hearing loss in infants is silent and hidden, great emphasis is placed on the importance of early detection, reliable diagnosis, and timely intervention. Children with hearing loss frequently experience speech-language deficits, articulatory problems and exhibit lower academic achievement and poorer socio-emotional development than their peers with normal hearing.

Suni Mathew, et al (2006) stated that, the most unique characteristic of human is language. It is the core of all aspects of human communication, whether it is a comprehension of oral language through hearing or seeing, comprehension of written language (reading) or the formulation and expression of language, speaking and writing. One must have an adequate command of language in order to read, speech read, write etc. Children with hearing impairment due to their hearing loss have a mild to severe impact on the language development. The language development in them is delayed and deviant. This has created another need in children with hearing impairment, i.e. the development of language.

Children with hearing impairment do not acquire language naturally. When they learn to read, they are confronted with two main problems. Initially most of them are severely deficit in their knowledge of verbal language followed by perception of written words which reflects as language code. Stated by Varsha Gathoo (2006)

Due to hearing loss, Children with hearing impairment are unable to take part in literate society hence they develop their reading skill without knowing, understanding and comprehending the alphabet and they develop their writing skill without understanding of sound, graphical representation of letters and word. At the end they are very poor in language development with limited vocabulary. The effect of hearing loss creates impact in the development of receptive and expressive communication skills, academic achievement and Vocabulary development This article presents the quasi experimental study on the **Writing Skills in Morphological Development among Children with hearing impairment.** The conclusions given were drawn from the outcomes of the research and observations on the Writing skill development of children with hearing impairment.

Review of Literature

The present study is conducted mainly to find the writing skills in Morphological Development among Children with hearing impairment at primary level. In addition the following studies also stress the problems in writing skills among Hearing impaired specially

Hearing loss is one of the most common sensory disorders and is the consequence of sensory neural and conductive malfunctions of the ear. Hearing loss may be pre-lingual or post-lingual. The period from birth to 3-5 years is often considered as the "critical period" for the development of normal speech and language. **Finitzo & Crumley,(1999)**

Morrow (2001) stated that a child with a hearing loss, with or without additional special needs, requires models and partners as he or she becomes literate. These individuals present reading and writing behaviors that demonstrate not only what print codes mean, but also reveal what a literate person thinks and does before, during, and after they read or write.

Mcagec, et al (1990) stated that Children with greater hearing losses tend to omit function words, such as articles auxiliary verbs and preposition, a characteristic which continues into post secondary years. Retardation in auditory perception and visual perception leads to poor cognitive development and develop a child without comprehension skills. Children with hearing impaired face more difficulties especially in knowing the alphabets.

Need and Importance of the Study

Hearing loss is assumed to have a crucial implication in speech and language development of children. Normally a hearing impaired child develop their writing skill by copy writing, guided writing and independent writing with the help of residual power of auditory perception, speech reading and speech of others. But following difficulties were observed in developing their writing skill.

- Face problem in perceiving and interpreting the text message.
- Very poor differentiation of the phonemes because some of the phonemes are invisible in nature during the production.
- Very poor performance in auditory perception because the hearing loss acquired in the early stage of life.
- Not able to recognize the sound letter association and their meaning.
- Not aware about framing of words in sentence.
- Memorizing the graphical representation of the phonemes in Alphabet.

The above mentioned reasons lead to problems in developing writing skills. With reference to the reviews projecting minimum studies in developing writing skills through finger spelling, the researcher proposed to study the “Developing Tamil Writing Skills through Tamil Finger Spelling among Children with Hearing Impairment at Primary level”. The study is expected to have a get through in developing Tamil language among Hearing impaired.

Objectives of the Study

The major objectives of the study are to:

- To study the case.

- To find the writing skills in morphological development among hearing impaired students at primary level

Hypothesis of the Study

- There is no significance difference between the children with hearing impairment belonging to various age group in terms of writing skills in morphological development

Limitations of the study

The limitations of the study were following as

- ✓ The study carried out only for children with hearing impairment at primary level.
- ✓ This study adopted purposive sampling method.

Methodology

The present study was quasi-experimental with one experimental group. Performance of children with hearing impairment in writing skills especially in spelling level was the dependent variable and type of hearing loss is an independent variable. The study was planned to conduct in four phases. To attain this objective the investigator constructed the following tool to find the Writing Skill in Morphological Development for Primary Level (WSMD) is used to find the level of writing in morphological development, intervention purpose the investigator developed the Tool for Package on Tamil Finger spelling based Word List (TFSWL) (based on Tamil Finger spelling Package for 30 Tamil Alphabets prepared by the investigator in 2015). The tool was administered to all the children with hearing impairment ranging from 7 to 9 years at primary level in three special schools at Coimbatore district. The scoring for the tool is only, if the sample answers in each question, then a score of one was given. If the children do not answer a score of zero was given.

RESULT AND DISCUSSION:

The Writing Skills in Morphological Development inventory for primary level was prepared administered to the 50 hearing impaired children by the researcher. The data pertaining to the identification of writing problems of selected sample were processed and analyzed with the use of quantitative and qualitative techniques. The result of the study was discussed systematically. Once the pretest was completed, an effective intervention was implemented.

Writing skills in Morphological Development among children with hearing impairment

To observe the Writing skills in Morphological Development among children with hearing impairment, the data was collected, tabulated and analyzed as follows.

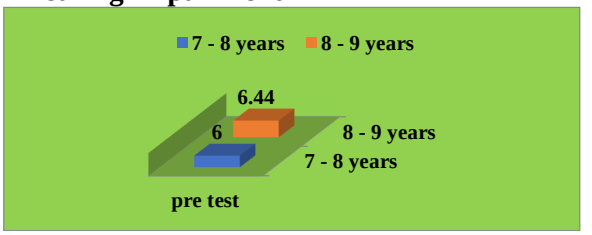
Table - 1
Writing skills in Morphological Development of All Selected Sample of Children with Hearing Impairment

N	Testing	Responding	Mean	SD	t-value	P value
Pretest (N =50)	7-8 years (25)	150	6.00	2.35	0.563	0.578
	8-9 years (25)	161	6.44	3.23		

Significant at 0.05 level

The overall performance of children with hearing impairment in writing skill in morphological development, the means scores for the children with hearing impairment at the age group of 7 - 8 years, the mean value is 6.00 and the age group of 8 - 9 years, mean value is 6.44 respectively. From the above table it is indicated that there is significant difference between the children with hearing impairment in writing skill in morphological development at different age group. The calculated't' value is 0.563 at 0.05 level. Therefore, the null hypothesis was, **"There is no significance difference between the children with hearing impairment belonging to various age group in terms of writing skills before intervention",** is rejected. Hence, it was proved that when the children with hearing impairment at different age group is unique in nature and they develop their performance only on basis of their opportunities what they received in their early stages of life .

Figure – 1
Writing skills in Morphological Development of All Selected Sample of Children with Hearing Impairment



Conclusion

The current educational trend is inclusion of children with hearing impairment in general education. The main aim of education is to develop the overall development of hearing impaired children to lead the independent life. The children with moderate to severe loss of hearing may pick up the small number of words and speak through simple, but mostly grammatically incorrect

sentence. But children with severe to profound loss, who are born deaf or have become deaf in very early childhood, do not acquire most of the language and speech that they heard continuously as repeated flow of language. They are not exposed to the enormous amount of language simulation experience by hearing children during the early years.

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ACQUISITION OF GEOMETRIC SKILLS AMONG STUDENTS WITH HEARING IMPAIRMENT AT SECONDARY LEVEL

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Abstract
The goal in geometry is to develop an understanding of the relevant concepts, shapes, size and mathematical terms. Students require a strong foundation in basic geometrical skills and they need to understand the meaning of mathematical contexts to assist their ability to discuss the subject purposefully. The fundamental knowledge of geometry was very poor in most children with hearing impairment. To improve the skills and knowledge of learning geometry among the children with hearing impairment, the investigator gave various strategies. It is better to train to develop geometrical skills by using the strategies (sign language, 2D objects, 3D objects, and Graphical and Diagrammatic representation) to develop the skills. Children with hearing impairment faced problem in identifying the shapes, confusion in understanding the formulas, lack of knowledge in geometrical concept like line, angle, triangle, rectangle, square and circle. The present study revealed that the strategies developed by the investigator helped the CWHI to acquire skills and knowledge for learning geometry. No doubt this study brings a strong foundation for all the children to develop skills that are essential to learn geometry purposefully. Hence also this research would benefit the teacher to teach the geometric concept in different strategies.

Introduction
Education, in its broadest sense, defines as a process designed to inculcate the knowledge, skills and attitudes necessary to enable individuals to cope effectively with their environment. All the basic subjects are included in the curriculum of a child till the high school stage which fulfills his need to lead a good life. Curriculum comprises of subjects like general sciences, social sciences, languages, mathematics, arts, and crafts and even sports. **(Kulkarni, 1991)**

The subject ‘Mathematics’ is the numerical and calculation part of man’s life and knowledge. It helps man to give exact interpretation to his ideas and conclusions. Mathematics deals with quantitative facts and relationships as well as with problems involving space and form. Mathematics Occupies very important and unique position in the school curriculum from the very elementary level itself

and has been made a compulsory subject of study from the primary level up to the tenth standard.

Geometry is an aspect of mathematics which deals with study of different shapes. These shapes may b plane or solid. Teaching geometry therefore remains problematic because it requires knowledgeable and competent teachers. Geometry has traditionally been included as a subject of study in secondary mathematics curricula, but it has also featured as a source in out – of school problem solving, and it has been connected to human activities like sports, games and artwork.

Problems faced by Children with Hearing Impairment in Learning Geometry

Children with hearing impairment face difficulties in learning geometry. They have problem in identifying the shapes, discriminating the shapes, different types of lines, types of angles, measurement of an angle, types of triangle, area and perimeter of square and rectangle, circle, 3D shapes like cube, cuboids, cone and sphere. They face more difficulties in solving the geometric problems.

