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About the Journal

The Journal of Teacher Education and Research (formerly Ram-Eesh Journal of Education) is the official Journal of the Ram-Eesh Institute of Education, which was established in 1999 under the Rama-Eesh Charitable Trust, New Delhi. Its first issue was published in 2004. It is a half-yearly journal. The purpose of this Journal is to foster inter cultural communication among educators and teachers nationwide; encourage transactional collaborative efforts in research and development; and promote critical understanding of teacher education problems in a global perspective. The Journal is designed to reflect balanced representation of authors from different regions of the Country.

The opinion and views expressed in this Journal are those of the authors and do not necessarily reflect the positions of the Editor, Advisory Board and of the Ram-Eesh Institute of Education.

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Editorial

The education system at all levels in our country seems to be in shambles. Primary education is the most neglected. The government primary schools have a poor reputation despite government funding and supervision. Secondary system is infested with problems galore. In some states, mass copying has gained a popular mandate. First position in board examination is managed.

The university education of which we have been very proud is marred by political or sectarian agitations led by different university students and nothing seems to work well to stop this practice. Our educational thinkers living in ivory towers keep on churning ideas of great India with such ailing system of education.

Ministry of Human Resource and Development (HRD), appointed a committee under Sri TSR Subramaniam, Ex Cabinet Secretary, to suggest norms for education policy in India. The committee submitted its report in 2016, defining the parameters and essentials for making education future oriented.

National council for Teacher Education (NCTE) Chairman, Shri A. Santosh Mathew, is of the view that you need to have good teachers to have good education. There are about one crore teachers in India who need qualitative improvement. For this, he plans to develop curative material based on National Curriculum Framework which will help teachers to teach every subject of every class properly. The scheme is to begin on Teachers' Day this year. Let us hope for the best, and keep our fingers crossed.

With the hope that something good will happen in our education system, we hereby present to our readers new and fresh researches in this volume of the Journal of Teacher Education and Research.

Kartikeswar Roul and Debadatta Panda have studied the effect of in-service training on continuous comprehensive evaluation (CCE) for developing teaching competence in teachers of elementary schools. The study reveals that most of the teachers had developed their competence to implement CCE at school level in the state of Odisha. Regular monitoring, supervision, teachers' handbook and group discussion have helped in the process.

Anita Arora conducted a study to measure effect of remedial teaching in science on academic achievement of students of Class VII. Quasi-experimental approach was used. It resulted in positive effect on the students' achievement.

Mohd. Faisal Ansari attempted a comparative study of madrasas and government schools in old city of Bhopal with regard to role of schools in socialisation of students. This quantitative study was carried out in 10 madrasas and 10 schools. Among boys, no significant difference was observed, whereas girls in schools were more socialised than girls in madrasas.

Sunil Kumar and Anil Kumar compared computer-aided teaching with traditional teaching of science and mathematics at secondary school level. After 30 days of teaching, it was found that the group taught through computer-assisted teaching scored significantly higher in science and mathematics.

Sangeeta Gupta and Kusumlata Sharma attempted to study social intelligence and mental health of secondary school students. They did not find any significant difference as per gender of the students.

Neha Gupta and Harish Kumar Tyagi evaluated whether in-service training brings a change in the teaching attitude of teachers. After 8 weeks, in-service training data were analysed, and significant difference was observed in pre-and post-mean scores. Standard Deviation (S.D.) showed that training brought favourable change in the attitude of the teachers.

Mohsin Ali Khan has tried to discover youth problems of B.Ed. students of private self-financing colleges of education. It was found that 73 per cent male students had average youth problems, and only 15 per cent came under heavy level youth problems. Among female students, 30 per cent had average-level youth problems, 63 per cent had low-level and only 3 per cent had high-level youth problems. The male and female teachers had different levels of youth problems. Male student teachers suffered more with youth problems than their female counter parts. Males seemed to more suffer youth problems than their female counterparts.

Abha Marathe in her study attempted that institutes should emphasise on an open culture of sharing based on trust and experimentation which would facilitate in tacit knowledge of experienced and qualified teacher educators to the new comers.

Anamika and Anita in their study aimed to highlight the effect of different programmes started by the government regarding fast and qualitative development of education in primary and upper primary schools like Right to Education, 2009 Sarvashiksha Abhiyan and others. They reviewed different studies and found that a lot of money is spent on these programmes, even then at present, education is not at the level that was expected in these schools due to lack of serious monitoring and effective information system.

Panchanatha Boobathy tried to conclude in his study that to remove difficulties in learning symbols and equations of chemistry by the students, teachers should add variety in their teaching methods and should emphasise on practical classes rather than ordinary theoretical classes. Group study method could also enhance the chemistry study level of the students and could also help to bring out the students' innovative thoughts in chemistry.

This journal has gained recognition and reputation not only in India but in many countries in South East Asia and in Middle East. It is gradually becoming tough to edit and decide what to include. Thanks to our contributing researchers and academicians.

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Effect of Training Programme on Continuous Comprehensive Evaluation for Development of Teacher Competency at Elementary Level

Kartikeswar Roul[1]* and Debadutta Panda[2]

ABSTRACT

The study was intended to determine the effect of in-service training on continuous comprehensive evaluation for development of teachers, competency at elementary school level. In this connection, efforts have been made at different times in Odisha to bring CCE into teaching learning process at school stage for holistic development of school student .The research study reveals that most of the teachers have developed their competency to implement the CCE effectively at school level. All most all students have developed their socio-personal qualities at a great extend due to regular organisation of cultural programme and value-based orientation to students. There was a positive effect of CCE training programme on development of teachers' competency for holistic development of students. For better implementation of CCE remedial measures like regular monitoring and supervision, providing teachers' hand book and other related reference materials to teachers, fixation of accountability on head teachers, teacher discussion MSM meeting and teacher free from non-academic work for better effectiveness of CCE for development of teacher competency, and learners achievement are urgently needed, otherwise the implementation of CCE at school level will be deteriorate day-by-day.

Keywords: Competency, Continuous comprehensive evaluation, Co-scholastic, Development, Effect, Scholastic, Socio-personal quality

INTRODUCTION

Concept of Continuous and Comprehensive Evaluation (CCE)

Continuous and comprehensive evaluation refers to a particular process of evaluation, which is school-based and aims at all-round development of the students. This process includes continuity of testing with regular intervals and covering different aspects of curricular and co-curricular areas so as to help the students. Continuous and Comprehensive Evaluation has three keywords, which need explanation. The term continuous refers to continuity and regularity of assessment during the whole session. The frequency of class tests, unit tests and terminal tests can make the evaluation process regular. It helps to identify the Learner's weakness and to provide remedial suggestions to correct them.

The second keyword is comprehensive. It refers to the areas of assessment which include both scholastic and co-scholastic aspects of pupils growth helping the all-round development

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of the child. While the scholastic aspect deals with development of physical and social qualities (i.e., interest, attitude, and values). The term comprehensive also includes a variety of evaluation tools and techniques used for assessment. The continuous comprehensive evaluation is multi-dimensional as it involves multiple-techniques and different persons like teacher, pupil, peer, parent, community, etc. The third keyword is evaluation. Simply of collecting, analysing and interpreting the evidence of student's progress to take further necessary action for better learning.

(A) Assessment of scholastic areas

Areas	Technique	Tools	Periodicity	Reporting
All the school subjects	-Oral test -Written test -Project work -Practical test	-Oral questions -Class work -Assignment -Diagnostic test -Question papers	-Monthly test -Class test -Unit test -TERMINAL test	Using direct or indirect grading

(B) Assessment of Co-Scholastic areas

Areas	Technique	Tools	Periodicity	Reporting
Social personal qualities -Cleanliness -Truthfulness -Cooperation -Regularity -Discipline -Initiative -Emotional stability	-Observation -Interview	-Observation schedule -Rating scale -Checklist -Anecdotal record card -Student profile	Day-to-day observation by the teacher	Direct grading once in every month
Interests -Literacy -Scientific -Music -Dance -Panting-Sports/games	Observation	-Observation -Rating scale	As per the time table	Direct grading
Health	Medical check-up on physical growth	Using norms by the doctor	At least once a year	Health status
Physical education	Observation of activities	Rating scale	As per time table	Direct grading
Work experience and arts education	-Observation of work and activities -Maintenance of portfolio	Rating scale	As per time table	Direct grading

Source: Edutracks October 2010 volume 10

CONTINUOUS COMPREHENSIVE EVALUATION IN ODISHA

Efforts have been made at different times in Odisha to bring CCE into teaching learning process at school stage. All teachers at elementary and secondary stage in the state were exposed to CCE concept through the programme of mass orientation of teachers. An NPE 1986 (a package developed by NCERT) with DPEP was launched in 1996–1997 in the state, an attempt was made to enhance student achievement level by 25% through CCE according, teachers were oriented to conduct six unit tests along with half-yearly annual examination. CCE gained momentum when Learning Achievement Tracking System (LATS) was introduced in 2003 in elementary stage in Odisha. The LATS emphasised formative assessments every two months as well as a common annual examination at the district level. An empirical study conducted by regional institute of education in Odisha in 2005 observed that the CCE was feasible, effective, and dependable at elementary level. Teachers were willing to use variety of tools and techniques to evaluate learner performance and progress based upon 2005, NCERT developed a service book a learning assessment tools, which elaborated the assessment procedure using varieties of tools and techniques. It tries out in 2007 in two districts of the state and the findings revealed that teacher could put into use the learning assessment tools for continuous comprehensive evaluation, to student performance. At present, all elementary schools in Odisha have been conducting unit test on regular basis for CCE.

INSERVICE TRAINING PROGRAMME ON CCE IN ODISHA

Effectiveness of CCE programme is mostly need Systematic mass in-service teacher's orientation programme throughout Odisha. Therefore, Directorate of T.E & SCERT, Odisha has formulated guideline for implementation of CCE in the state. A structured module on CCE was prepared by team of experts of SCERT, training colleges, DIET faculty members and retired educationist before organised teachers training programme. The module consists of 20 sessions, out of 20 sessions 4 sessions relates to basic idea about CCE. Only 6 sessions relates to subject based CCE. Moreover, 5 sessions relate to co-curricular activities and socio-personal qualities. The rest 5 sessions relates to recording procedure and method of CCE A massive orientation programme on CCE was organised for capacity building of the teachers on CCE of different districts of Odisha by the leadership efforts of DIET at district level with the help of BEOs, DEO, DPC, BEOs, BRCCs, and CRCCs.

Rationale of the Study

Gajapati district is economically, socially, and educationally a backward district of Odisha. It is a Telugu language dominated district. The status of elementary education with regard to UEE is not satisfactory. After implementation of RTE-2009 in Odisha the continuous Comprehensive Evaluation became inevitable in each school for assessment of holistic development of students. In view of CCE implementation the Directorate T.E. and SCERT Odisha, Bhubaneswar developed a structured module for massive orientation programme for elementary teachers of Gajapati district. A large number of in-service training programmes had been organized at the Block point for development of capacity of teachers on CCE implementation in school. To know what extent the CCE based in-service training programme

effectively organised for development of knowledge and skill of teachers on CCE? Hence, the problem of the research study may be stated as follows:-

"Effectiveness of Training Programme on CCE for Development of Teachers competency on CCE at Elementary Level".

Objectives

The following objectives are set forth for the investigation:

- To find out the knowledge level of teachers in the context of CCE.
- To assess the classroom transaction of teachers in the context of CCE.
- To ascertain the development occurred in socio-personal qualities of the learners.
- To find out the perception of learners towards CCE.