Need of the study

Mathematics has been a largely neglected area in the education of deaf and hearing impaired children **(Bunch, 1987 et. al)**. This is a serious omission, as industry and commerce now require a higher level of numeracy than earlier days Geometry is the science of space and extent. It deals with the shapes, size and other properties of figures and the nature of space are in the province of geometry. Euclidean geometry is concerned with the axiomatic study of polygons, conic sections, spheres, polyhedral and related geometric objects in two and three dimensions – in particular, with the relations of congruence and of similarly between such objects. Geometry is the part of mathematics that has often been overlooked in the past in favors of other areas for children hearing impairment. It helps to develop greater spatial skill. Geometry also teaches thinking, flexibility and creativity and general problem solving skills and develops a positive attitude towards geometry and a useful way to practice geometry and a useful way to practice geometrical skills in day to day life activities.

Deaf children are retarded in geometric skills in relative to their hearing peers. There are two possible and interrelated reasons for this:

- Relatively poor linguistic skills
- The social consequences of deafness.

These two elements, the linguistic and the social, no doubt interact in complex ways.

Objectives of the study:

1. To identify the geometric ability of children with hearing impairment.
2. To find out the errors made by children with hearing impairment at secondary level on geometric achievement.
3. To give intervention to the children with hearing impairment based on their errors.
4. To find out difference between pretest and posttest scores for children with hearing impairment in geometry with respect to variables like geometrical concept, grade, gender and age.

Methodology

Selection of area:

Eight integrated school were selected for conducting the study for children with hearing impairment at secondary level in Coimbatore city.

Selection of sample:

Thirty children with hearing impairment aged between 12 to 15 years were taken for the study of which 15 were girls and 15 were boys.

Selection of method:

For the study experimental method were used.

Selection of tools:

The researcher has constructed a tool to test the geometrical ability of the children with hearing impairment and it contained 60 objectives type question.

The tool contains six areas in geometric skills and include lines, angles, triangle, rectangle, square, circle

The data collection were done in three phases

Phase I

In the first phase the pretest were conducted in various schools to find out the geometric skill of children with hearing impairment at secondary level.

Phase II

In accordance with the pretest performance of the children with hearing impairment, the children had difficulties in identifying the shapes, discriminating the shapes, different type of lines, types of angles. They too had difficulties to measure an angle, types of triangle, area and perimeter of square and rectangle, circle. The following were the five strategies that were devised and intervened to the children with hearing impairment. They are

- Sign language
- Diagrammatic representation
- 2D objects
- 3D objects
- Graphical representation

Phase III

The investigator conducted the posttest to the sample with the tool prepared for the test

Findings of the study:

- There is a significant difference between pretest and posttest in age of children with hearing impairment (12 to 16).
- Most of the student performed better in age of 14, 15 and greater than 16 in pretest and posttest followed by the student performed.

Table 1

Analysis of Geometrical Skills in Pre Test and Post Test

Variables	Gender	Mean	SD	t Value
Geometric skills of CWHI	Pre Test	5.11	0.50	8.57*
	Post Test	7.98	0.43	

Significant * at 0.01 level

From the above Table, it is clear that 't' value for the geometrical skills of CWHI at Pre Test and Post Test is 8.57 which is significant at 0.01 level indicating that there is a significant differences in the performance in pre test and post test with respect to the geometrical skills at test.

Conclusion:

The goal in geometry is to develop an understanding of the relevant concepts, shapes, size and mathematical terms. Students require a strong foundation in basic geometrical skills and they need to understand the meaning of mathematical contexts to assist their ability to discuss the subject purposefully. The fundamental knowledge of geometry was very poor in most children with hearing impairment. To improve the skills and knowledge of learning geometry among the children with hearing impairment, the investigator gave various strategies. It is better to train to develop geometrical skills by using the strategies (sign language, 2D objects, 3D objects, and Graphical and Diagrammatic representation) to develop the skills. Children with hearing impairment faced problem in identifying the shapes, confusion in understanding the formulas, lack of knowledge in geometrical concept like line, angle, triangle, rectangle, square and circle. The present study revealed that the strategies developed by the investigator helped the CWHI to acquire skills and knowledge for learning geometry. No doubt this study brings a strong foundation for all the children to develop skills that are essential to learn geometry purposefully. Hence also this research would benefit the teacher to teach the geometric concept in different strategies.

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ATTITUDE OF STUDENT TEACHERS TOWARDS USING MOBILE TECHNOLOGY IN INCLUSIVE CLASS ROOM

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Abstract

This study is an attempt to find out the attitude of student teachers towards using Mobile Technology in inclusive class room. This research conducted on 100 student teachers from the Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore with a self made tool in the form of Questionnaire revealed that 85 percentage of student teachers have high level of attitude towards mobile technology in inclusive class room

Key words: Attitude, Mobile Technology, Inclusive classroom

Introduction

Mobile technology is convenient, in that, it is accessible anytime, anywhere and like other forms of technology, it is collaborative and instant feedback and tips can be received by the learners**.** In education, mobile phones have led to the evolution of new paradigm known as Mobile Learning or M-Learning. (Muyind,2007). Ferry (2009) describes that modern mobile phones can be used to help students to access web based contents, remix it, share it, collaborate with others and create media rich deliverable for the classroom teachers as well as global audience. It brings new techniques into the classroom and uses different types of activities. In other words, it attempts to blend oral teaching with technology in the classroom which makes teaching and learning process very effective. It can also be a useful add-on tool for students with special needs, for instance, the hearing impaired students. So this educational technology can be an effective and appropriate strategy for creating flexible learning environment to students who for personal learning need to access to Internet.

Additionally this M-Learning enables technology enabled learning more accessible to a large group of learners. We are moving into an era when mobile devices are not just for talking and texting but also for accessing the internet and all it has to offer (Pew Research Center, 2010).

Twenty-first-century educational institutions promote teaching and learning process through ICT. So also the field of mobile technology has been developing fast and many research works are being undertaken to find out the different dimensions of ICT among which studying about the attitude of the people and pupils towards is mobile technology is one. Hence this research work has been undertaken by the investigator to study the Attitude of Student Teachers towards Mobile Technology in inclusive class room with the following objectives.

Objectives

- To find out the attitude of the student teachers towards using mobile technology in inclusive class room
- To find out the attitude of the student teachers towards mobile technology in inclusive class room based on the variables namely Locality and Stream of Courses.

Hypothesis

- There is no significant difference in the attitude of the student teachers towards mobile technology
- There is no significant difference in the attitude of the student teachers towards mobile technology based on their locality
- There is no significant difference in the attitude of the student teachers towards mobile technology based on the streams of courses.

Methodology

The current study was conducted in the Faculty of Education, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore. Survey method was used for the study. A personal data sheet and self-constructed and validated tool on attitude towards mobile technology was used for data collection. A sample of 100 student teachers were selected from the Faculty of Education out of whom 67 were from the Department of Education, 23 from the Department of Special Education and 10 were from the Department of Physical Education.

Research Tool

The tool used was a self-made tool after establishing content validity and reliability prepared by the investigator in the form of a questionnaire which consisted of two parts. The first part was the personal information sheet and the second part consisted of 25 items in which 16 items were positive statements and 9 were negative statements related to mobile technology. The question was prepared under three dimensions namely general opinion of the sample, Educational purpose and Health hazards. Each item has two alternative

responses viz- "Yes" and "No" carrying a score of 2 and 1 in the case of positive items and vice versa in the negative items. So the maximum score was 50 and minimum score is 0. The average time for completing the tool was 45 minutes.

Analysis and Discussion

The data collected from the sample were scored, organized and tabulated for Descriptive and Differential Analysis for obtaining the results and finally conclusion was arrived at, which are given in the following tables.

Descriptive Analysis

Table-1

Attitude Level of the Selected Samples

Level of Attitude (Maximum Score -50)	Total Sample-(100)	Percentage
High(40 to 50)	85	85.0
Medium (30-40)	15	15.0
Low(20 to 30)	0	0

The above table shows that out of the total sample (100), 85 had high level of attitude towards using mobile technology in inclusive class room, 15 had medium level of attitude. It indicates that all the student teachers have attitude towards mobile technology in inclusive class room but only 15 percent differ in their level of attitude. This may be due to the fact that living in the era of technological revolution; the younger minds are also in no way exemption to that. They love to learn by mobile technology

Table-2

Attitude score of the Student Teachers towards Mobile Learning Based on Different Variables

Variables		Attitude Score towards Mobile Technology		
		High (40 to 50)	Medium (30 to 40)	Low (20 to 30)
Locality	Rural	40	6	0
	Urban	45	9	0
Streams of Courses	Science	54	10	0
	Arts	31	5	0

From the above table it is evident that the student teachers in urban area have high attitude towards Mobile Technology than the student teachers in rural area.

The student teachers of science stream have higher attitude than the student teachers of arts stream.

Differential Analysis

Table-3

Attitude Score of the Student Teachers towards Mobile Technology Based on Locality

Locality				df	t value
Rural		Urban			
M_1	SD_1	M_2	SD_2		
42.07	2.19	41.91	2.36	86	1.08^{NS}

M- Mean SD- Standard Deviation NS- Not Significant

The above table indicates that the t-value is not significant at 0.05 level which shows that there is no significant difference in the attitude of rural and urban student teachers towards mobile technology. Hence the hypothesis stated "There is no significant difference in the attitude of the student teachers towards mobile technology in inclusive class room based on their locality" is accepted. This may be due to the fact that technology has impressed everyone irrespective of their locality they belong to.

Table 3

Attitude score of the Student Teachers towards Mobile Technology Based on the

Stream of Courses

Streams of Courses				df	t value
Science		Arts			
M_1	SD_1	M_2	SD_2		
42.13	2.08	41.87	2.57	84	0.50^{NS}

M- Mean S.D- Standard Deviation NS- Not Significant

It is evident from the above table that the t-value is not significant at 0.05level which shows that there is no significant difference in the attitude of the student teachers belonging to science and arts streams towards mobile technology. Hence the hypothesis stated "There is no significant difference in the attitude of student teachers towards mobile technology in inclusive class room based on their stream of courses" is accepted.

Findings:

Based on the above discussion, the following conclusions were arrived at

1. The descriptive analysis showed that all the student teachers have attitude towards mobile technology in which only 15 percent have less attitude than their counterpart (85 percent) who have high attitude
2. It was also understood from the descriptive analysis that more number of student teachers in urban area have higher attitude than the student teachers belonging to rural area.
3. The descriptive analysis also indicated that more number of student teachers in science stream have higher attitude than the student teachers belonging to arts stream towards using mobile technology.
4. Based on the differential analysis, it was concluded that there was no significant difference in the attitude of the student teachers towards using mobile technology in inclusive class room based on their locality namely rural and urban area.
5. The differential analysis also indicated that there is no significant difference in the attitude of student teachers of both the science stream as well as arts stream towards using mobile technology in inclusive class room

Conclusion

The result of the study shows that the student teachers have more or less high attitude towards using mobile technology in the inclusive classroom. So if educational institutions should design and implement courses to acquaint the students with the mobile usage that may bring a big paradigm shift in teaching learning process.

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GENDER DISPARITY IN ENROLMENT IN SECONDARY EDUCATION - STATEWISE ANALYSIS

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Abstract
Education is crucial to development as it provides the individual with adequate skill for participating in various economic activities. The various articles of the Indian Constitution provide for education as a fundamental right. India has made a huge progress in terms of increasing secondary education attendance rate and expanding literacy to approximately two thirds of the population. India became one of 135 countries to make education a fundamental right of every child when the Act came into force on April 2010.There is no singificatant difference in gender disparity in enrolment in primary education among various States. Female population, number of schools and number of teachers in primary education do not have significant impact on gender disparity. Primary education is the most crucial stage of education because the foundations of the personality, attitude, self-confidence, habits, learning skills and communication capabilities are laid at this stage. Female education creates powerful poverty correlated with increased economic productively, more robust labor markets, higher earnings and improved societal health and well – being. State wise Gross Enrolment Ratio in Primary Education - 2007-2008, Identification of the determinants of gender disparity in primary sc Estimated gender disparity index in secondary school enrolment

Keywords: Education, Gender, Disparity, School, Enrolment

Introduction:

Education is crucial to development as it provides the individual with adequate skill for participating in various economic activities. The provision of education creates both provide benefits and spill over benefits to society. As such, education emerged as a key form of investment in human beings. An important millennium development goal is to provide universal primary education. Accordingly the Government of India has formulated measures to provide free and compulsory education to all children up to the age of 14 years. The thrust was given for providing adequate educational infrastructure in terms of schools. Classrooms, teachers, etc,

Secondary education provides the foundation for life since it provides the basic knowledge.

The essential objective of secondary education is to provide the learner with opportunities to**:**

1. Acquire literacy, numeracy, creativity and communication skills
2. Develop ability for critical thinking and logical judgment
3. Appreciate and respect the dignity of work
4. Develop awareness and appreciation of the environment
5. Develop individual talents
6. Promote social responsibility and make proper use of leisure time and
7. Develop awareness and appreciation of the role of technology in national development

The various articles of the Indian Constitution provide for education as a fundamental right. India has made a huge progress in terms of increasing secondary education attendance rate and expanding literacy to approximately two thirds of the population. India became one of 135 countries to make education a fundamental right of every child when the Act came into force on April 2010.

Methodology:

The study was related to 17 States of India since these States account for more than 90% of total population of India. The required information on primary school enrolment, number of schools and, number of teachers in various states were compiled from Selected Educational Statistics published by Ministry of Human Research Development, Government of India. The study was related to 2007-08

Hypothesis formulated

1. There is no singificatant difference in gender disparity in enrolment in primary education among various States.

Female population, number of schools and number of teachers in primary education do not have significant impact on gender disparity.

Tools used

1. **Gender disparity index:**

   Gender disparity index was calculated as follows

   $$GDI \frac{\text{Number of boys enrolled}}{\text{Number of girls enrolled}} X100$$

2. **Multiple regression analysis:**

To find out the impact of female population, number of schools and, number of teachers, on gender disparity, multiple regression equation of the following form was used.

$$Y = b0+bx1+b2x2+b3x3$$

Where,

Y = Gender disparity
X1= Female population
X2= Number of schools and
X 3= Number of teachers

Findings of the study:

A) Interstate variation in secondary school enrolment:

Table 1 brings out information on enrolment in primary education in various States of India.

Table-I

State wise Gross Enrolment Ratio in Primary Education - 2007-2008

S.No	States	Boys	Girls	Total
1	Andhra Pradesh	77.94	76.55	77.26
2	Assam	92.04	90.47	91.27
3	Bihar	53.07	38.77	46.22
4	Gujarat	85.26	70.23	78.22
5	Haryana	75.36	76.08	75.69
6	Himachal Pradesh	115.40	113.12	114.31
7	Jammu Kashmir	73.04	60.19	66.82
8	Karnataka	91.45	88.99	90.25
9	Kerala	101.64	98.45	100.08
10	Madhya Pradesh	104.17	95.45	99.98
11	Maharashtra	88.46	85.03	86.82
12	Orissa	82.83	77.34	80.15
13	Punjab	70.35	67.62	69.09
14	Rajasthan	92.84	68.65	81.36
15	Tamil Nadu	114.31	111.00	112.70
16	Uttar Pradesh	71.13	64.16	67.82
17	West Bengal	70.24	72.29	71.24
	India	81.48	74.36	78.06

Source: Selected Educational Statistics 2007-2008

Table I reveals that the variations in the enrolment of boys and girls at secondary level. With regard to Gross enrolment ratio of girls at the secondary level, Himachal Pradesh occupied the first place with the enrolment ratio of 108.59 percent followed by Tamilnadu with the enrolment ratio of 108.05percent. However the enrolment ratio for girls at the secondary level was the lowest in Bihar (31.93 percent).

B) Estimated gender disparity index in secondary school enrolment:

Table II depicts estimated gender disparity index in secondary school enrolment in various State of India.

Table II

Estimated gender disparity index in secondary school enrolment in various States of India.

S.NO	STATES/UTS	GDI
1	**Andhra Pradesh**	101.82
2	**Assam**	101.74
3	**Bihar**	136.88
4	**Gujarat**	121.40
5	**Haryana**	99.05
6	**Himachal Pradesh**	102.02
7	**Jammu& Kashmir**	121.35
8	**Karnataka**	102.76
9	**Kerala**	103.24
10	**Madhya Pradesh**	109.14
11	**Maharashtra**	104.03
12	**Orissa**	107.10
13	**Punjab**	104.04
14	**Rajasthan**	135.24
15	**Tamil Nadu**	102.98
16	**Uttara Pradesh**	110.86
17	**West Bengal**	97.16
	INDIA	109.58

Calculated figures based on the data compiled.

There exist variations in the estimated gender disparity index among the States. The estimated gender disparity index was the highest in Bihar (136.88) followed by Gujarat (121.40). However the gender disparity index was the lowest in West Bengal (97.16). The state of Bihar, Gujarat, Jammu& Kashmir, Maharashtra and Rajasthan were having gender disparity higher than All India average.

(C) Identification of the determinants of gender disparity in primary school enrolment:

To find out the impact of female population, number of schools and, number of teachers, on gender disparity, multiple regression equation of the following form was used.

$$Y = b0+b1x1+b2x2+b3x3$$

Where,

Y = Gender disparity
X1= Female population
X2= Number of schools and
X3= Number of teachers
The estimated multiple regression equation is as follows

$$Y=102.432+7.877x1+1.306x2+1.558x3 \quad \text{---------- (1)}$$
$$(33.268)\ (0.483)\ (0.202)\ (1.041)$$
$$R^2=0.97$$
$$N = 17$$

The estimated equation indicates that female population, numbers of school and number of teachers have the positive impact on gender disparity in secondary school enrolment. The estimated equation was statistically valid as indicated by the R2 value of 0.97

Conclusion:

Education is visualized as an instrument, a lifelong learning process that liberates a man and enables human beings to transcend the narrow boundaries of caste, languages and sex and foster the vision of humanity. Of the different stages of education, primary education is the most crucial stage of education because the foundations of the personality, attitude, self confidence, habits, learning skills and communication capabilities are laid at this stage. Female education creates powerful poverty correlated with increased economic productively, more robust labor markets, higher earnings and improved societal health and well – being.

- India is facing bottlenecks in achieving universal secondary education as one of the millennium development goals. and

- Inspite of efforts on gender sensitization there had been low enrolment of female children in secondary schools.

Recommendations:

1. In backward States like Bihar the Government must take steps for creating awareness among the people about the need for providing female education.
2. To improve the accessibility more primary schools should be established within the radius of 1 kilo meter and
3. School curriculum can be modified with the main component of skills and training necessary for life
4. To promote the enrolment of girls in secondary level.

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VALUE EDUCATION AND INCLUSION: A SHIFT TOWARDS INCLUSIVE CURRICULUM FOR CHILDREN WITH MILD INTELLECTUAL DISABILITY (CWMID)

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Abstract
Inclusion supports full participation and responds to student diversity through a flexible curriculum (Srivastava, 2017). Children in regular schools follow a general curriculum which is focused on imparting necessary skills for academic success and all round development through sports, games and recreational activities. Value education is imparted either directly or indirectly. However, children with special needs especially children with mild intellectual disability face numerous challenges in inclusion such as: 1) lack of contexts to learn value based behaviours, 2) attitudinal and social barriers, 3) poor access to quality education, 4) lack of focus on value education, 5) lack of trained teachers and 6) lack of appropriate teaching - learning resources (Singh, 2016). The present study attempts to understand the functional nature of existing curriculum for such children and the need for developing an age appropriate and suitable curriculum which will promote true inclusion through value oriented education. Document analysis under qualitative research was performed in two stages for the present study: The first stage is concerned with the analysis of reports of national and international commissions in order to highlight the need for imparting value education through an appropriate curriculum. The second stage dealt with analysis of existing curricula for the children with mild mental retardation followed in various settings in order to understand the importance of value education. The findings of the study reveal a strong need to develop a need based, inclusive curriculum to impart needed values among the target population for promoting holistic development and facilitating true inclusion. The study also explored various methods and teaching strategies which can be used to transact values effectively in an inclusive setting.

Keywords: Children with Mild Intellectual Disability, Inclusive Curriculum, Inclusion, Value Education

Introduction

Education and values are interlinked. Education without values is a body without heart and soul. Value education is like a road map which shows the path for living based on moral guidelines for individual and collective good (Gulati & Pant, 2012). The Rights of Persons with Disabilities Act (2016) mandates the following for children with disabilities (divyang): a) rights of the disabled should be included in the curriculum, b) they should have access to equal educational and recreational opportunities, c) suitable and appropriate modifications need to be provided along with necessary support, d) reasonable accommodation, e) suitable pedagogical measures and adaptations, f) inclusive environment that maximizes academic and social development with full inclusion. Value education has a humanizing effect and it leads development in social, moral, physical, emotional and spiritual aspects of the pupils. It aims to foster national spirit and international understanding for generating peace. Several commissions have recommended the need for value education (Ravi, 2015).