Research Questions

Keeping in view the above objectives the following research questions are formulated and tested under the present study.

- What is the level of knowledge of teachers on in-service training programme on CCE?
- Does the CCE programme have any positive effects on classroom process in the context of CCE?
- Does the CCE based training programme have any positive impact on the development of SPQ?
- Is it possible to develop the teacher's competency in implementation of CCE?
- Is it possible to motivate students towards CCE?
- Is it possible to take remedial measures for better implementation at school level?

The answer of the questions are planned to be derived empirically with the help of the present study.

METHODOLOGY

Survey method has been adopted for the research study

➢ **Sample**

The area of the study is Gajapati district of Odisha. The study included four blocks i.e., R. Udayagiri, Mohana, Gosani, Kashinagar of Gajapati District. Sixty (60) primary and upper primary schools were selected from sample four blocks i.e., 15 schools from each block. The study also selected only class-V students for the study. Besides these 60 Headmaster, 120 Assistant teachers, 600 students were selected for the study. Multi-stage stratified random sampling technique was used for the study.

➢ **Tools Used**

- Questionnaire for Headmaster on CCE module.
- Classroom observation schedule to observe classroom transaction of teachers.
- Checklist for verification of school records to ascertain the development occurring in the SPQ of the learners.
- Interview schedule for teachers find out perception towards CCE.
- Interview schedule for the learners to find out perception towards CCE.

➢ **Collection of Data**

Necessary data and information were collected from schools, Headmasters, teachers, students, parents, SMC members, resource persons, BRCCs, and CRCCs on in-service training programme by the help of Questionnaire, check list, interview schedule and classroom observation schedule in systemic manner in stipulated time.

➢ **Statistical Technique Used**

The collected data and information were analysed by the help of percentage, mean, and chi-square analysis; moreover, for better understanding of findings various graphical representation has been given in the study.

➢ **Analysis and Interpretation of the Data**

The analysis of Table 1 reveals that more than 73.00% of respondents have opined that the knowledge and understanding level of teachers are satisfactory due to appropriate organisation

Table 1: Knowledge and understanding level of teachers on CCE

Particulars	Satisfactory	Manageable	Poor	Total
Basic idea of CCE	51(85.00)	05(8.33)	04(6.67)	60(100.00)
Dimension of CCE	50(83.33)	08(13.34)	02(3.33)	60(100.00)
Objectives of training programme on CCE	45(75.00)	12(20.00)	03(5.00)	60(100.00)
Other curricular area	42(70.00)	14(23.33)	04(6.67)	60(100.00)
SPQ area	42(70.00)	14(23.33)	04(6.67)	60(100.00)
Implementation process	43(71.47)	14(23.33)	03(5.00)	60(100.00)
Tools and techniques	40(66.67)	16(26.67)	04(6.67)	60(100.00)
Time frame of CCE	44(76.33)	12(20.00)	04(6.67)	60(100.00)
Grading system	45(75.00)	13(21.67)	02(3.33)	60(100.00)
Recording procedure	44(73.33)	10(16.67)	06(10.00)	60(100.00)
Remedial procedure	41(68.33)	12(20.00)	07(11.67)	60(100.00)
Mean value	**44(73.33)**	**12(20.00)**	**04(6.67)**	**60(100.00)**

training programme. The knowledge and understanding level of CCE based in-service training programme of 12.00% teacher is manageable and also only 6.67% of teachers have knowledge and understanding on continuous as comprehensive evaluation is poor with regards to basic knowledge on curricular and other curricular area and SPQ dimension of CCE.

The above facts and figure are represented in Figure 1 for better understanding.

Graphical representation of knowledge and understanding status of teachers on CCE

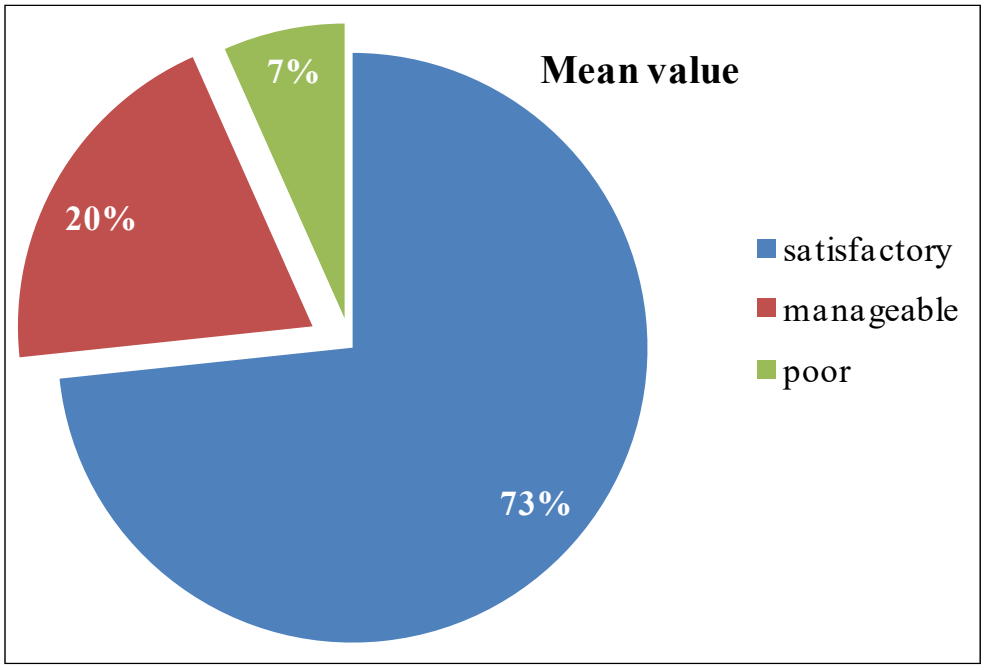

Figure 1: Knowledge and understanding status of teachers on CCE

The analysis of Table 2 clearly reveals that about 66.67% and 63.33% of teachers are more competent in language and mathematics, respectively. It further reveals there is more percentage of more competent teachers available than less competent teachers in the schools. Thus, there is a positive effect of in-service training programme on CCE in development of competencies of teachers in language and mathematics.

Table 3 reveals that the status of socio-personal qualities of learner's after implementation CCE at school level is some extent good in less than 50.00% schools of Gajapati district.

Table 2: Classification of teachers with regard to their competency in language and mathematics

Types of teachers	Language	Mathematics
More competent teachers	40(66.67)	38(63.33)
Less competent teachers	20(33.33)	22(36.67)

Graphical representation

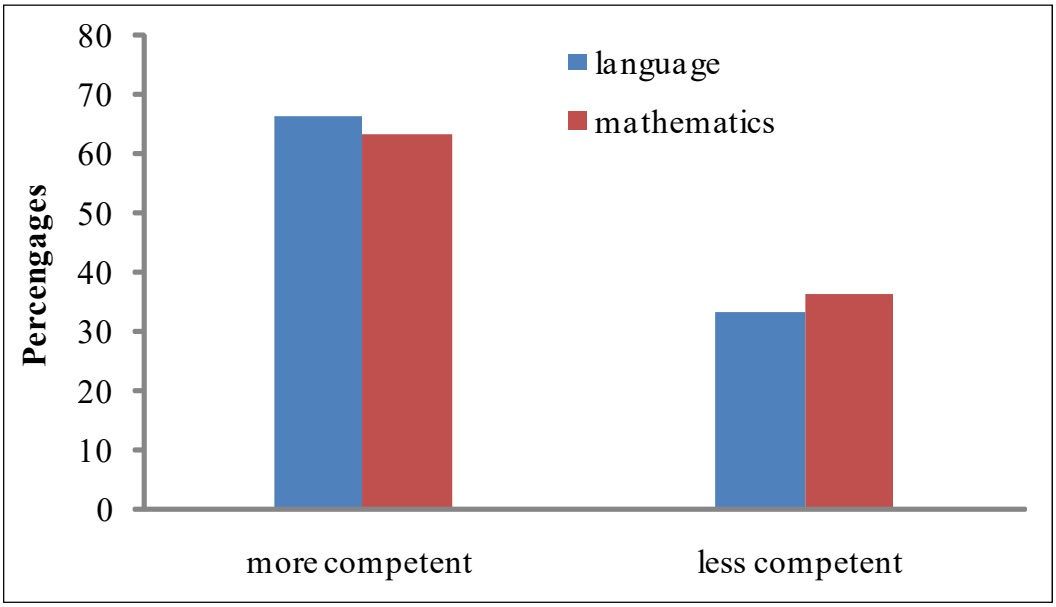

Table 3: SPQ status of learners of Gajapati District

Items of SPQ	Good	Manageable	Poor	Total
Neat and cleanness	312	206	82	600(100.00)
Respect to teacher	363	242	–5	600(100.00)
Functionality	272	238	90	600(100.00)
Awareness on environment and preservation	270	241	89	600(100.00)
Co-operation	268	246	86	600(100.00)
Responsibility	258	244	98	600(100.00)
Attitude towards physical labour	265	237	98	600(100.00)
Mean value	**286.85**	**236.28**	**76.85**	**600(100.00)**

Thus, after implementation of CCE at school level it has positive effect on development of SPQ among students of Gajapati district.

Table 4 reveals that implementation of CCE in Gajpati district promoted development of new concept, knowledge and understanding on CCE, teachers learned to prepare lesson dairy, tools and techniques of CCE, developed competency to execute CCE at school recording of progress of students, empowered to take appropriate remedial steps for deficiency, and organised sharing of development of students among their parents which indicates strength area of CCE.

Table 4: Information on strength of CCE in Gajapati District

Strength of CCE Related items	No. of respondents	Percentage
Teacher develop new concept on CCE	144	18.46
Teacher enhanced their knowledge and understanding on CCE	133	17.05
Prepare lesson diary on CCE	87	11.15
Empowered to prepare tools and techniques	78	10.00
Teacher enables to access the curricular and co-curricular learning activities	92	11.79
Teacher also develop competency on scoring grading and recording	69	8.85
Empowered to take remedial measured	79	10.12
Ensured sharing of students results with parents	98	12.56
Total	**780**	**100.00**

Table 5: Information relating to weak area of CCE in Gajapati district

Items	No. of respondents	Percentage
Language problem of teacher as well as students	146	18.59
Poor monitoring and academic support system	152	19.48
Multi-grade class situation	72	9.23
Teacher engagement in MDM and otherworks.	105	13.46
Workload of teacher in BLO, NPR, Adharcard, BPL	67	8.58
Regular Transfer of teacher	58	7.43
Lack of commitment of teacher on CCE	49	6.28
No provision for CWSN children	35	4.48
All teachers are not trained on CCE	32	4.10
No Link of CCE with sadhan and samadhan	64	8.2
Total	**780**	**100.00**

The analysis of Table 5 reveals that there are various difficulties i.e., language problem, poor monitoring and academic support system, multi-grade class situation, teacher regularly engaged in non-academic activities and regularly transferred, untrained teachers, lack of commitment of teachers on CCE and on link with Sadhan and Samadhana faced by teachers during implementation of CCE effectively.