Table-1: Various National Commissions relevant to Value Education

S. n.	Commission	Year
1	University Education Commission	1948-49
2	Secondary Education Commission	1952-53
3	Sri Prakasha Committee on Religious and Moral Instruction	1960
4	Education Commission	1964-66
5	National Policy on Education (NPE)	1986
6	The National curriculum Framework (NCF)	2005

The children with mild mental retardation are educable and they need an inclusive learning environment which promotes development of their abilities and capacities. Specially trained teachers' who utilize adapted and appropriate teaching learning materials can help these children acquire needed skills, imbibe moral values and desirable behaviours which will help in their social adjustment and growth (Ranganathan, 2016). Hence there is an urgent need for an inclusive curriculum which is value oriented and suitable for children with disabilities especially Children with Mild Intellectual Disability (CwMID).

Objectives of study: The main objective of the present study is to understand the need for development of an inclusive value oriented curriculum for children with intellectual disabilities. It is divided into following two sub objectives:

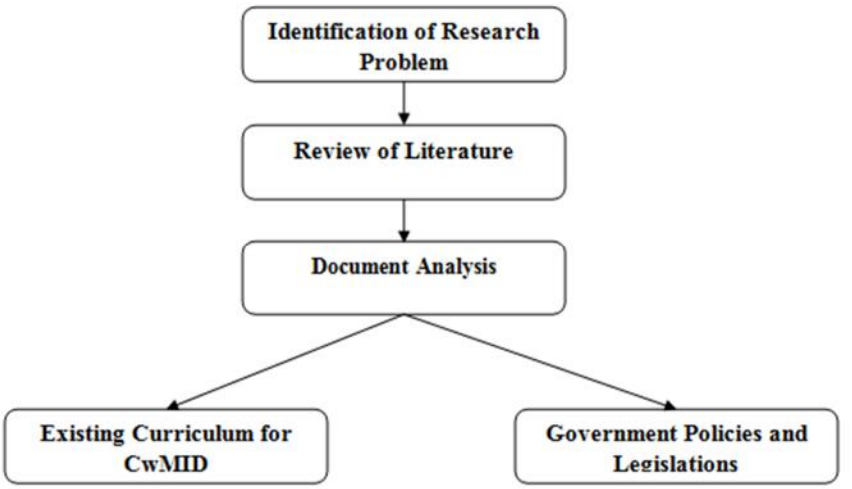
- To understand the functional nature of existing curriculum for such children.

- To understand the need for developing an inclusive value oriented curriculum.

Method of Study

Document analysis under qualitative research method was utilized to analyze 1) various government reports and documents, 2) existing curriculum for CwID.

Figure 1: Methodological Framework followed for the present study



Major findings related to existing curriculum for Children with Intellectual Disability

- Children with mild retardation can live and work in the community (Kulshreshtha, 2017). Hence the existing curriculums are aimed at development of needed skills in areas of functional academics and social skill development.
- The curriculum being followed is functional in nature. This finding is in line with Mahdi & Israni (2017) who pointed out that the curriculum being followed for CwID focuses on development of daily living and functionally relevant skills but lays little stress on value development which is needed for all round development.
- The major aims of special education curriculum are personal independence, social competence and vocational efficiency. Value education forms an integral part of any education (Gulati & Pant, 2012) but sadly it is highly neglected in the curriculum for CwID.

Major Findings related to need for inclusive value oriented curriculum

- CwMID lack the contests to learn values due to their cognitive deficit and limitations in adaptive behavior. They are unable to understand social cues and thus unable to adjust in society and maintain relationships (Mahdi & Dalai, 2017).
- There is need for an inclusive curriculum which is flexible, value oriented, adapted, need based and age appropriate curriculum so that effective behaviours can be acquired by CwDs especially CwMID for their well being and true inclusion. This finding is in line with the recommendations of Begum (2012) who states that such a curriculum will be more effective for long term well-being of self and others (p. 5).
- Inclusive society lays the foundation for an inclusive curriculum. Such a curriculum if followed in both special and inclusive school settings will aid in the promotion of a 'society which is accepting, respecting and celebrating diversity' (Begum, 2012, p.22).
- The school's curriculum and programs should promote values of inclusion, tolerance, empathy and respect (RPD Act, 2016, 39 (2.a), p.14).

Major findings related to recommendations of commissions and their reports on value education

- Inculcation of values, attitudes and skills needed for harmonious living through peace education as stated by National Curriculum Framework (2005).
- Value erosion and degradation are concerns of this era as highlighted by National Policy on Education (1986).
- Sri Prakasha Committee on Religious and Moral Instruction (1960) states that deliberate inculcation of values should start from an early age through role plays, poems, story- telling and two periods should be set aside for value education in the time table.
- Secondary Education Commission also known as the Mudaliar Commission (1952-53) advocated the main aims of secondary education as: development of human values and virtues, promotion of quality of leadership among students, character formation and personality development through a diversified curriculum.
- The report of the University Education Commission also known as Radhakrishnan Commission (1948-49) lists development of self and democratic values as one of the major aims of education.

Major findings regarding effective strategies to impart values

- ✓ Indirect, direct method and integrated methods can be used for imparting value education. Extracurricular activities like sports, games, social camps (NCC, NSS) and social service activities may be used. This finding is in line with Bhaskar (2005).
- ✓ Whole school approach (WSA) is also found effective.
- ✓ Direct method is the traditional method for imparting value education. Separate periods (at least 2 per week) should be allotted in the school time table for direct instruction in value education. Role play, discussions, poems, story-telling, morning prayer, spiritual activities are some methods which can be utilized to effectively impart values among pupils.
- ✓ As values are integral to all forms of education hence value education can be integrated in subject teaching like teaching of mathematics, sciences, and social sciences. These findings are similar to findings reported by Charles and Selvi (2016); Gulati & Pant (2012) which state that value education needs different pedagogical approach and cannot be taught through the banking model followed in general education.

Conclusion

It is observed that children with mental retardation face social difficulties due to significant limitations in intellectual functioning and adaptive behaviours (AAIDD, 2010). They show delayed language development, poor verbal interaction, slow understanding and delayed reactions which negatively impacts social inclusion. Such factors lead to social withdrawal, inappropriate behaviours in public and low self esteem. The findings of the present study indicate that it is imperative to impart value education through an inclusive and individualized curriculum which will help such children to adjust better in society, promote holistic development, facilitate true inclusion and allow them to live their life with dignity.

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CREATING AN INCLUSIVE LEARNING ENVIRONMENT FOR STUDENTS WITH SPECIAL NEEDS

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Abstract
Despite being more vulnerable to developmental risks, young children with disabilities are often overlooked in mainstream programmes and services designed to ensure child development. They also do not receive the specific support required to meet their rights and needs. Children with disabilities and their families are confronted by barriers including inadequate legislation and policies, negative attitudes, inadequate services, and lack of accessible environments. If children with developmental delays or disabilities and their families are not provided with timely and appropriate early intervention, support and protection, their difficulties can become more severe, often leading to lifetime consequences, increased poverty and profound exclusion. All Early Childhood Development, Education and Human Rights actors should therefore commit to advancing not only the needs of children but also give special attention to the area of inclusive education.

Introduction
Working with special needs students requires a level of training that specifically accommodates individuals with disabilities. Teachers who work with special needs students learn how to identify disabilities and design tailored curriculums based on assessment results and empirical data.

The Inclusive Classroom
Special Education Classroom
What should I look for in a special education graduate program?
Additional Resources

The job of a special educator is a demanding one, but with the right tools and strategies, the rewards can far outweigh the challenges. We've compiled a list of tips and resources to help you be as effective as you can with your students
An inclusive classroom is staffed with a regular education teacher and a special education teacher. The student population includes students with and without disabilities. The teachers often co-teach in order to address the wide-ranging needs of their students. **Note**: Inclusive classrooms vary greatly. Some schools only educate students with mild disabilities in general education classrooms while others maintain separate classrooms for students with moderate and severe

disabilities. Each school has its own vision of how to implement inclusive practices.

Objectives

- Creating a proactive learning environment for children with special needs is a very important part of special education.
- Children learn best when they feel safe, comfortable and can explore their environment on their own.
- However, having a disability often results in a lot of obstacles to this learning process. Here are some ideas that you can use in a classroom or at home to help children with special needs explore their environment
  Accessible Structure and Furniture
  The classroom or home must be accessible to the child with special needs. If the child is in a wheelchair, all the activity areas of the classroom must be wheelchair accessible as well as at a height that can be reached easily from the wheelchair. Similarly, toys and other storage areas must be accessible to the child.

Accessibility for Manipulation

Some children with special needs have difficulties with fine coordination and manipulation. These kids usually struggle with handling art materials like paintbrushes and pencils, puzzle pieces and have a hard time playing educational games that require fine coordination.

You can help these children to learn by providing modified art materials like thick-handled paintbrushes, add handles or other grasping aids to puzzles and toys, and also by providing alternate activities that do not require a lot of fine coordination.

Visual Accessibility

A lot of children with special needs have associated deficits in vision
Use bright colors and plenty of contrast in the learning materials to make them interesting for the child.
Provide books with large and bold fonts to make them accessible for the children.

Safety

Take additional precautions to ensure that your classroom is safe.
Provide non-slip flooring and work surfaces, grab bars or rails and stable furniture to promote safety.

Conclusion

In addition to providing a proactive learning environment, the teacher or parent will need to support the child to encourage them to learn.

They will need to provide materials and ensure that the child is comfortable, as well as encouraging them to keep going.

Reward and praise children for staying with the task with stickers, candy or by showing their projects to the rest of the class and/or the parents of the special education student.

EFFECTIVENESS OF LANGUAGE GAMES IN LEARNING ENGLISH GRAMMAR AT THE SECONDARY LEVEL

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Abstract

Language games are the common play way techniques that the teachers use in classes. These games can be used at any stage of lesson. These games cater to the development of language skills. Listening games develop the ability to comprehend. Speaking games connect the observation and expression. Reading games help to recognize letters and words. Writing games develop the ability to compose in English. Language games can promote activity-centered teaching. It will prove to be a good entertainment for the pupils. It is also called as the link language, official language, and language of window of the world. Even if one wants to excel in the IT field English has got its own position and called as the super power of the field of IT and software. This study investigated the importance of grammar learning games required at all levels for error free writing of English due to correct grammar aspects from the beginning. Specifically games are proved to be highly motivating and entertaining and they can give shy learners more opportunity to express their opinions and feelings and can be used in any cultural context.Particularly, students in rural schools face the problem of learning English and particularly grammar of the language. This has attributed to various factors such as uneducated siblings, illiterate parents, first generation learners and non-availability of teaching resources.

Keywords: Language games,Teaching, English, Ability

Introduction

The art of teaching is only the art of awakenening the natural curiosity of young minds

- Anatole France

Grammar is usually taught by using traditional method till the recent past. Grammar lessons seems complex to students and that too teaching grammar is a challenging task for the teachers, who always rely on blackboard and chart papers as their teaching aids. In order to draw attention of the students and to make their learning a joyful event, we can use many handmade language games to make the class lively and enjoyable. Students get a shrinking

face at the very word 'grammar' and they feel it to be a head breaking task to learn grammar and its basic rules. To fulfil this lacuna, teachers can make use of innovative games to make the classroom interesting by using play way method. In the present study the investigator aimed to find out whether one can make a considerable shift from traditional way of teaching English grammar to an innovative set up i.e. 'English grammar games' by using low cost things to learn and practice selected aspects of grammar namely, articles, sentence patterns, question tags, concord & reported speech : Games are one of the best ways to direct young learners' energy into language learning because they like to be physically active; moreover, they are imaginative and creative and they would learn sub consciously.

A. Statement of the Problem

By realising the need and importance of English grammar to the school pupils, the investigator selected the research problem, "Effectiveness of Language Games in Learning English Grammar at the Secondary Level". It is to evaluate the effectiveness of language games for learning and practising grammar among young learners in a school climate.

A. Objectives of the study

The objectives of the study were:

- To construct a pre-test to evaluate the entry level knowledge of grammar of std VIII pupils.
- To implement instructional package for the experimental group
- To construct a post-test to evaluate the effect of the instructional package in the selected aspects of English grammar and in toto
- To evaluate the effectiveness of the instructional package in the learning of English grammar by the sample in terms of variables, gender and educational level of parents and siblings

C. Methodology in Brief

The investigator selected 120 pupils studying in VIII std (60 boys and 60 girls) from Government Higher Secondary School, Mettupalayam. The investigator selected 5 aspects of English grammar namely articles, sentence patterns , question tags, concord and reported speech for imparting grammar to the experimental group. The instructional package consisted of 20 language games to teach English grammar and experimental method was used in the study for the intervention programme. Achievement tests (pre-test and post-test) were prepared and used as tools for evaluation. After implementing the intervention programme, the investigator administered the post-test for both control group and experimental group pupils. From the pre-test and post test scores obtained by the pupils, the relative merits of influencing variables and significance of the instructional package were evaluated. The data were subjected to three types of

analysis viz., Descriptive analysis, Differential analysis and Analysis of Variance.

REPORTED SPEECH)

Game 1: 'Sword and the Sheath'

Procedure

The investigator, at random divided the pupils into two groups namely, 'Wren' and 'Martin'. The investigator gave instructions about how the game, 'Sword and the Sheath' should to be played.

The model of the sword and its sheaths of 2 different colours were kept assorted in a big wide tray. The player has to pick the related sword and insert it into its sheath to finish the game. The player is given 1 minute and the points depend on the number of swords and sheath kept as a set. For this, he / she has to read the direct speech on the sheath and search for its related sword (indirect speech) of insertion. The player has to be very fast and quick in picking the correct swords to get it inserted into the respective sheaths (Plates 23-25).

For ex: Sheath: Rahul said, " I like dancing" (Direct speech)
Sword:Rahul said that he liked dancing (Indirect speech)

Plate 23 – 25. Sword and its Sheath for Reported Speech

TABLE I

Analysis of the post-test scores of experimental and control group pupils

Stage	Group	Mean	SD	t value
Post-test n=60	Experimental	29.85	2.93	26.94**
Post-test n=60	Control	17.76	1.86	

**Significant at 0.01 level

From the Table I, it is evinced that, there is a significant difference (t: 26.94) at 0.01 level between the mean value of experimental and control groups. Thus, the language game method of learning and practising was more effective than the conventional method, and was proved statistically**.**

TABLE II

Analysis of the pre-test mean scores of experimental and control group for theaspects of grammar

Grammar Aspects	Experimental group		Control group		t value
	Mean	SD	Mean	SD	
Articles	2.35	1.12	3.15	1.16	3.84**
Sentence patterns	2.33	1.08	2.62	0.94	1.53 (NS)
Question tags	2.23	1.06	2.32	0.96	0.08 (NS)
Concord	2.20	1.06	1.50	0.81	3.96**
Reported speech	2.02	0.91	1.41	0.80	3.82**

NS: not significant

**Significant at 0.01 level

From the Table VII,it is inferred that the obtained 't' values 1.53 and 0.08,of sentence patternsand question tagsrespectively are found to be lesser than the table value and hence not significant.on the other hand the't'values 3.84, 3.96 and 3.82of articles, concord and reported speech respectively, are higher than the table value and hence significant at 0.01 level.

Table III

Analysis of post- test means scores of the control group- gender-wise

Grammar aspects	Boys N=30		Girls N=30		't' value
	Mean	SD	Mean	SD	
Articles	3.23	0.94	4.17	0.79	4.17*
Sentence Patterns	3.67	0.66	4.10	0.66	2.54*
Question Tags	3.57	0.72	3.60	0.89	0.15 NS
Concord	3.17	0.74	3.50	0.73	1.75 NS
Reported Speech	3.07	0.52	3.47	0.57	2.83*
All aspects	16.70	1.62	18.83	1.44	5.39**

** Significant at 0.01 level,* Significant at 0.05 level, NS – not significant

To conclude , the above analysis reveals that the 't' value of the mean post-test scores of the control group with respect to gender in learning English grammar is significant statistically in learning articles, sentence patterns reported speech and for the total score. Further the mean values of post-test scores of the control group in all these aspects and in toto are higher for girls compared to the means of boys. So it is seen that the girls have performed better

in the post assessment stage than boys and the differences are higher in the aspects of grammar as noted above.

Conclusion

English though taught as a second language acquires different dimensions in the present day context as it is increasingly in demand for all communications including international level. The elite use it as first language and of late every day communication is becoming English-oriented. Due to the globalization effect all over the world, English is assuming even more importance as an international language. It is also called as the link language, official language, and language of window of the world. Even if one wants to excel in the IT field English has got its own position and called as the super power of the field of IT and software. This study investigated the importance of grammar learning games required at all levels for error free writing of English due to correct grammar aspects from the beginning. Specifically games are proved to be highly motivating and entertaining and they can give shy learners more opportunity to express their opinions and feelings and can be used in any cultural context.

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TEACHERS ATTITUDE TOWARDS TEACHING SCIENCE EXPERIMENTS TO VISUALLY IMPAIRED STUDENTS

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Introduction

The areas of science and mathematics have traditionally been inaccessible to students with visual impairments. Fields such as chemistry, physics, engineering, biology, and mathematics are common with visually-presented concepts and information. This visual information has not been made available for widespread use in a format easily accessible to visually impaired students.

Visually impaired students were reported to have the same range of cognitive abilities as sighted students (Kumar, Ramasamy & Stefanich, 2001) and with accommodations can master higher-order science concepts as well as sighted students (Jones, Minogue, Oppewal, Cook & Broadwell, 2006). Stefanich and Norman (1996) in a national survey found that most science teachers and college science educators "have had little or no direct experience in teaching disabled students, they do not expose the students in methods classes to instructional strategies best suited for participation by all students, and often hold stereotypical views of what students with disabilities can and cannot do" The purpose of this study is to investigate and gain insight into teachers attitude towards teaching science experiments to visually impaired students.

Review of Literature

Most of the science teachers and college science educators in Stefanich and Norman's (1996) study believed that students with visual impairment could become scientists such as chemists. Indeed, most students who have visual impairments have cognitive abilities equivalent to their peers but there seems to be a large gap between teachers' beliefs about students' capabilities and instructional resources available to help these students realize their full potential. There is evidence that students with disabilities are often not given the same opportunities to experience science as non-disabled students. Special education teachers often lack knowledge about the science curriculum, science content, and science pedagogy (McCarthy, 2005).

Parry, Braizer and Fischbach (1997) reported their experiences with a blind student in a physics class and suggested that even a student blind from birth could deal successfully with a college-level pre-med physics course, if provided with appropriate faculty and student support. They emphasized the necessity for a one-on-one tutorial as the primary mechanism for learning. Including students with disabilities in regular classrooms requires some adjustments in the learning environments and in the instructional techniques. In general, successful classroom teachers have the skills to teach students with disabilities. The instructional units should be designed in such a way that it must emphasize that every student has potential that appear at different levels with different teaching methods.

In a college level study, Baughman and Zollman (1977) reported their experiences including a blind student in a physics laboratory. They adopted all of the equipment for use by the blind student by using regular physics instructional materials which included a meter stick, timer, syringes, balance, graph board, and volume cubes. This study indicates that regular laboratory apparatus can be adapted to be used by the visually impaired students.

Method

The purpose of this study is to investigate, describe, and explore the ways that attitude of teachers towards teaching science laboratory experiments to Visually impaired students learn. The study includes descriptive survey approach.

The study was conducted in Government Schools in Coimbatore. The sample comprises of 30 science teachers of Grade 6-10 from Government Schools.

A rating scale was developed to assess the attitude of teachers towards teaching science laboratory experiments to visually impaired students. Data collection method was interview.

Results

Level	No.	Percent
Low(<=10)	15	50.0
Moderate(11-12)	9	30.0
High(>12)	6	20.0
Total	30	100.0

A qualitative analysis was done to find out the level of Attitude towards teaching science laboratory experiments in terms of low, moderate and high considering the total score of 20. The results revealed 50% showed low level in attitude, whereas 30 % were at moderate level and nearly 20% at high level in attitude.

Discussion

The result of the study reveals the teachers having low level of attitude in teaching science experiments to visually impaired students. This result is substantiated by the following results: Teachers often lack knowledge of multisensory learning techniques, modifications and accommodations (Beck-Winchatz & Riccobono, 2008). Many teachers of the visually impaired are not able to adequately use assistive technology or instruct their students how to use it (BeckWinchatz & Riccobona, 2008; Smith & Kelley, 2007). Visually Impaired students are commonly isolated within their own school, have inadequate materials, and if they take an interest in science are discouraged from pursing it (Beck-Winchatz & Riccobona, 2008).