The analysis of Table 6 reveals that suggestive measure such as regular orientation for teachers, follow action as per calendar of activity discussion on CCE in MSM, at cluster supply of teachers handbook, participation of SMC members, orientation for educational administrator on CCE, reference course for teacher on CCE, accountability on Headmaster teachers, and provision of CCE based registers to each school should be undertaken for better implementation

Table 6: Information relating to action oriented suggestive measure to be taken for better on CCE

Particulars	No .of respondent	Percentage
Regular orientation to teachers	136	17.43
Follow of action as per activity calendar	98	12.56
Discussion on CCE on MSM meeting	76	9.74
Supply of teacher handbooks	58	7.43
Co-operation of SMC member on CCE	72	9.23
BRCC, CRCC, BEO, ABO, DEO should be oriented on CCE	85	10.89
Refresher course on CCE	52	6.66
Accountability on Headmaster and Teacher in this regard	108	13.84
Appointment of subject teacher	67	8.58
Supply of CCE based register and appropriate guideline and module to each school	28	3.58
Total	**780**	**100.00**

of continuous and comprehensive evaluation for development of teacher's competency for better and effective implementation of CCE at schools level for assessing learners learning progress.

FINDINGS OF THE STUDY

Objective I: Find out the knowledge level of teachers on CCE in Gajapati district.

- About 89.33% of teachers are awarded about basic knowledge of continuous comprehensive evaluation.

Objective II: Assess the class room transaction of teachers in the content of CCE.

- Out of total teachers, about 66.67% are more competent and 36.67% of teachers are less competent to transact Odia language in class.
- Out of total teachers, 63.33% are more competent and 36.67% are less competent in transacting mathematics of class in Gajapati district.

Objective III: Ascertain the development occurred in socio-personal qualities of the learners.

- There is a positive effect/impact of CCE based in-service training programme on development of SPQ neat and cleanness, respect to co-operation, responsibility and attitude towards physical labour.
- In about 66.67% of schools, the care and maintenance of CCE based records is good, as it has been observed during field level data collection.

Objective IV: Find out perception of teachers towards CCE based training programme.

- Knowledge and understanding level of 37.50%, 42.5% and 20.00% were satisfactory, good and poor, respectively.
- About 40.83%, 45.00% and 14.17% of the teachers developed their competency on CCE with satisfactory, manageable and poor, respectively.

Objective V: Find out perception of teachers towards CCE.

- There is a positive effect of CCE on quantitative and qualitative aspect of elementary education.
- The implementation of CCE on enhanced the attendance rate, active participation of learners in curricular and co-curricular learning activities, socio-personal qualities (SPQ) and learner's achievement.
- The strength area of CCE implementation in Gajapati district promotes new basic concept, knowledge and understanding on CCE, developed competency to execute CCE at school level, recording progress of student, recorded progress of students and empowered to take appropriate remedial steps to eradicate learning deficiency.
- Language problem, poor monitoring and academic support system , multi-grade class situation, teacher regularly engaged in BLO, BPL and Adharcard, transferred to other school during academic session, available untrained teachers on CCE, lack of commitment of teachers, no link with Sadhan and Samadhan are major weak areas of CCE in Gajapati district.
- Regular orientation for teachers, follow-up action as per calendar of activity participation of community members, accountability on Headmaster and teachers, providing CCE related register to teachers should be done immediately for better implementation and for higher effect of CCE on development of teachers' competency.

CONCLUSION

Therefore, in light of the findings of the study reveals that the knowledge level of teachers on CCE has enhanced to a great extent. Most of the teachers have developed their competency to transact classroom in different subject in the context of CCE. All most all students in class-V have developed their socio-personal qualities to a great extent due to regular organised activities in this matter. Most of the teacher's perception towards CCE is positive for learner's holistic development. The perception of almost all learners towards CCE is positive with regard to their enrolment, retention, achievement in scholastic, co-scholastic and SPQ dimensions of learning. However, for further better implementation of CCE we have to take appropriate steps like again organising training programmes on CCE for each teacher. It should be compulsory, regular monitored and supervised work, providing sufficient records and documents on CCE, fixation of accountability on headmasters and teachers. For better execution of CCE related activities in school for students in time-bound manner, development of library, regularly monthly sharing meeting (MSM) at cluster level in this regard and teacher should be free from non-academic outside work, training to administrative personnel i.e. DEO, BEO,

ABEO, co-ordinators of DPC, office for better supervision and strong positive support to teachers, otherwise the implementation of CCE at school level will be deteriorated day-by-day.

SUGGESTION

- Monitoring and supervision work should be undertaken on regular basis by a team including DIET faculty members, DPC office, co-ordinates, DRG group members BRCCs, BEO, and ABEOs.
- Most of teachers have poor understanding and skill on CCE, so again CCE based in-service training programme should be organised by DIET, Gajapati.
- Teacher's handbook, teaching aids, reference materials, sports and game materials, TLM, cultural instruments, library books should be provided to schools for better implementation of CCE.
- The teachers should be avoided to engage in non-academic activities in inside and outside school regularly which hampers negatively for successful implementation of CCE.
- The school management committee (SMC) should be strengthened through discussion and orientation. Educational implication of the study.
- It will help to the all Headmasters, teachers, DEOs, BEOs and Directorate, TE and SCERT, Odisha to take necessary steps for better implementation of CCE.
- It will motivate teachers favourably to undertake scholastic, co-scholastic and SPQ related activities, in schools for all rural development of students.

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Effect of Remedial Teaching Programme in Science on Academic Achievement of Students Studying in Class VII

Anita Arora

ABSTRACT

Remedial teaching can be considered as an effective correction technique, a programme to improve teaching learning process and an instruction for overcoming difficulties and misconceptions in various subjects. The studies revealed that Remedial Instructions Materials were effective in improving academic attainment of students. Therefore, the present study was aimed at assessing the effect of remedial teaching programme in science on academic achievement of students studying in class VII. According to the nature of the study Quasi-Experimental method has been used; one school as the sample was selected by the simple random sampling technique. In the school, there were 44 students in class VII. Researcher selected only those students among these students who scored below 40% in Science achievement test. Sixteen students were selected for the purpose of the study through the purposive sampling method. The remedial teaching was independent variable while academic achievement was dependent variable. For measuring academic achievement, Science achievement test was constructed by investigator and for remedial teaching a diagnostic test was prepared by the researcher herself according to the specific need of students. To analyse data 't' test was used, the result of the study revealed that remedial teaching programme was effective in developing academic achievement of the students who received the treatment.

Keywords: Academic achievement, Remedial teaching

INTRODUCTION

After more than six decades of independence, our effort at universalisation of education should not only aim at the spread of literacy but also seek for the establishment of a class's society based on the equality of opportunity for everyone. Education should not be an end itself but should be the means of social empowerment to the weaker sections of our Society. For this, we must ensure that quality education is not the privilege of a few but should be accessible to all who cherish it. The standard of education in schools needs to be enhanced to such an extent that elites do not shy away from these schools.

Many believe that academic success depends on a number of factors. Some of these are: intelligence, motivation, interest, attitudes, values, study-habits, adjustment, socio-economic status and personality characteristic, etc. In order to find a solution to this huge and important problem of student's failure and low achievement, it becomes necessary to locate the various factors associated with academic achievement. If one identifies the factors causing low

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achievement, then we can provide good education environment to improve their academic achievement.

NEED AND SIGNIFICANCE

Science today has become the part and parcel of all human's life and activity. Science is also cumulative in nature. Therefore, a thorough base in science should be provided to the students. Many studies stressed the importance of obtaining clear and detailed information about the specific difficulties experienced by children in various subjects and the need for adopting suitable remedial procedures to make the teaching learning process more child-centered, meaningful and interesting.

Teaching involves communication that is messages are being sent at one end and received at the other. Sometimes the message may not get across at all or may reach the other end in a garbled, distorted and unrecognisable version. In such instances a 'gap' develops between teaching and learning. Usually the learner has what the teacher intended him to learn. In this case, a message is received but it is not the one which was sent out.

Several problems arise in dealing with this situation; first of all the teacher has to find out if the message received by the student is the one that was sent out. For that, the teacher has to rely on the feedback from the student who finds it hard to express what he has received and this gave the teacher the impression that learning has not taken place at all; therefore, the teacher tries to get the message across repetition. However, if the message received is a wrong one. It has to be cancelled before the correct one can be 'written in' in order not to create problems of interference. This is one of the functions of remediation.

It can be inferred that diagnosis is an important factor in imparting instructions as individuals differ in abilities. Pupils of different levels of ability are likely to be present in a class of 40–50. Slow learners, fast learners and average learners – all have to be catered in different ways. The highly talented should be provided with additional work, which requires higher intelligence level; whereas, the slow learners have to be specially cared in order to bring them to the level of the average student. It is valid to consider insight-information, application, consolidation and revision. Therefore, we can say that the present study of effectiveness of remedial teaching is significant because the learning and retention of factual concepts are more in remedial teaching. There are more chances for developing interest in subject Science. Students are successfully motivated and can develop self-study habits, self-confidence and modify the behaviour through remedial teaching. The problem therefore may be stated as "Effect of Remedial Teaching Programme in Science on Academic Achievement of Students Studying in Class VII".

OPERATIONAL DEFINITION OF KEYWORDS

Academic Achievement

Academic achievement is commonly measured by examination or continuous assessment but there is no common agreement on how it is best tested and which aspects is most important.

Students Academic Achievement means their marks obtained in the final examination conducted. The concept of academic achievement has been pointed by "Freeman" as follows:

"Educational Attainment (Academic Achievement) is one designed to measure knowledge understanding or skills in a specified subject or groups of subject".

In the present study, academic achievement has been defined in terms of the marks scored by students in achievement test of science administered by researcher.

REMEDIAL TEACHING

Remedial teaching has to be based on a careful diagnosis of effects and their causes. It aims at correcting weakness. It may concern with two types of deficiencies:

(i) Presence of misconceptions,

(ii) Absence of correct concepts.

The misconceptions need to be removed while correct concepts, skills and attitudes need to be taught which have not been learned but should have been learned. Due to individual differences in advance, this may be effective in all circumstances. If a student shows poor performance the teacher will have to go slow, interesting books, sequence easy to difficult should be used. For those students whose home conditions contribute to their weakness, the teacher will have to interact with the parents and assist them in developing a suitable atmosphere in the home for studies.

"Remedial teaching attempts to final a procedure which will make the child to correct his errors of skills or thought."

OBJECTIVES

1. To study the academic achievement in science of VII class students.
2. To identify the weak students in science studying in class VII.
3. To develop a remedial teaching programme based on the weakness of students.
4. To study the academic achievement of VII class students after post-remedial teaching in science.
5. To study the effect of remedial teaching programme on academic achievement in science students of class VII.

HYPOTHESIS

In order to achieve the objective of the study following hypothesis was formulated and tested:

HO – That there is no significant difference in the academic achievement of weak students of VII in pre- and post-remedial teaching.

DELIMITATION OF THE STUDY

I. This study has been delimited to C.B.S.E. Board only.

II. This study has been delimited to the school using NCERT prescribed books only.

III. This study has been delimited for achievement test to the selected topic of Science subject.

IV. This study is delimited to Ghaziabad city only.

METHOD OF STUDY

In this study *the Quasi-Experimental method* has been used. Therefore, pre-test and post-test single group design was followed for the purpose of study.

DESIGN OF THE STUDY

Stage	**Experimental group**
Pre-test stage	Measurement of academic achievement of Science students of Class VII
Treatment stage	Teaching Science through remedial teaching
Post-test stage	Measurement of academic achievement of Science students of class VII.

POPULATION

For this study, population has been defined as all the students of Class VII of C.B.S.E. Board of Ghaziabad City.

SAMPLE SELECTION

Out of all schools, one school was selected randomly for the sake of study. There were 44 students in Class VII, having 22 students in each section i.e., section A and B.

Researcher selected only those students among 44 students who scored below 40% in Science achievement test. Sixteen students were selected for the purpose of the study through the purposive sampling method.

VARIABLE INVOLVED

Remedial Teaching – Independent Variable

Academic Achievement – Dependent Variable

The present study intends to investigate the effect of independent variable on dependent variable. The fundamental aim is to find out the effect of remedial teaching in Science on the academic achievement.

TOOLS

To measure the effect of variable, following tools have been used in study:

1. For measuring academic achievements, science achievement test – constructed by researcher, based on selected topic was used.
2. Diagnostic test – constructed by researcher according to the specific need of students.

ANALYSIS OF DATA AND RESULTS DRAWN

The primary objective underlying this study was to investigate how the use of remedial teaching affects the academic achievement of the students. To achieve these objectives single hypothesis were formulated and tested by applying the *t*-test technique of analysis. (Table 1) The details obtained results according to variable and hypothesis are as follows:

FINDINGS RELATED TO THE REMEDIAL TEACHING OUTCOMES

Hypothesis: The hypothesis has been framed as, "That there is no significant effect of remedial teaching on the academic achievement of the students of Class VII.

Table 1: '*T*' value between pre-test scores and post-test scores

	Pre-test scores	**Post-test scores**
No. of students in each group	16	16
Mean of academic achievement	10.625	15.25
σ of academic achievement	1.45	1.95
$S.E_D$.	0.53	
d.f.	15	
'*t*'-value	8.73	
Table value	0.01 level–2.84	
	0.05 level–2.09	

DISCUSSION

It has been concluded that the remedial teaching programme has significant effect on the students, who were taught through cooperative and activity based learning. On the basis of this, the null hypotheses showing no significance effect on remedial teaching programme on students' academic achievement has been rejected. Hence, it may be inferred here that 'Remedial Teaching Programme is effective in developing Academic Achievement of the students who received the treatment'.

FINDINGS OF THE STUDY

The finding corroborates of the act that children found new method of teaching through remedial teaching strategies, which is interesting. Then we observe that the students who were taught through remedial teaching strategies has shown significantly gain in academic achievement. Therefore, it is concluded that, 'Remedial Teaching' is really effective in students' academic achievement in Science.

Another valuable conclusion that emerges after applying remedial teaching strategies on the students is that "The students who were least interested in science or who were not active in class developed self-confidence and activeness qualities. They participated willingly in the cooperative and activity based learning. It was also found that the students developed a habit of healthy competition, coordination and sympathy among themselves through the programme of remedial teaching".

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Role of Schooling in Socialisation: A Comparative Study of Madrasas and Government Schools of Old Bhopal

Mohd. Faisal Ansari

ABSTRACT

Education plays a prominent role in the socialisation of children. The school's role as a socialising agent is that it provides the intellectual and social experiences from which children develop the skills, knowledge, interests and attitudes that characterise them as an individual and that shape their abilities to perform adult roles. Being a democratic country India gives right to the minorities to open their institution to preserve their culture and number of institutions are providing education to the minority groups. These institutions frame their curriculum and also select the subjects as per their requirement. It is also the matter of concern that their process of socialisation is bit different from the government and other institutions. It is a big and moot question that whether the institutions are having some different types of socialisation process. For seeking the answer, the present research was designed. The present research was quantitative in nature. For achieving the objectives, survey method was adopted. Sample was selected through stratified random sampling. First 10 schools and 10 madarsas were selected from old Bhopla through a lottery method. From each school and madarsa, six teachers were approached and a self-constructed tool was administered. Results revealed that there is a significant difference in the socialisation process between schools and madarsas. Government elementary schools teacher reported that they arranged more activities for socialisation of the students than that of madrasa. On all the six dimension of the socialisation process the schools precede to Madrasas. The boys' schools were at par with the boys' madarsas; the difference between the two is not significant. That is why, the null hypothesis was accepted, which speaks that there is no significant different between the two. While seeing dimension-wise data boys school and madrasa were alike except curriculur and co-curricular activities. On the other hand, girls' madrasa and girl schools were significantly different. The reasons might be variant, the girls' madarsas mainly cater the first generation learners and the students of the traditional families. In the same way dimension-wise government girls' schools significantly played a better role in the socialisation process than the madrasas. The results of the study inspires for further investigation of the reasons of that wide difference between the two types of institution.

Keywords: Dimensions of socialization process, Government schools, Madrasas, Minority institutions, Role of teacher,Schooling, Socialisation

INTRODUCTION

Socialisation is a process whereby an individual learns to adjust to a group or society and act in a manner accepted by the group or society. Through socialisation persons acquire a personal

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identity and learn the knowledge, language and social skills required to interact with others. According to most social scientists, socialisation in essence represents the whole process of learning throughout the life course and has a central influence on the behaviour, beliefs and actions of adults as well as of children. School is an important part of the society that provides an exposure to the students and also prepares them to occupy social roles as per their capacities after receiving the school. The first and the foremost function of the school is to transmit knowledge and skills to the younger generation and get them socialise with the members of society.

Schools are the agents responsible for socialising groups of children and young people on specific skills and values in a society (James, 1999). Richard and Chambliss (1997) argued that this socialising agent probably contributes most to social conformity.

School as a social institution socialises the individual and provides him a number of experiences through which students learn how to live with democratic norms, fosters all round development of personality.

REVIEW OF THE RELATED LITERATURE

The concept of socialisation is derived from the Latin word socialis (social) and is understood as the process and result of individual inheritance, learning and transfer of the mankind's accumulated experience (knowledge, skills, norms, values, behaviour patterns, etc.), which takes place under the particular conditions for the society to which the individual belongs to (Vikmane, 2009). Socialisation can be viewed as a process that lasts throughout all life. Education is the most significant factor of socialisation. It is the largest sector of modern industry. Moreover, the education system is to be viewed as the basis of national development (Picht, 1965). Through education, the individual learns the basic sense of the cultural and social world. Education is a factor that explains and justifies the institutional order in society (Berger and Thomsan, 1969). School is a place that not only teaches how to read, write and calculate but also provides insight into social values as well. At school, children are taught to respect industrious work, private property, family, democracy and laws and order. This is how the education of future citizens, who are ready and willing to maintain the social values, is performed. The school is like a miniature society where the child's personal development takes place (Smelzer, 1994). In a successful education process, the relationship between the child and the teacher cannot be like the relationship between the hypnotist and his subject, but it must develop on the basis of mutual respect (Durkheim, 1992). The socialisation functions in education can be defined as availability for work and an ability to make decisions independently so that the individual in his later life period could perform his social roles and integrate in social structures with specific role types (Parson, 1968).

SIGNIFICANCE OF THE STUDY

School provides secondary socialisation where children and adults learn how to act in a way that is appropriate for the situations they are in. Schools require very different behaviour from the home and children must act according to new rules. Being a democratic country India gives right to the minorities to open their institution to preserve their culture and number of

institutions are providing education to the minority groups. These institutions frame their curriculum and also select the subjects as per their requirement. It is also the matter of concern that their process of socialisation is bit different from the government and other institutions. It is a big and moot question that the whether the institutions having some different type of the socialisation process. For seeking the answer the present research was designed.

STATEMENT OF PROBLEM

'Role of schools in the socialisation process: A comparative study of madrasas and government schools of old Bhopal city'.

OBJECTIVES OF THE STUDY

- To compare the role of madrasa and government elementary school in development of the socialisation process.
- To compare the dimensions of development of the socialisation process in madrasa and government elementary school.
- To compare the role of boys madrasa and boys government elementary school in development of the socialisation process.
- To compare the dimensions of development of the socialisation process in boys madrasa and boys government elementary school.
- To compare the role of girls madrasa and girls government elementary school in development of the socialisation process.
- To compare the dimensions of development of the socialisation process in girls madrasa and girls government elementary school.

Hypothesis

- There will be no significant difference between madrasa and government elementary schools in development of the socialisation process.
- There will be no significant difference between the dimensions of the socialisation process of madrasa and government elementary schools.
- There will be no significant difference between boys madrasa and government elementary boys schools in development of the socialisation process.
- There will be no significant difference between the dimensions of the socialisation process of boys madrasa and government elementary boys schools.
- There will be no significant difference between girls madrasa and government elementary girls schools in development of the socialisation process.
- There will be no significant difference between the dimensions of the socialisation process of girls madrasa and government elementary girls schools.

RESEARCH METHODOLOGY

The present research was quantitative in nature. For achieving the objectives, survey method was adopted.

Population

For the present research all the teachers of madrasa and government elementary schools of old Bhopal were the population of the study.

Sample

For selection the sample stratified random sampling was used. First, school and madrasas were identified from old Bhopal amongst them 10 schools and 10 madarsas were selected through the lottery method. From each school and madarsa, six teachers were approached and tool was administered.

Tool of the Study

For the present study, a self-constructed tool was used which was consisted of 30 items. A number of educationists were contacted for the face validity and they approved final scale as a valid one.

Statistical Method Used In the Study

Mean, standard deviation and *t*-test were administered.

RESULTS AND DISCUSSIONS

Table 1 shows the mean scores of the socialisation process of madarsas and schools. As the table indicates, there is a significant difference between the means of socialisation between schools and madarsas. The mean scores in schools are greater than that of madarsas. This is probably due to the fact that schools have more academic activities than that of madarasas and overall, the environment of madarsas and schools is different.

Table 1: Mean S.D and *t*-value in the socialisation process of school and madrasa

Type of Schools	*N*	Mean	S.D.	df	Obtained *t*-value	Tabulated *t*-value	Significant at 0.05 level	Hypothesis
Schools	60	51.15	5.43	5.43	4.23	0.000	Significant	Rejected
Madrasas	60	45.68	8.40					

Table 2 shows the different dimensions of socialisation processes of schools and madarasas. It is evident that the higher the mean scores the better the socialisation process. The very first dimension is the personality building. On that dimension school score greater than that of madrasas and the difference between the two is significant. The reason might be the schools is having different curriculum, teaching strategies and method of teaching.

On another dimension schools is having higher score in 'training to actual life', because of the different curriculum range given and same for the teaching strategies. On the third dimension,

Table 2: Mean S.D and *t*-value of the dimension wise the socialization process of school and madrasa

Dimensions	Type of schools	*N*	Mean	S.D.	df	Obtained *t*-value	Tabulated *t*-value	Significant at 0.05 level	Hypotheses
Personality building	Schools	60	8.60	1.39	118	4.58	0.000	Significant	Rejected
	Madrasas	60	7.27	1.77					
Training to actual life	Schools	60	8.18	1.61	118	2.01	0.047	Significant	Rejected
	Madrasas	60	7.63	1.38					
Curriculum	Schools	60	8.58	1.36	118	2.49	0.014	Significant	Rejected
	Madrasas	60	7.85	1.83					
Co-curricular activities	Schools	60	8.13	1.46	118	2.73	0.007	Significant	Rejected
	Madrasas	60	7.22	2.16					
Relations of peer group	Schools	60	8.68	1.47	118	2.53	0.013	Significant	Rejected
	Madrasas	60	7.93	1.76					
Role of teacher	Schools	60	8.97	1.25	118	4.21	0.000	Significant	Rejected
	Madrasas	60	7.78	1.79					

the curriculum, it is also found that schools and madarsas are significantly different. The succeeding dimensions are co-curricular activities, relations of peer group and role of teacher. In the entire dimension, the difference between the two types of institutions is significant.