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TEACHING BRAILLE NEMETH CODES FOR THE CHILDREN OF VISUALLY IMPAIRED IN PRIMARY CLASSES

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Abstract

This article describes about the teaching of braille Nemeth codes for primary class children. Persons who are visually impaired are made to read, learn and write through braille method. It is one of the braille notation which we can learn mathematics through Nemeth codes. In this all the numbers and symbols are coded in braille notation (six dot method). On the Basis of experience and anecdotal information, we believe that one of the major reasons for this unfortunate situation is that many visually impaired students are mathematically illiterate, unable to read and write the braille code of mathematics. It is obvious that if a visually impaired student does not possess a thorough knowledge of the Nemeth Code, they will not be able to attain reasonable levels of achievement in mathematics. Without the ability to read and write the symbols that represent mathematical concepts, the field of mathematics is closed to people with visual impairment. This study is to help visually impaired children learn the Nemeth code, thus increasing their access to fields that rely on knowledge of mathematics.

Keywords: Visually Impaired, Braille, Nemeth Codes, Mathematics

Introduction

Students should always be presented with virtually flawless braille mathematics. This is even more important in braille mathematics than it is in the literary code. When one reads material written in the literary code which contains errors, the correct meaning can usually be determined through the use of context clues. There are no context clues available, however, when reading mathematical symbols. It is therefore very important that the braille mathematics symbols are precise and accurate.

Mathematics are visual in nature and can therefore present many challenges for students with visual impairments. There are adaptations that can be made to the various areas of mathematics to make them accessible to

students who are blind or visually impaired. The Nemeth Braille Code for Mathematics is a Braille code for encoding mathematical and scientific notation linearly using standard six-dot Braille cells for tactile reading by the visually impaired.

Statement of the problem:

The statement of the problem is "Teaching Braille Nemeth codes for the children of
Visually impaired in primary classes"

Need for the Study:

Braille literacy skills increase independence and career opportunities for a student who is a braille user. This code provides a conceptual framework for Braille mathematical and scientific notations. By learning the basics of the Nemeth Code, who can use braille develops mathematical skills that will serve them throughout their school years and beyond. An individual learns various mathematical symbols as they become relevant in the curriculum. By learning the mathematical code in primary classes there will be an understanding higher education. It helps for their career achievement and an additional skill for job placement.

This Braille Code for Mathematics and Science Notation has been prepared to provide a system of symbols which will allow technical literature to be presented and read in braille. The Code is intended to convey as accurate an impression as is possible to the braille reader of the corresponding printed text, and this is one of its principal features. When the braille reader has a clear conception of the corresponding printed text, the area of communication between himself and his teacher, his colleagues, his associates, and the world at large is greatly broadened. A test of the accuracy with which the Code conveys information from the print to the braille text is to effect a transcription in the reverse direction. The amount of agreement between the original printed text and one transcribed from the braille is a measure of the Code's accuracy.

Objectives

- To conduct pre- test and post -test to find out the efficacy of teaching Nemeth code
- To teach Braille Nemeth code for visually impaired children
- To promote reading and writing in Nemeth code.

Review of literature

Stuart H Wittenstein (1993) conducted a study with 230 teachers of blind have been grouped into three categories. Results indicate that emphasis on

methodology during training is a key factor in long term retention of braille skills (braille, Nemeth code, slate and stylus, and computer technology) acquisition of positive attitude towards braille.

Carol B Allman, M Cay holbrook(1999) this article describes a braille refresher course for teachers that was created in response to concerns about braille literacy. Analysis of pre-and post-test data showed that the teachers improved their braille skills and reported a high level of confidence in their braille skills.

Amato (2002) polled 45 instructors from 34 teacher preparation programs in the United States, she found that only 22% thought that students who were completing their university-based braille courses would be capable of transcribing mathematics materials independently. Amato also reported that 20% of the 34 programs provided no instruction in the braille mathematics (Nemeth) code. Thus, a teacher who graduates from one of these universities may not have adequate skills to prepare high school-level mathematics materials in braille.

Methodology

Selecting research area is the very first step in writing. The investigator selected the Government Blind School, Ulliyampalayam which is located near Thondamuthur area. The school is run by the government. It is a residential school for the visually impaired students. The school is run only for primary education of visually impaired children. The school is of Tamil medium for students.

In the school there were 15 children of visually impaired and low vision. The samples were selected from the fourth and fifth standard. The sample chosen for the study consisted of eight students both boys (3) and girls (5). The samples were further classified on the basis of their standard in which they are studying i.e., IV & V standards.

Variables of the study:

The independent variables were age, gender, Educational status of the parents, and standard. The dependent variables included in the study were Training, Reward, motivation, time. In developing the tool the researcher made a thorough study of the mathematical braille code for visually impaired children. Even though the primary children are aware of braille dots for alphabets, but they are using a Taylor frame for mathematical work outs. This tool was very much useful for their future studies.

Scoring procedure:

The scoring procedure is important for a tool to yield the correct data. The pre-test consist of 15 questions. Each question is scored 2 mark. For partially correct answer 1 mark and for wrong answer 0 mark. There is no negative marks for pre-test. The post-test also consist of 15 question and 2 mark for each question. For partial correct answer 1 mark and 0 for wrong answer. No negative marks are given for post-test.

Comparison between pre and post test scores

Comparison between pre and post test scores on teaching Nemeth codes with visually impaired children

No of students	Pre- test	Post-test
8	34%	58%

The above table depicts that the scores of pre and a post- test on Nemeth code. After the pre- test intervention was given through teaching methods, oral instruction and tactile aids. Through the materials the child was able to follow the instruction. The pre- test and post- test was given with 15 questions. For the results the percentage analysis was done. So it shows that the intervention given was applicable for the children.

Comparison of pre and post-test between standard

Class	Score	Pre test	Score	Post test
Std IV	14/45	31%	25/45	56%
Std V	27/75	36%	45/75	60%

The above table gives the results of comparison between class IV and class V of pre and post-test. The results showed that the pre-test of IV standard students (31%) and V standard students (36%) are low scores. The post-test scores of the same are 56% and 60% and it is due to the intervention was given to teaching Nemeth codes to visually impaired children.

Comparison of pre and post-test of age

Age	Pre-test	Post-test
9-11 years	35.5%	31%
11-13 years	33.3%	75%

The table describes that the pre and post-test of two different classes of age group ranging from 9 years to 13 years. This table of comparison shows that age influence the learning of Nemeth code. Smaller the age level they understands less and greater the age shows a significant change in post-test results.

Comparison table of Gender:

Gender	Pre-test	Percentage	Post-test	Percentage
Male	20/45	44.4%	40/45	89%
Female	21/75	28%	30/75	40%

The above table compares the gender male and female with the pre and post test results. This table shows that the there is a difference between the male and female. The visually impaired male children shows interest to learn to a new concept of learning. This results shows that gender also influence in teaching the Nemeth code.

Recommendations

1. More strategies have to be developed for learning the Braille Nemeth code.
2. Guidance and training can be given to the special school teacher about the Braille Nemeth Code to use in the classrooms.
3. Giving awareness about the teaching of Braille Nemeth code for parents who can help in the education of the visually impaired children.

Conclusion

The test questions are used to know the performance of each child in Nemeth code. It helped the investigator to reach the aim and attain the goal of teaching Nemeth code.Among the special children majority falls under the category of visual impairment. But in the society, in their neighbourhood, in their school environment they receive very least attention for them. So many of the aids and allowances are not reaching them. Even the teachers of special children does get a proper training to handle these children and to teach these children. So the visually impaired children are still behind in all aspects. The children gained much awareness on the Nemeth code. There is an improvement in the table of post-test after given the intervention. The codes learnt by the students will be helpful in the future studies for the visually impaired children.

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COGNITIVE BEHAVIOR THERAPY AND SPORT: A COMPARATIVE STUDY OF ACADEMIC PERFORMANCE AND WELL BEING OF STUDENTS WITH LEARNING DIFFICULTIES

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Abstract
A study was conducted in India among school students between age group 17-19 years with the objective of comparing the effect of Cognitive Behavior Therapy and Sport activities with Counseling for academic achievement and well being among students with Learning Difficulties. A total of 80 students were equally divide among the therapeutic forms namely CBT and Sport with Counseling. The groups were compared before and after therapy for their final examination scores which formed academic achievement scores and their well being scores. Results indicated a significant difference in the before and after therapy scores of academic achievement and well being, for both the forms of therapy showing that both therapies brought about a change in the academic achievement and well being of the students with Learning Difficulties. At the same time no significant difference was found in comparing the after therapy scores of academic achievement and well being in both therapies indicating that Sport with Counseling was equally effective as Cognitive Behavior therapy in bringing about an improvement in academic scores and well being of the students with Learning difficulties.

Today's world is highly competitive. In a country like India, where academic achievement is given great importance, the condition of students who have Learning Disability, or are Slow Learners or just some learning difficulties is a matter of great concern. Students who face academic failure are generally labeled as "failures" in all other aspects of life and are continuously looked down upon. Many such children do not taste any success in any other aspect of their lives. They are generally prohibited from indulging in their hobbies and spend all their waking time studying and trying to cope up with their ever pending academic work. Such monotonous work at which they already face a difficulty, becomes a vicious circle where the absence of respite works only to further frustrate them. Their sense of well being drops drastically. Students who face difficulties in Learning have a poor self confidence level; they start doubting their capabilities and continuously doubt themselves and start feeling helpless. These children generally put in huge volume of time in completing

their academic backlog and having a poor relaxation activity works like a vice gripping them further. Such a success less life causes many students to undergo depression and anxiety.

Such scenario calls for drastic change. To have a problem in learning does not mean that a child is unable to perform well in other aspects of his/her life. Keeping in mind, "All work and No play makes Jack a dull boy", this research entails to induce sport and other physical activities as a respite to children with academic difficulties and improve their sense of well being. The main objective of this study is to test the efficacy of sport as being equivalent to a classic therapy; such as Cognitive Behavior therapy for Learning Disabled Children. Sport was chosen for its sheer easiness in administration. All children in their schools are naturally attracted toward some or the other form of sport. Moreover, most Indian School Education Boards have physical education as a part of their curriculum, making Sport facilities omnipresent in almost all schools across India.

Sport is one activity that all of us, irrespective of gender, socio economic status, religion or age indulge in. All of us have grown up playing some form of sport or other. Some of us have also been active or passive supporters of some form of sport. Sport activities are definitely included in all school curriculums and are supposed to make children physically healthy. Moreover, Sport is seen as greatly beneficial to improve self confidence, concentration, time management, anger management, overcoming frustrations, working as a team and even emotional intelligence. Such side effects of sport may even induce the necessary lost confidence in the students with learning difficulties.

Pollard and Lee (2003) describe well-being as "a complex, multi-faceted construct that has continued to elude researchers' attempts to define and measures it". It is a dynamic state characterized by a reasonable amount of harmony between an individual's abilities, needs and expectations and environmental demands and opportunities (Levi, 1987). Well Being of students with Learning Difficulties is expected to be lesser than for other students.

Review of Literature:

A brief review of literature indicates that among the various therapies used for benefit of youngsters with learning difficulties, Cognitive Behavior Therapy(CBT) was used from the early 90's. CBT was initially used to treat the depression and anxiety associated with mild intellectual disability (Lindsay et al, 1993).

The presence of Depression in Learning Disabled population was also researched during the 1990's. Prasher.V in his article "Presentation and Management of Depression in people with Learning Disabiltity" effectively identifies the presence of Depression among the Learning Disabled population,

and concludes the need for social support along with other forms of therapy for the depression underlying learning disability. (Prasher, 1999).
Willner. P (2009) also emphasizes the effectiveness of Cognitive behavior Therapy in addressing Cognitive distortions associated with mild learning disabled students but also addresses the weaknesses of the therapy in effectively overcoming cognitive distortions in the case of moderate to severe learning disabilities.
Vereenooghe and Langdon, 2013, suggest that people with mild to moderate learning disabilities especially those who face anxiety and depression can benefit from Cognitive Behavior Therapy.
In a study on effectiveness of Cognitive behavior Group Counseling with Self-Instruction and Cognitive Restructuring Techniques to Improve learning disabled Students' Self-Confidence , the results showed that cognitive restructuring and self-instruction technique is effective to improve the self-confidence of the students.(Chandra . E. K, et al 2019)
The concept of difference between the terms, Learning Disability and Learning Difficulty was established clearly in the IAPT(Improving Access to Psychological Thearpies) published Positive Practice Guide for Learning Disability, The difference stated was that, "In general, though, a learning disability is a condition that affects learning and intelligence across all areas of life, whereas a learning difficulty is a condition that makes specific areas of learning difficult, but does not affect the overall intelligence of an individual".(IPAT: Learning Disability: Positive Practice Guide, 2015). This research study focuses on Learning Difficulty as these students are unable to get the concessions prescribed for Learning Disability and hence struggle more. Their difficulty is specific but the struggle is more generic in nature.

The effect of sport on academic performance was also studied by many researchers. A significant relationship between physical fitness and academic performance was reported among adolescent students in South Korea (Han.G .S., 2018). Dwyer T, Sallis JF, Blizzard L, et al, in 2001, researched and concluded that physical activity enhances academic performance among Australian school children of 7-15 years of age.

Bailey.R; Armour.K et al, (2009) in an academic review studied the educational benefits of physical education and school sport and reported significant relationship. A strong positive relationship between physical fitness and academic achievement and specially the relationship between fitness and achievement was stronger for females than for males was reported by the California Department of Education in 2005, in a study by Grissom. J; on A study of relationship between physical fitness and Academic Achievement in

California. This report was part of an educational research conducted by the department.

Castelli D.M , Hillman C.H, Buck SM, Erwin H.E in a study of 259 public school students in the USA, about physical fitness and academic achievement in third and fifth grade students reported that field tests of physical fitness were positively related to academic achievement. Specifically, aerobic capacity was positively associated with achievement. Associations were demonstrated in total academic achievement, mathematics achievement, and reading achievement, thus suggesting that aspects of physical fitness may be globally related to academic performance in preadolescents.

BBC (British Broadcasting Corporation) showed a university study carried out on about 5,000 children and adolescentsin the United Kingdom. This study found links between exercise and exam success in English, mathematics and science. The study was carried out by the universities of Strathclyde and Dundee in the UK. A study conducted in the United States also indicated associations between physical activity and general academic performance which was reported in the 2010 report published by the Centers for Disease Control and Prevention (CDC) of the U.S. Department of Health and Human Services.

Totsika .V and Hastings R in a policy briefing of the Warwick University reported the need to improve the well being of young children with learning disabilities. Close family relationships with family members and good relationships with friends can improve the social well being of Learning Disabled students. Korhonen. J, Linnanmaki .K and Aunio.P,(2014) in their paper ‘ Learning difficulties, academic well-being and educational dropout: A person-centred approach, report the need for academic well being among the students with Learning Difficulties.

Methodology

Based on available evidence, this study was conducted among 80 school students between 17 to 19 years of age studying in classes 10,11and 12. The sample was collected from the Learning disabled, Slow Learners (both certified and uncertified) population from 4 major CBSE schools in Delhi and Mumbai. All the students chosen for the study had a significant difficulty in more than 2 subjects that they had in school. The students in this study are hence here forth called students with Learning Difficulties. Moreover, some of the parents of the students also did not want their children to be labeled “Learning Disabled”. Hence the term, “Learning Difficulty” was used.

The sample selection was undertaken after consultation with the class teachers who significantly helped in identifying the students who had Learning Difficulty in more than 2 subjects of study. Their final examination marks were collected

as the before therapy marks of academic achievement. Also the "PGI General Well Being Measure Developed by S.K. Verma and Amita Verma (1989) was conducted as a before therapy measure of Well Being.

In 40 students among the selected sample, Cognitive Behavior Therapy was administered every week for a period of minimum 6 months. The issued relating cognitive distortions such as "I am unable to master this subject", "I can't study this subject", "I have difficulty in this subject", "I can't understand this subject at all" were significantly addressed every week.

4o other students of the selected sample were encouraged to engage in a sport activity of their choice. The help of the physical education department of the schools were taken to select a sport of the student's choice. The students chose Badminton, Tennis, and Football as the sport they wanted to engage in. All the schools from where the sample was selected had coaches for each of this sport. An interview with the directors of the physical education departments of the schools was conducted to ensure the frequency of sport available for the sample. Counseling sessions every week was conducted with the sample students to ensure and encourage their progress in the selected sport.

After 6 months, an after therapy measure of well being was collected individually from all the 80 respondents. Their Academic Scores, the final examination marks for the following year was collected in the next examination. Meanwhile follow up therapy was given to all the respondents.

PGI well Being Measure

PGI General Well Being Measure Developed by S.K. Verma and Amita Verma (1989) (see Appendix) .This scale consists of 20 items. This scale is designed according to Indian condition and is easy to perform and score. This scale is considered likely to be useful in a variety of research and applied settings such as a quality of life index, a mental health status appraisal, a measure of psychotherapy outcome evaluation and a social indicator of measuring population changes in sense of well-being over time. The scoring is easy just counting the number of ticks (/) with scores ranging from 0 to 20. Reliability was found .98 ($p < .01$) Verma, Dube and Gupta, 1983), while test-retest reliability was .91 ($p < .01$) (Moudgil Verma, Kaur, Pal, 1986) for the English version and .86 ($p < .01$) for the Hindi version (Moudgil et al., 1986). For validity, the test was correlated with a number of tests in different studies and showed significant relations with another well-being scale, quality of life scale, and to some extent with learned helplessness scale (Verma etal. 1983).

Results

Sample 1 is the sample of 40 students who underwent Cognitive Behavior Therapy. Sample 2 is the sample of 40 students who underwent Sport and Counseling. The SPSS Statistical software was used in this study. Paired samples T test was conducted between the before therapy academic scores and the after therapy academic scores of sample 1 and sample 2. Also Paired samples T test was conducted between the before therapy well being scores and the after therapy well being scores of sample 1 and sample 2. The results are presented in the tables seen below. Table 1 shows the paired sample T test for Academic Scores and well being scores of sample 1.

Table 1: Paired Samples T test- sample 1

		Mean	N	Std. Deviation	t
Pair 1	ACADEMIC SCORES BEFORE THERAPY SAMPLE1	1.45	40	.504	-11.482
	ACADEMIC SCORE AFTER THERAPY SAMPLE 1	2.78	40	.891	
Pair 2	WELL BEING SCORES BEFORE THERAPY SAMPLE 1	1.50	40	.506	-11.720
	WELL BEING SCORES AFTER THERAPY SAMPLE 1	2.63	40	.490	

The Table 1 shows that there is a significant difference between the means of the Academic Scores and the well being scores for the Sample that underwent Cognitive Behavior Therapy.

Table 2 shows the paired sample T test for Academic Scores and well being scores of sample 2.

Table 2: Paired Samples T test- sample 2

		Mean	N	Std. Deviation	t
Pair 1	ACADEMIC SCORES BEFORE THERAPY SAMPLE2	1.35	40	.483	-11.180
	ACADEMIC SCORE AFTER THERAPY SAMPLE 2	2.60	40	.900	
Pair 2	WELL BEING SCORES BEFORE THERAPY SAMPLE 2	1.40	40	.496	-6.996
	WELL BEING SCORES AFTER THERAPY SAMPLE 2	2.20	40	.687	

Significant difference was seen between the scores of before therapy and after therapy for both academic and well being for the sample that underwent Sport Therapy.

Independent sample T tests were conducted to determine the significant difference between the after therapy academic and well being scores between the two therapies.

Table 3 shows Independent sample T Test for **Academic Scores** after therapy for sample1 and sample 2.

Table 3 Independent Sample T test for Academic Score

	Sample	N	Mean	Std. Deviation	t
After Therapy Academic Scores	Cognitive Behavior Therapy	40	2.78	.891	0.874
	Sport	40	2.60	.900	

Table 3 shows that no significant difference was observed between means of the After Therapy Academic Scores for both the Samples. This shows that Cognitive Behavior Therapy and Sport were both equally effective in increasing the academic Scores. Sport therapy was as effective as Cognitive Behavior Therapy in increasing the Academic Scores of the students with Learning Difficulty.