As Table 2 shows, in all the dimensions, schools precede over the madarsas. In the socialisation process, the school efforts had been better and up to the mark and madarsas are rather lagging behind than their sister organisation schools. The reason may be variant, which needs further investigations.

As mentioned above, that schools are having higher scores in curriculum because of their significantly different range in curriculum. Also as mentioned above, schools are having higher scores in relations of peer group due to the significantly different environment as compared to a madarasas

Table 3: Mean S.D and *t*-value in the socialisation process of boys schools and boys madrasas

Type of Schools	*N*	Mean	S.D.	df	Obtained *t*-value	Tabulated *t*-value	Significant at 0.05 level	Hypothesis
Schools	30	51.03	5.92	58	1.15	0.256	Not significant	Accepted
Madrasas	30	52.33	1.86					

Table 3 shows mean and S.D scores on the socialisation process of boys school and boys madarsas. As the table shows, the boys madarsas have a higher mean than that of schools, but the difference between the two is not significant. The boys schools were at par with the boys madarsas. That is why, the null hypothesis was accepted, which speaks there is no significant different between the two.

Table 4: Mean S.D and *t*-value of the dimension wise the socialisation process of boys school and boys madrasa

Dimensions	Type of schools	*N*	Mean	S.D.	df	Obtained *t*-value	Tabulated *t*-value	Significant at 0.05 level	Hypotheses
Personality building	Boys schools	30	8.60	1.52	58	0.41	0.684	Not significant	Accepted
	Boys madrasas	30	8.47	0.94					
Training to actual life	Boys schools	30	8.07	1.66	58	1.09	0.282	Not significant	Accepted
	Boys madrasas	30	8.43	0.82					
Curriculum	Boys schools	30	8.23	1.38	58	3.05	0.003	Significant	Rejected
	Boys madrasas	30	9.10	0.71					
Co-curricular activities	Boys schools	30	8.23	1.38	58	2.45	0.017	Significant	Rejected
	Boys madrasas	30	8.93	0.74					
Relations of peer group	Boys schools	30	8.93	1.34	58	1.19	0.241	Not significant	Accepted
	Boys madrasas	30	8.57	1.04					
Role of teacher	Boys schools	30	8.97	1.33	58	0.43	0.668	Not significant	Accepted
	Boys madrasas	30	8.83	1.05					

Table 4 shows the different dimensions of the socialisation process of boys schools and boys madarasas. It is apparent that the higher the mean scores the better the socialisation process. The initial dimension is the personality building. Going on that dimension school score are at par than that of madrasas.

On a further dimension schools is having higher score in 'training to actual life', but the difference is not significantly different. On the next dimension, the curriculum and co-curricular activities, it is also found that schools and madarsas are significantly different. The curricular and co curricular activities might be a deciding factor in formation the socialisation process.

As the table shows, in most of the dimensions, schools precede over the madarsas. In the government schools the curriculum and the related activities are decided by the educationist and they take all the due efforts for all the developmental dimensions.

Table 5: Mean S.D and *t*-value in the socialisation process of girls schools and girls madrasas

Type of Schools	*N*	Mean	S.D.	df	Obtained *t*-value	Tabulated *t*-value	Significant at 0.05 level	Hypothesis
Schools	30	51.27	5.00	58	7.82	0.000	Significant	Rejected
Madrasas	30	39.03	6.96					

Table 5 indicates the mean and S.D. scores of girls school on the socialisation process. The *t*-value is 7.82, which is significant at the .01 level of significance. The table speaks the wide difference in the score between the socialisation between the two types of scores. The reason might be that the girls madarsas mainly cater the first generation learners and the students of the traditional families. That would probably be why the socialisation process of the two institutes is different.

Table 6: Mean S.D and *t*-value of the dimension wise the socialisation process of girls school and girls madrasa

Dimensions	Type of schools	*N*	Mean	S.D.	df	Obtained *t*-value	Tabulated *t*-value	Significant at 0.05 level	Hypotheses
Personality building	Girls schools	30	8.60	1.28	58	6.79	0.000	Significant	Rejected
	Girls madrasas	30	6.07	1.60					
Training to actual life	Girls schools	30	8.30	1.58	58	3.85	0.000	Significant	Rejected
	Girls madrasas	30	6.83	1.37					
Curriculum	Girls schools	30	8.93	1.26	58	5.92	0.000	Significant	Rejected
	Girls madrasas	30	6.60	1.75					
Co-curricular activities	Girls Schools	30	8.03	1.54	58	6.09	0.000	Significant	Rejected
	Girls madrasas	30	5.50	1.68					
Relations of peer group	Girls schools	30	8.43	1.57	58	2.37	0.021	Significant	Rejected
	Girls madrasas	30	7.30	2.10					
Role of teacher	Girls schools	30	8.97	1.19	58	5.76	0.000	Significant	Rejected
	Girls madrasas	30	6.73	1.76					

Table 6 shows the different dimensions of the socialisation process of girls schools and girls madarasas. The very opening dimension is the personality building. Proceeding to that dimension schools have scored higher than that of madrasas. The difference between the two is statistically significant.

On the second dimension, schools are also having higher score in 'training to actual life' and the difference is significantly different. Schools are providing a rich experience for training in actual life than that of madrasas. On the next dimension, the curriculum and co curricular activities, it is also found that schools and madarsas are significantly different. For better socialisation it is important that the co-curricular activities may be organised so that students may interact amongst them and socialise accordingly.

As the table shows, in all of the dimensions, schools lead over the madarsas in the process of socialisation.

CONCLUSIONS AND RECOMMENDATIONS

The preceding discussion revealed that in the socialisation process the government elementary schools precede over to the madrasas and on the dimension wise it is also found that schools scores higher than that of madrasas. The very interesting finding is that the boys madrasa and boys schools are at equivalence but girls schools and girls madrasa are falling away from each other. The mean difference between the two is at variant. The reasons might be that in girls madrasa the restrictions and constrains much more higher than that of Schools.

The results of the study inspires for further investigation that reasons of that wide difference between the two type of institution.

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A Comparative Study of Computer-Aided Teaching and Traditional Teaching in Science and Mathematics Subjects

Sunil Kumar[1]* and Anil Kumar[2]

ABSTRACT

Aim: *The aim of the present study was to see the effect of Computer-Aided Learning (CAL) on the academic achievement of students in science and math subjects.* ***Sample:*** *148 students from two government senior secondary school located in Dilshad Garden, Delhi of class VI participated in the study. These students were divided in equal number of two groups i.e., 74 in experimental and 74 in control group. In both the groups there were an equal number of boys and girls. Both the groups of students were taught 30 day each.* ***Method:*** *Investigator administered the pre-test achievement test in science and math subjects on 148 students. Test had 30 items (containing fill in the blanks, true false, etc.) carrying one mark each (total test is of 30 marks). Teaching for control group occurred in their regular classrooms. Lesson planning was done in advance for control group. Selected topics and its contents were taught by the investigators as per their scheduled time. Lesson ended with summary and recapitulation. Experimental group were exposed to computer with CD. They were taught with the help of multimedia CD having figures, text, and explanation related to the content. Investigator was present to explain the various concepts taken for teaching by the use of computer and CD-ROM. Teaching occurred for 35 min of a period for 30 day to complete the content assigned by the subject teacher in both control and experimental groups.* ***Findings:*** *Administration of the post-test after the instructional treatment of 30 day was administered to both the experimental and control groups. It was found that the students who were taught through CAL scored high achievement in science and mathematics after treatment.*

Keywords: CAL teaching, Traditional teaching, Achievement in science and mathematics

INTRODUCTION

Teaching is one of the oldest activities in the history of human civilisation. Communication about human experience existed in one form or the other, right from the day's human started to share his experiences with his fellow human beings. However, the systematic way of communicating human experiences began with the establishment of the formal institution of the 'school'. The act of communicating human experiences in the formal situation is called 'teaching' and along with its increasing complexity, it has become the subject of human inquiry. Educationist, philosophers, psychologists, sociologists and scientists have, at different periods of time, tried their best to understand the nature of this human activity called teaching.

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Based on their observations and experiences, they have defined teaching in various ways. It is worthwhile to examine some of the important definitions and understand the nature of teaching.

Although methods of teaching have passed through several developments in the history of pedagogy, teachers all over the world including in our own country, followed fixed ways of teaching in the classroom. It is because the education program for teachers prepares the teacher to follow one of a few fixed ways of teaching, such as the Herbartian Method and so on. Moreover, following a few fixed ways of teaching failed to achieve a variety of instructional objectives, for which teaching is designed and performed. Pupils have multi-dimensional personalities having different learning styles. The common implication of both the facts is the teachers should use different strategies of teaching to match the objectives of teaching and the different learning styles and personalities of students (Singh and Sansanwal, 1991).

TRADITIONAL VS COMPUTER-AIDED LEARNING (CAL)

Traditional instruction is a systematic way of planning, communicating, and delivering content in the classroom. This method provides strong structure to students that help them to concentrate on their academic task. The traditional instructional approach assumes that all students learn in the same way. The role of the learners in traditional instruction as a passive listener, in this context teacher controlled learning environments are considered for delivering instructions.

In CAL, instructions are learner centered and highly individualised that seeks a high level of learner involvement. It is focused and targeted on learner's interest and curiosity. It is flexible to explore diverse possibilities. Many CAL programmes do indeed make use of stimulants like pictures, graphics, sounds, videos, etc. CAL can bring both the best instructional process to the student. It also brings about the convergence of a stimulating and encouraging environment of learning to meet learning objectives.

INFORMATION AND COMMUNICATION IN LEARNING

Information and Communication Technology (ICT) are electronic or computerised devices and associated with human interactive materials that enable the user to employ them for a wide range of teaching and learning processes in addition to personal use. The rapid development in ICT and the use of computer in education have made it easier for users to access, deliver and store knowledge. Furthermore, the ability of ICT to deliver information quickly, correctly and attractively in the form of multimedia has also made learning more enjoyable. An enjoyable learning scenario is a necessity to effective instruction. Besides being an instruction that students enjoy, effective instruction also enables students to acquire specific skills, knowledge, and attitudes (Watkins, 1996).

MULTIMEDIA LEARNING

The modern research in the field of multimedia has often created an unwarranted hype about the superior nature of the multimedia-based learning compared to the traditional teaching methods. However, it is of paramount importance that modern day educationists realise the key factors behind the initial success of multimedia and decipher the key features that

differentiate multimedia-based instruction from the traditional methods. Only after we go through this process we would be able to understand the long-term impacts of multimedia and also realise the ways in which we can create synergy between multimedia and education. Emerging as a precious asset in pedagogy, technology is viewed as a potential element that can influence traditional education. The goals of using multimedia in education are to enhance teaching and learning and to increase the efficiency and effectiveness of the educational organisation. Multimedia has been popular in this age of Science and Technology. It means an integration of sound, still images, animation video, and text along with computing technology.

There is indeed more away from the 'transmission' or 'passive-learner' model of learning to the 'Experiential learning' or 'active learner model'. In some instances teachers may become more like guides and mentors, facilitators of learning, leading students along a learning path, not the primary providers of information and understanding. The students not teachers become the core of the teaching and learning process. This is a sensitive and highly politicised subject among educators, so educational software is often positioned as 'enriching' the learning process, not as a potential substitute for traditional teacher based methods. An interactive use of multimedia in schools involves the students themselves.

SIGNIFICANCE OF COMPUTER-AIDED LEARNING (CAL) AND MULTIMEDIA

A number of studies (Naijar, 1996) have been conducted in the area to ascertain the effectiveness of multimedia instruction. Analysis has been done by Bosco (1986), Fletcher (1990), and Tan and Peggy (2003) by examining over 200 studies. The information included sciences, foreign languages, and electronics. The control group normally learnt the information via classroom or lecture combined with hands-on experiments. The comparison group learnt information via interactive videodisks or computer based instruction. The achievement of learning was measured via test taken at the end of the lessons. Over this wide range of students, meta-analysis found that learning was higher when computer-based education was used. In conventional teaching most of the time is consumed for input output and less time is left for process. However, in teaching with multimedia CD, the input and output time are reduced and process time is increased. When the process time is increased the time of student's activities, discussion, correlation with other subjects, brain storming learning, etc. will increase. When we do teaching with the help of multimedia CD we get more time for the process phase which is more important in a period of 45 min or one hour. At secondary level, the study of science comprise of physics, chemistry and biology. All natural science is later used in applied science like engineering, medical, pharmacy, etc. hence, they need to be properly and clearly understand by the student for their best utilisation in the future.

Now-a-days it is the need to prepare our students for the 21st century. But in the conventional method the text book as the main teaching tool alone is insufficient to meet the need of the students as they find it difficult to visualise the concept and to grasp information that is presented either verbally or in text. The interactive multimedia enhances effective self-learning among students. The concept of theory as well as practical can be taught with the help of animation graphics, sound, etc. for example the basic concept of human body systems can be explained through graphics. However, enjoyable scenario is a necessity to effective instructions.

In order to achieve effective instructions instructor need to create an enjoyable learning environment and one of the methods is to use of multimedia teaching instructions. The use of multimedia enables both synchronous and asynchronous learning. Studies conducted over the years have indicated that the use of multimedia can address different learning styles of students. The investigators felt that multimedia has contributed a lot to the field of education. Coming from a science background it craves investigator to study more about the contribution of education thoroughly. The present research has been conducted to study the contribution and effectiveness of CAL in comparison to conventional methods of learning.

OBJECTIVES OF THE STUDY

1. To study the effect of CAL teaching on the achievement of students in Science subject.
2. To study the effect of CAL teaching on the achievement of students in math subject.
3. To compare the effectiveness of CAL teaching and traditional teaching.

METHOD

In order to make sample representative, a random sampling technique was applied by using 'draw of lots' in which every individual gets equal chances of being selected. Thus, from 332 students of class-VI were matched on their age and sex. Only those students were chosen who were of 11–11.5 years of age and equal number of boys and girls were chosen. Hence, only 176 students were found meeting the matching criterion. Finally 72 students were selected from girls school by using 'draw of lots' technique. Similarly, 76 boys were selected from boys school. The selected students were divided in two groups. Therefore, out of 72 girls 36 were provided CAL teaching in science and math and rest group of girls was provided traditional teaching. Similarly out of 76 boys 38 were provided CAL teaching and rest were provided traditional teaching in science and math.

Phase I: Pre-test

Investigator administered the pre-test in math and science subject on 148 students. Test had 30 items (containing fill in the blanks, true false, etc.) carrying 1 mark each (total test is of 30 marks). Students were asked to fill in the entries, before distributing test papers to them, important instructions were given to them.

Phase II: Treatment

Conduction of pre-test was followed by treatment to experimental group. Conventional method was employed to teach control group. Teaching for control group occurred in their regular classrooms. Lesson planning was done in advance for control group. Selected topics and its contents were taught by the investigators as per their scheduled time. Lesson ended with summary and recapitulation.

Experimental group was exposed to computer and ICT based material. They were taught with the help of computer. Investigator was also present to explain the various concepts taken for teaching through the use of computer and CD-ROM. Teaching occurred for 35 min of a

period for 30 day to complete the content assigned by the subject teacher in both control and experimental groups.

Phase III: Administration of the post-test after the instructional treatment of 30 days, post-test was administered to both the experimental and control groups.

INSTRUMENT

The content of pre-test was related to knowledge about the topics, which they have studied in their previous class V. Pre-test and post-test for this study consisted of objective type test items i.e., fill in the blanks, multiple-choice questions, matching type, etc). In each of the test, there were 30 items, carrying 1 mark each. Test items were based on the objectives of education related to cognitive, affective and psychomotor domains like knowledge, comprehension, application, etc. A post-test was designed from the content of NCERT Science books of class VI. The content was chosen under the assistance of the subject teachers of the selected school. The content was selected which is not taught by the regular teachers of the class VI.

ANALYSIS AND DISCUSSION

Table 1 and Figure 1 reveal that there is a negligible improvement in the result of the students in science and math taught through traditional methods of teaching.

Table 1: The mean score on pre-test and post-test of control group (traditional teaching) science and math

Variables	*N*	Mean score in science	Mean score in math
Pre-test	74	14.40	15.75
Post-test	74	16.15	17.50

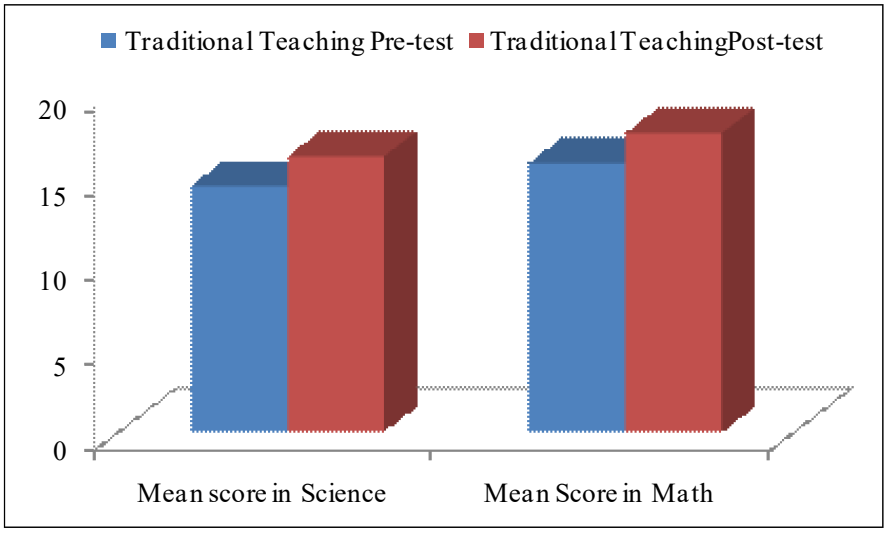

Figure 1: Comparison in pre- and post-test score of science and math of traditional teaching

It is evident from Table 2 and Figure 2 that mean value of pre-test is 14.61 and post-test mean of experimental group is 26.30. Thus, it can be inferred that use of computer aided teaching is effective in learning science in terms of academic achievement. CAL overcomes the physical barriers of classrooms as it enables the students to see visually with various visual, auditory and text based effects.

Table 2: Mean score on pre-test and post-test of (experimental group) in science and math

Variables	*N*	Mean score in science	Mean score in math
Pre-test	74	14.61	15.90
Post-test	74	26.30	27.10

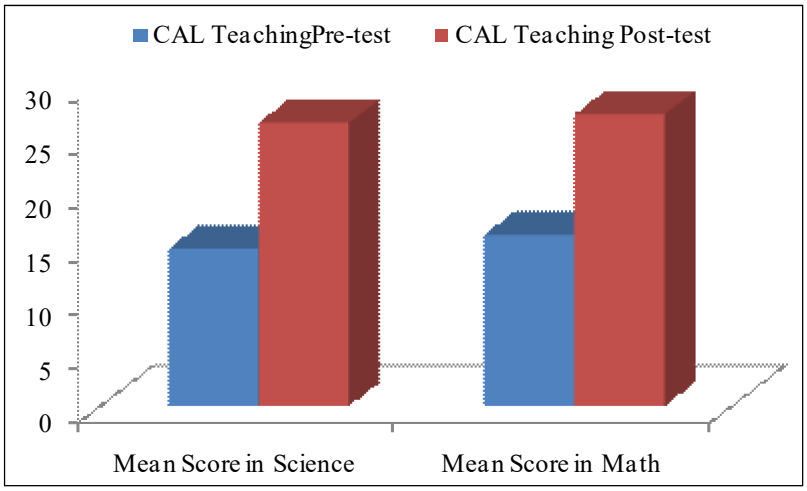

Figure 2: Comparison in pre- and post-test score of science and math of CAL teaching

Table 3 shows mean score of students in science on post-test taught through conventional method is 16.15; whereas, mean score of student taught through multimedia CD is 26.30, similarly mean scores in math in post-test are 17.50 and 27.10 of control and experimental group, respectively. From this it is clear that on an average the performance of experimental group on post-test is found to be better than the control group on post-test.

Table 3: Mean, S.D. of post-test scores and mean difference of control group and experimental group in science and math

Groups	Mean of post-test in science	Mean of post-test in math	S.D. of post-test in science	S.D of post-test in math
Control group	16.15	17.50	10.09	11.70
Experimental group	26.30	27.10	9.16	11.81

Table 4 indicates that the mean of pre-test and post-test of control group and experimental group is 16.15 and 26.30, respectively. Computed standard deviation of post-tests scores for

Table 4: Computed *t*-value of the mean difference of control and experimental group in science

Compared variable	Group	*N*	Mean	S.D	df	*t*-VALUE
Score in science	Control group	74	16.15	10.09	146	6.4070
	Experimental group	74	26.30	9.16		

control and experimental groups is 10.09 and 9.16, respectively. Calculated *t*-value is 6.40 which is greater than the table value at 0.05 level of significance.

Table 5 reveals that the mean in math subject in pre-test and post-tests of control group and experimental group is 17.50 and 27.10, respectively. Computed standard deviation of post-tests scores for control and experimental groups is 11.70 and 11.81, respectively. Calculated *t*-value is 4.9670 which is greater than the table value at 0.05 level of significance.

Table 5: Computed t-value of the mean difference of control and experimental group in math

Compared variable	Group	*N*	Mean	S.D	df	*t*-Value
Score in math	Control group	74	17.50	11.70	146	4.9670
	Experimental group	74	27.10	11.81		

Thus, it can be inferred that CAL is effective in the learning of science and math as compared to the conventional mode of teaching in terms of academic achievement. On the basis of the analysis of the results, the learners in CAL and conventional method for both experimental and control group a set of findings can now be discussed to clarify the effectiveness of these two methods. Thus it has been concluded that CAL based teaching overcomes the physical barriers of classrooms as it enables the students to use computer with various visual, auditory and text based effects in educational that increases the efficiency and effectiveness of the educational organisation as compared to the conventional teaching in which the use of blackboard is the main support.

CONCLUSION

The interactive nature of multimedia provides immediate and comprehensive feedback to students. Leaning form multimedia is an active and engage process. The multimedia system presents stores, retrieves and transmits audio, video graphic and textual information. These kinds of systems can have powerful impact on the learner's problem solving abilities and can generate a positive effect. CAL is increasingly used to complement or replace conventional teaching methods. With the rapid progression in the multimedia technologies, it has become feasible to integrate multimedia technology into the teaching and learning process. What has been the conventional teacher-centered approach is now seeing a shift into one which emphasis is on student-centered learning. Traditional educational content can now be transformed into interactive multimedia content by using authoring packages. It has enabled the teacher to innovate his/her instructional design by presenting the educational content in an interactive and multi-sensory manner rather than the traditional single media format. This infusion of CAL into teaching and learning has altered instructional strategies in educational institutions.