Table 4 shows Independent sample T Test for **Well Being Scores** after therapy for sample1 and sample 2.

Table 4: Independent Sample T test

	Sample	N	Mean	Std. Deviation	t
After Therapy Well Being Scores	Cognitive Behavior Therapy	40	2.63	.490	3.185
	Sport	40	2.20	.687	

However, in Well Being, The t score is significant. There is a significant difference between the After therapy scores between the two therapies, meaning that psychological well being may not be increasing the same way due to both the therapies. The well being mean scores are higher for the Cognitive Behavior Therapy rather than Sport Therapy. So Cognitive Behavior Therapy is more effective than Sport therapy and Counselling in improving the Well being of students with Learning Difficulty.

This indicated that both Cognitive Behavior Therapy and Sport with Counseling were equally effective in bringing about a better academic score and that Cognitive Behavior Therapy was more effective in in improving well being of students with Learning Difficulty.

Discussion:

A discussion of the results indicate that both Cognitive Behavior Therapy and Sport with Counseling were effective interventions in bringing about better academic scores and in improving well being of students with Learning

Difficulties. Cognitive Behavior therapy, however fares better in improving well being compared to Sport Therapy.

LIMITATIONS OF THE STUDY:

- Absence of Control Group in the experimental design to compare results more effectively

This particular limitation could be addressed in future studies.

Follow up:

The sport was intensely followed up for a minimum duration of 6 months. 90% of the students showed interest to continue practice in the selected sport. It is significant to mention that two of the selected students are now state level players of tennis and football. The student playing tennis has chosen sport psychology for her higher study in Germany and is doing very well. The student who played football is studying sport management in Australia. It is a matter of pride to mention that both these students scored above 90%in their Grade 12 CBSE examination. The school and the Counselor undertaking this study helped in their admission process to foreign universities.

Also the students who undertook Cognitive Behavior Therapy were followed up and any anxiety or depression arising was addressed in the tenure of their school life.

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APPLICATION OF E-CONTENT IN TEACHING OF ENGLISH EDUCATION ON ATTITUDE OF STUDENT-TEACHERS

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Abstract
An investigation was made to find out whether there is any significant difference between pre-attitude and post-attitude scores of the control and experimental group student-teachers. In the present study, the investigator has used experimental method. The tools used for study were E-content in Teaching of English Education and Attitude scale towards E-content in Teaching of English Education developed by the investigator. The result revealed that there is significant difference between the pre-attitude and post-attitude scales of the experimental group student-teachers.

Introduction

E-content is valuable to the students and also helpful to the teachers for all individual instruction systems; e-content is the latest method of instruction that has attracted more attention to gather with different concepts. The ultimate aim of the e-content is to abolish the disparity among the learners through effective education. E-content is facilitating to the teacher to an effective manner.

Significance of the Study :

E-content can greatly aid English learning can help the student-teachers to understand various methods available in teaching of English education. Innovations like e-content and use of such material must be encouraged so that their use makes learning English more enjoyable and meaningful.

The American Commission on Teacher Education (1944) says that “the quality of a nation depends upon the quality of its citizens; the quality of its citizens depends not exclusively but in critical measure, upon the quality of their education. The quality of their education depends more than any other single factor, upon the quality of their teachers.”

Therefore, the quality of the teacher depends on dedication and devotion of the teacher towards the subject of the knowledge and their attitude. As e-content enters into the field of education, it has taken the major role in education for the effective teaching-learning process. Hence, a favourable attitude towards e-content is very much needed for teachers as well as learners. The e-content have

created a revolution in the content of education and in the nature of learning process. They have the capability of multiplying the human intellect beyond part conceptions and have tremendous implications for education. They have a great impact upon our educational system. The teachers should be in terms with the physical reality of the computers, and learn how to take actual advantage of the machines' educational potential. For this, a favourable attitude towards e-content is essential for teachers. Hence with the intention of developing E-content and testing its efficiency on the attitude of student-teachers, the investigator conducted a study on "Application of E-content in Teaching of English Education on Attitude of Student-Teachers".

Statement of the Problem :

"Application of E-content in Teaching of English Education on Attitude of Student-Teachers"

Definition of the Operational Terms :

- **Effectiveness:** According to Oxford Advanced Learner's Dictionary of Current English by A.S.Hornby (OUP, 1984) "Effective" means the power to bring about a result. As far as the study is concerned, effect refers to impressive results in the learning of Methods of Teaching English by the B.Ed., students consequent upon the operation of E-content. The effectiveness is determined in terms of the gain scores obtained by the students in the experiment. The gain score is obtained by subtracting the pre-test score from the post-test score.
- **E-content:** Electronic content (E-content) or digital content is defined by those involved in creating, providing and distributing information as the digital content, which is viewed on screen and not on paper.
- **Attitude:** According to L.L. Thurston, "Attitude is the sum total of an individual's inclination, feelings, prejudices or biases, preconceived notions, ideas, threats and convictions or beliefs about any specific object"
- Student-Teachers: Student-teachers refer to who are undergoing training for the profession of teaching student teachers refer to the student-teachers who belong to English department.

Objectives of the Study :

1. To find the significance of difference between the pre-attitude and post-attitude scores of the control group student-teachers.
2. To find the significance of difference between the pre-attitude and post-attitude scores of the experimental group student-teachers.

Method Adopted for the Present Study :

The investigator has used experimental method for the study.

Table - 1: Design of Experiment

S.No.	Control Group	Experimental Group
1	Pre-attitude scale	Pre-attitude scale
2	Convensional method	e-content presentation method
3	Post-attitude scale	Post-attitude scale

6.1 Sample of the Study :

The investigator has selected the sample as student-teachers of English department of Three College of Education. From each of these colleges 30 student-teachers were selected to comprise the control group and experimental group of the study. These 30 student-teachers were selected using purposive sampling technique. The control group and the experimental group subjects were equated in all possible aspects and thus facilitating parallel groups of the experimental designing.

6.2 Tools used for Study :

1. E-content in Teaching of English Education developed by the investigator.
2. Attitude scale towards E-content in Teaching of English Education developed by the investigator.

6.3 Statistical Techniques used :

The following statistical techniques were used:

1. Mean,
2. Standard Deviation
3. 't' - test

Analysis of Data:

Null Hypothesis – 1: There is no significant difference between the pre-attitude and post-attitude scales of the control group student-teachers.

Table 2: Mean and Standard Deviation and 't' value of pre attitude and post attitude of control group student-teachers

Group	Number	Mean	SD	't' value	df	Remark
Pre attitude scores of the Control Group	30	60.15	16.06	0.71	58	Not Significant
Post Attitude scores of the Control Group	30	60.14	16.50			

(At 0.01 level of significance the table value of 't' is 2.576)

The mean of the Pre-attitude Scores of the Control Group is found to be 60.15. The mean of the Post-attitude Scores of the Control Group is found to be 60.14. Since the calculated 't' value (0.71) is less than the table 't' value, it is inferred from the above table that there is no significant difference between the pre-attitude and post-attitude scales of the control group student-teachers.

Null Hypothesis – 2: There is no significant difference between the pre-attitude and post-attitude scales of the experimental group student-teachers.

Table 3: Mean and Standard Deviation and 't' value of pre attitude and post attitude of Experimental group student-teachers

Group	Number	Mean	SD	't' value	df	Remark
Pre attitude scores of the Experimental Group	30	59.31	18.65	10.99	58	Significant
Post Attitude scores of the Experimental Group	30	90.30	7.90			

(At 0.01 level of significance the table value of 't' is 2.576)

The mean of the Pre-attitude Scores of the Experimental Group is found to be 59.31. The mean of the Post-attitude Scores of the Experimental Group is found to be 90.30. Since the calculated 't' value (10.99) is greater than the table 't' value, it is inferred from the above table that there is significant difference between the pre-attitude and post-attitude scales of the experimental group student-teachers.

Findings :

1. There is no significant difference between the pre-attitude and post-attitude scales of the control group student-teachers.
2. There is significant difference between the pre-attitude and post-attitude scales of the experimental group student-teachers.

Discussion :

The interesting derivation from the finding No.1 and 2 is though the pre-attitude scores of the control group and the experimental group student-teachers towards e-content do not differ significantly, the post-attitude scores of the control group and the experimental group differ significantly. This establishes a significant effectiveness of e-content in enhancing the attitude to a favourable level of the student-teachers towards e-content. The familiarity with the e-content, the practical usage of e-content and the awareness of its benefits have developed more favourable attitude of the student-teachers towards e-content.

William, B.Edward (2007) compared the effectiveness of interactive multimedia CD-based learning with the conventional teaching method with the science group students.

The study clearly revealed that the interactive multimedia CD-based learning prepared by the teacher could show immense impact in the learning of physics. Further, the experimental group has expressed a more favourable attitude towards the interactive multimedia CD-based learning courseware.

Rommel L.Verecio (2014) conducted a study on Students' Evaluation of an Interactive Multimedia Courseware. Findings of the study showed that the developed courseware facilitates and enhances the learning process in the classroom; arouses and maintains positive attitude of students toward learning the subject because of novelty of the materials used; and contributes consistent improvement in the ability to define and measure students' attainment of educational goals. These results could encourage teachers and researchers in developing their own cousewares.

Recommendations of the Study:

1. Lecture method in the class should be minimized and new technologies, such as; use of e-content and interactive multimedia courseware can be introduced.
2. The NCERT, SCERT, NCTE should introduce e-content in the form of curriculum development, to meet the challenges in education.
3. The teacher-educators and the student-teachers should be aware of the University Grant Commission's Consortium for Education Communication.
4. Adequate infrastructure may be established in the educational institutions at all levels for the development and usage of e-content.
5. The e-content can be prepared to other topics like micro-teaching, aims and objectives of teaching english, various techniques of teaching English and lesson plan etc.,
6. Since e-content is found effective among the students-teachers it may be effective to the students of school and college level.

Conclusion:

In the light of research findings, it has become crystal clear that Teaching of English Education through E-content has improved the attitude towards E-content in the Teaching of English Education. Besides, this trend indicates positive attitude of the student-teachers towards e-content as well as to use the e-content materials in their teaching-learning process as it paves the way for better results among the students. Therefore, as the educational system creates a comprehensive and collaborative learning climate, this research strongly

advocates the use of e-content for the teaching of English Education among the student-teachers as well as for the teaching of other subjects in the class room both in colleges and schools is very useful and powerful.

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