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A Study of Social Intelligence and Mental Health of Secondary Students

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ABSTRACT

An attempt was made in the present investigation to study the effect of social intelligence and mental health of secondary students. One hundred secondary students constituted the sample of the study. Social Intelligence Scale by Chaddha and Ganesan and Mental Health Inventory by Jagdish and Srivastava were administered on the sample to assess their level of social intelligence and mental health. Based on the findings of the study it was concluded that there is no significant difference with regard to the impact of gender on social intelligence and mental health of secondary students.

Keywords: Boys and girls, Mental health secondary students, Social intelligence

INTRODUCTION

Life is full of challenges; human should have the capability to compete through these challenges so as to live a successful life. Education is such a flower of fragrance that spreads enlightenment and removes the darkness of life. It enables a human being to face the challenges. But only an educated person having a sound mental health can do this. To attain a sound mental health he should be socially intelligent as he has to live in this society, which is formed by a group of people around him.

Social intelligence means ability of an individual to react to social situations of daily life. Social intelligence is the ability to adapt one's own self with the environment, people and different situations of life. It does not include the feelings or emotions aroused in us by other people. It is merely our ability to understand others. It is the knack of an individual of meeting people, expressing their views, and understanding the problems of others. The individual will possess an attractive way to present things and his actions are socially approved. He should cope up with difficult situations. His Endeavour's should be such that the desired end is attained. A socially intelligent person is in fact a balanced personality from all dimensions.

A socially intelligent person will possess a sound mental health. Mental health of the learner is very important for efficient learning and proper development of personality. All psychologists, teachers and hygienists agree that primarily family living and experiences play the most crucial role in the harmonious development of the individual. The schools and colleges are second in line in developing the personality with sound mental health. Mental health is a very broad term which includes physical, mental, emotional, and social aspects of adjustment. It is a degree of

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happiness and satisfaction under conditions that warrant such a state of mind and a capacity for making personal and social relationships. A person who is socially intelligent gives a particular direction to his life and thus shapes his future according to his feelings, willingness and desires. He has a control over his mental health and keeps balance in all the situations of crisis which is utmost important step towards success in life. In this way, social intelligence plays key role in guiding our behaviour and shaping our personality.

SOCIAL INTELLIGENCE

'Social Intelligence' is comprised of two words 'Social' and 'intelligence'. Social is related to society whereas Intelligence means the capacity to adjust. Therefore, 'Social Intelligence' is the adjustment ability of an individual to his society, environment, situations, and problems of life. No child is born social. He must learn to make adjustment with others and this ability can be acquired only as a result of interaction with all types of individuals, especially during the years when socialisation is an important phase of child's development. Thus, 'Social Intelligence' means proper attitude towards social setup.

Thorndike (1920) pointed out that there is an aspect of personality that can be called social intelligence distinct from what he has recognised as concrete and abstract intelligence. It means that social intelligence is ability to understand and deal with persons.

More specifically, Daniel (2006) defined social intelligence as : 1) social awareness, which comprises of primal empathy, attunement, empathic accuracy, and social cognition, and 2) social facility which includes synchrony, self-presentation, influence and concern. Drawing on hundred of studies, social intelligence looks into altruism, primal empathy, attachment, rapport and compassion to name a few topics that are emerging from this new field of study.

Psychologists through studies have found that social intelligence has eight different dimensions, which are as follows:

1. Patience
2. Cooperativeness
3. Confidence Level
4. Sensitivity
5. Sense of humour
6. Memory
7. Tactfulness
8. Recognition of social environment.

MENTAL HEALTH

Mental health plays a very important role in the life of an individual. The term 'Mental Health' is an inclusive concept. It includes personality, temperament, behaviour and character. It reflects the true profile of an individual. The expression 'Mental Health' consists of two words 'Mental' and 'Health'. Mental is generally related with the mind. Health generally means

sound conditions or well being or freedom from disease. Mental Health therefore means a sound mental health condition or a state of psychological well being of freedom from mental disease. Mental health in broader sense suggests a degree of happiness.

Mental Health has two aspects individual and social. Mental health is the outcome of five types of health i.e., physical, emotional, moral, spiritual, and social health. Mental health is an important component of total health because it is the cause and effect of the other types of health. The main aim of the life is to establish adjustment with the changes that continuously go on in the environment. In order to achieve this object it is necessary to have an integrated and balanced personality. To attain such a personality, one should have sound mental health. From this viewpoint, any person possessing the following qualities should be considered to be mentally healthy:

1. Person free from anxiety and conflict
2. Fully adjusted
3. Self-confident
4. Self-controlled
5. Emotionally stable.

According to Cutts and Mosley (1941) 'Mental Health is the ability to adjust satisfactorily to various strains we meet in life' and 'Mental Hygiene is the means we take to assure this adjustment'.

According to Lestered and Alice (1951) 'Mental Health includes physical well being, adjustment to mental ability, emotional control, social adjustment, and sex adjustment'.

According to Carter (1959) 'The wholesomeness of the mind' analogues to the wholesomeness of the body implicit in physical health.

According to Kamar (1992), 'Sound Mental Health must comprise not only freedom from emotional disturbance and mental disorders but also an ability of function to the maximum levels of one's interest and capabilities. This entrails striving after fulfillment of elementary needs for the actualisation of one's potential'.

Thus, mental health is a state of one's peace of mind, happiness and harmony brought out by one's level of adjustment with his self and his environment.

REVIEW OF LITERATURE

Kaur conducted a study 'An investigation into the social intelligence as a function of family system' and found that significant difference exists between children of nuclear and joint family system with respect to different dimensions of social intelligence.

Kakkar (2002) conducted a study 'Social intelligence as a determinant of life satisfaction' and found that there exists a significant relationship between life satisfaction and social intelligence.

Kaur (2005) conducted study on 'Self-disclosure as related to mental health'. And found that there is no significant relationship between self-disclosure and mental health of adolescents.

Kaur (2005) conducted a study on 'Mental health as related to teacher adjustment' with a sample of 100 teachers and found that there exists a significant relationship between mental health and adjustment of teachers.

Social intelligence focuses on the intimate connection between two human minds. Various association and relationships of social skills and social intelligence with other related variables, like mental health, adjustment, victimisation etc., have also been studied by Lawrence (2006), Marjut (2007), Tony (2002) and Grills and Ollendick (2002). Karl (2007) reported that emotional climate of the classroom is dependent on the social and emotional competence of the teacher in managing the variety of complex interactions required with each member of the class in an equitable fashion.

NEED AND IMPORTANCE OF STUDY

Modem world or age is the age of science and technology. In spite of so many advancements, human is not happy; rather it has made life more complex. Man has become a victim of confusion and mental illness. The aim of education is not merely imparting bookish knowledge but to make youth good citizens by bringing about his physical mental, social and intellectual developments, so it is an important function of education to make the students socially intelligent so that they may become the mentally healthy personalities of the society. Socially intelligent person is always successful in almost all kinds of work environment, where interpersonal relationships are required. A socially intelligent person is able to understand the social situation of others and mould his approach according to the requirement of the situation by using good mental health. A socially mature person is very co-operative with others who can make friends, who has good emotional control and moral standards or in other words possess a good mental health. Social intelligence is the ability to deal effectively and tactfully with large numbers of other brains, successfully and simultaneously. Social intelligence is of greater importance and is very much ensured by the teacher. It is an ability to get along well with others and to get them to cooperate with you. Our ability to connect with fellow humans influences us in deep and immediate ways. In life, mental health plays an important role to compete in this ever-changing world. There is hardly any area of life where mental health will not play any role .A significant positive relationship is found between social intelligence and mental health. Since a very few number of studies on this topic have been conducted. Keeping in view the importance of social intelligence and mental health of students the study has been undertaken by the investigator to measure the impact of social intelligence on mental health.

STATEMENT OF THE PROBLEM

'A Study of Social Intelligence and Mental Health of Secondary Students'

OBJECTIVES OF THE STUDY

1. To study the social intelligence of the secondary students in respect to their gender.
2. To study the mental health of the secondary students in respect to their gender.

HYPOTHESIS

1. There would be no significant difference in social intelligence of secondary students in respect to their gender.
2. There would be no significant difference in mental health of secondary students in respect to their gender.

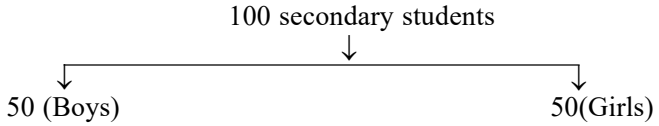
SAMPLE

The sample of 50 secondary students was taken of Greater Noida city only.

DESIGN OF THE STUDY

The present study will be descriptive survey, which will be conducted on secondary students of Greater Noida city.

The investigator will classify the sample into two categories of boys and girls by randomly selecting the secondary students.



TOOLS

Following tools were used

1. Social Intelligence Scale by Chaddha and Ganesan (2004),
2. Mental Health Inventory by Jagdish and Shrivastava (1983).

STATISTICAL TECHNIQUES USED

The statistical techniques such as mean, standard deviation, *t*-test were calculated for secondary boys and girls students.

DELIMITATION OF THE STUDY

1. The study will be restricted to Greater Noida city only.
2. The study will be restricted to 100 secondary students only.

RESULTS AND DISCUSSION

The results in Table 1 show the difference between boys and girls with regard to social intelligence. Girls seem to be with high social intelligence, but the difference is not significant

Table 1: Difference between boys and girls in social intelligence

Group	Mean	SD	*t*-value	Remarks
Boys	37.69	4.12	–	Not significant
Girls	38.22	4.29	1.09	

statistically (t=1.09). Therefore, the hypothesis that there will be no significant difference in social intelligence of secondary students in respect to their gender is accepted.

Table 2: Difference between boys and girls in mental health

Group	Mean	SD	*t*-value	Remarks
Boys	17.02	5.04	–	Not significant
Girls	15.86	4.9	2.02	

The results in Table 2 show the difference between boys and girls with regard to mental health. Girls seem to be not more mentally healthy than boys, but the difference is not significant statistically (t=2.02). Therefore, the hypothesis that there will be no significant difference in mental health of secondary students in respect to their gender is accepted.

SUMMARY OF FINDINGS

- There is no significant difference between boys and girls with regard to their social intelligence.
- There is no significant difference between boys and girls with regard to their mental health.

Secondary school students are the future of the nation and their importance cannot be neglected. They are going to face a new challenging environment. If they will try to make themselves more socially intelligent as well as mentally healthy, they will be able to overcome the adversities in their life to become successful.

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Is In-Service Training A Determinant for Changing the Teaching Attitude of Teachers? An Experiment in Indian Schools

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ABSTRACT

Aim: *This study aimed to evaluate the difference in the teaching attitude of teachers using traditional teaching and constructivist teaching approach in the class.* ***Method:*** *The experiment for the present study was carried out in the two government schools of Delhi. These schools were selected by using 'draw of lots' technique of sampling. Twenty teachers were selected from each sampled school. One group of 20 teachers was given orientation in traditional teaching and other group was trained in constructivist approach of teaching. The training of this constructivist group was provided for 8 week which was divided into training and practice phase. After completion of this 8-week phase of training and practice, the data was collected and compared using Ahulwalia (1999) teaching attitude inventory.* ***Findings:*** *The study revealed a significant difference in the attitude of teachers in pre- and post-mean and S.D scores on Teaching Attitude Inventory. Empirical findings also showed that training brings a favourable change in the attitude of the teachers.*

Keywords: Constructivist, In-service training, Teaching attitude

INTRODUCTION

Constructivism is a theory of learning which advocates that we learn from experiences or learning by doing. Its central idea is that human learning is constructed, that means learners construct new knowledge upon the foundation of previous learning.

This theory assumes that the learners should play an active role in the process of learning or cognitive development by constructing their own knowledge on the basis of their past experiences and their present interaction with the environment.

It is believed that a learner can learn only when he is able to construct the required knowledge by himself individually or socially, thus it is the main focal point of the philosophy of constructivism.

Formal education has somehow come to imply only the use of the traditional methods. Besides, these are also some other unconventional methods, the use of which is more an exception than the rule. These approaches nevertheless possess a powerful potential for imparting learning, which is easily digestible by the learners, to become an internalised part of them. This is

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because most of them involve the active involvement of learners in the process of the acquisition of knowledge and other competencies. These methods also enrich the learners because they become participatory crusades of learning, where individuals are enabled to learn through the joint outcomes of their individual's efforts or the effort of their teams and the contributions that each one makes to the learning programme.

As the approaches are basically learner-based, the teachers stand to gain by way of saving their time and effort in dishing out information to the students. Therefore this must be an additional motivation for the teachers to use them for economising on their workload and at the same time successfully reaching their sole goal of ensuring abiding learning on the part of the students. Furthermore, the freedom and flexibility that allow both the teachers and the learner not to shackle the learning process by any rigid rules or standardised procedures. This is something that often turns the frequently caused pain of learning into a joyful pursuit. Of these, some of the main approaches are attempted to be explained below in general terms. The teacher should feel free to make the needed adaptations in them to suit the special needs of their specific situations.

According to Jenkin

'Constructivists of different persuasions hold a commitment to the idea that the development of understanding requires active engagement on the part of the learner'.

Thus, it can be concluded in the, words of, Bruning and Schraw that the term constructivism more often emphasises, 'the learner's contribution to meaning and learning through both individual and social activity'.

J. Bruner is considered to be a founding father of constructivism. He states that learning is an active process, in which learners construct new ideas or concepts based upon their current or past knowledge. The learner selects and transforms information, construct hypotheses and make decisions, relying on cognitive structures to do so. Cognitive structure i.e., schema, mental models provides meaning and allows the individual to go beyond the information given.

The instructor and student should engage in an active dialogue. The task of the instructor is to translate information to be learned into the format appropriate to the learner's current state of understanding.

TEACHINGATTITUDE

The attitude of teachers is considered as important factor in the teaching–learning process in the classroom. Their attitude is linked with students' attitude, which in turn is associated with her/his achievement and personality dimensions. Consequently, research on teaching is becoming more concerned with the problem of determining the effects of the teacher's perception which are strong reasons for believing the teacher's attitude towards his/her pupils, e.g., his/her expectations from them will influence their achievements. Here can be no doubt that personality in the attitudinal sense is a factor in teaching behaviour. Therefore, the expectations that teachers have from their students and the assumptions they make about their potential have a tangible effect on student achievement. Research 'clearly establishes

that teacher expectations do play a significant role in determining how well and how much the students learn'.

Teachers play a vital role to pivot in any teaching learning situation. A well competent teacher by his implication makes the teaching–learning process so effective that it helps to achieve the decided goal of teaching with a better quality. An effective teaching–learning process depends upon the personal competency of the teacher, professional qualification, his attitude towards students, level of motivation, interest and ability to interact with the parents and community members, etc.

According to International Dictionary of Education, the term attitude may be defined as a Predisposition to perceive, feel or behave towards specific objects or certain people in a particular manner.

Aiken (2000) described attitude as a learned predisposition to respond positively or negatively to a specific object, situation, institution or person.

These definitions suggest that attitude can be understood as an emotion that has an influence on the behaviour of human beings. Attitude affects people in everything they do and in fact reflects what they are; hence, a determining factor of people's behaviour. Therefore, in my study operational definition of attitude is a predisposition to respond to a particular object (here constructivist training approach) in a generally favourable or unfavourable way. It will be seen in the long-term impact i.e., change in attitude post-test scores.

Training

Teaching is in fact hard skilled professional works for which study, training and practice of all the tricks of the trade are necessary for the full efficiency, which will give full satisfaction and a sense of achievement to both the teacher and the learner. Good instruction makes difficult subjects easy to learn, but bad instruction makes even easy subjects difficult to learn. Thousands of course are being organised all over the country in technical institutions and firms and government departments specialist are frequently called upon to run or help with such course at short notice having had little or no training for the work and often with little previous experience as instructors.

Although the techniques used in training require a good deal of pedagogical wisdom and experience, the whole subject is of applying common-sense to the principles of good communication and human-management, which have proved to be most effective in achieving the specific objectives of training, namely to make the human on the course a better and happier man at his job, to improve teamwork and to increase production.

RATIONALE OF THE STUDY

Researchers proclaim that attitude is one of the most important components of teacher competence. Therefore, it can be said that teacher attitude can be changed in favour or disfavour of something, if given training for a certain time period. Therefore, the present study has been focussed to find out the difference in the attitude of the teachers after training. This study is done because today also teachers are using the traditional approach of teaching

and needed to change to a constructivist approach, where learners are constructor of knowledge and teachers work as a facilitator. Hence, in this research paper it has been seen that whether the training approach of constructivism to in service elementary teachers will change their attitude or not.

It should also be pointed out that this is the first research work, where the researchers organised the in-service training to the teachers and then seeing its effect on their attitude and achievement of the students. Here, the researchers are not only imparting training but also seeing whether the training has been practically used by the teachers in their classroom, which indirectly came out to be seen in the achievement scores of the students as well as in the attitude scores of the teachers.

OBJECTIVE AND HYPOTHESIS OF THE STUDY

The following objective and null hypotheses have been formulated for testing:

Objective 1:

To study the teaching attitude of teachers using traditional teaching and constructivist teaching in the class.

Hypothesis 1:

There is no significant difference in the teaching attitude of teachers teaching through traditional approach and constructivist approach of teaching.

METHODOLOGY

Random sampling was used in the present study. Teacher Attitude Inventory of S.P Ahulwalia was used as a tool to collect the data from the teachers.

This inventory is a 90 item Likert instrument consisting of six sub-scales. These sub-scales were developed the Likert summated ratings procedure. Each scale has 15 statements that pertain to a particular aspect of prospective and practising teacher's professional attitudes. The six aspects dealt within the inventory are, attitude towards:

I) Teaching profession
II) Classroom teaching
III) Child-centered practices
IV) Educational process
V) Pupils
VI) Teachers

Sample

Two government schools of Delhi were selected by using 'draw of lots' technique of sampling. From these two schools, a sample of 20 in-service teachers from one school and 20 from another school teaching the elementary classes were selected. Data was collected by administering Teaching Attitude Inventory developed by S.P. Ahulwalia.

RESULTS AND DISCUSSION

Objective 1:

To study the teaching attitude of teachers using traditional teaching and constructivist teaching in the class.

Table 1: Mean and S.D score on pre- and post-test on teaching attitude inventory

Teaching approaches	*N*	Mean pre-test	Mean post-test	Standard deviation pre-score	Standard deviation post-score
Traditional approach school	20	238.05	239.45	7.9	8.6
Constructivist approach school	20	235.6	260.5	9.1	15.8

From Table 1, it can be seen that the traditional approach school's pre-mean score on teaching attitude inventory is 238.05 and post-mean score is 235.6. And traditional approach standard deviation pre-score is 7.9 and post-score is 8.6. It means that after orientation of the traditional group the mean score of teachers on teacher attitude inventory has risen up slightly. Whereas, the constructivist approach school pre-test mean score on teaching attitude inventory is 235.6 and post-mean score is 260.5. And constructivist approach standard deviation pre-score is 9.1, whereas, post-score is 15.8. Here, it is evident that after the training programme given to the teachers, the mean score on teaching attitude inventory increased. Hence, training of the constructivist approach to the teachers was beneficial and enhanced their teaching attitude scores.

Hypothesis 1

There is no significant difference in the teaching attitude of teachers teaching through traditional approach and constructivist approach of teaching.

Table 2: '*t*'-Test score of post-test on teaching attitude

Variable	Compared groups	*N*	Mean	S.D	df	'*t*'-Test	Level of significance
Teaching Attitude	Traditional approach of teaching	20	239.45	8.6	38	5.233	0.01
	Constructivist approach of teaching	20	260.5	15.8			

From Table 2 it can be seen that the mean post-score on teaching attitude inventory for traditional group is 239.45 and for constructivist teaching group is 260.5. The obtained *t*-value is 5.233, which is higher than the table value at 0.01 level of significance. Therefore, the null hypothesis that there is no significant difference in the teaching attitude of teachers teaching through traditional approach and constructivist approach of teaching is rejected.

Therefore, it is inferred that there is a significant difference in the teaching attitude of teachers teaching through traditional approach and constructivist approach of teaching. As teaching attitude score rise up significantly for the constructivist teaching group as compared to the traditional approach of teaching.

CONCLUSION

The findings of this study revealed that the teacher's undergone constructivist training approach got a higher mean and standard deviation scores on teaching attitude inventory as compared to teachers following conventional teaching approach. It would not be wrong to say that the training have helped the teachers to get a more positive attitude towards teaching, thereby increasing their mean and S.D score on the attitude inventory developed by S.P Ahulwalia.

Also, it has also been found that the trained teacher's pre-mean and S.D scores on teaching attitude inventory were less than their post-mean and S.D scores. Hence, it is true that if the teachers are trained their attitude towards teaching can be significantly increased. Therefore, the government should take initiatives from time to time towards this purpose of initiating the teacher's growth by organising in-service training courses for the teachers at various levels of education.

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Youth Problems of B.Ed. Students Studying in Self-Financed Private Colleges

Mohsin Ali Khan

ABSTRACT

The present study aims to reveal the youth problems of B.Ed. students studying in self- financed private colleges. A data of 120 pupil teachers (60 male and 60 female) was taken through purposive random sampling from six self-financed private B.Ed. colleges affiliated to CCS University Meerut. A standardised tool, youth problem inventory by Km. Sandhya Sharma was used to collect the data. Major findings of study indicated that majority of male pupil teachers (73%) have shown average level of youth problem and only 15% of them come under high level youth problem category. Whereas, 30% female pupil teachers have shown average level, 63% have shown low level of youth problem, only 3% of them show high level of youth problem. A significant difference (t-value 3.49) clearly indicates that male and female B.Ed. students have different levels of youth problems, where males are more sufferer than females. None of male B.Ed. student was found under without any problem category. Whereas, 6% female B.Ed. students were found under without any problem category. It was concluded that majority of male B.Ed. students have shown more youth problems as they have more family, social and peer pressure than the female B.Ed. students.

Keywords: B.Ed. student, Corruption, Education, Job, Self-financed college, Social pressure, Youth problem

INTRODUCTION

A developed nation is known for its strength of education and economy where both the aspects are very much inter-related and without the progress of youth one cannot think about the development. The process of education tries to bring the desirable changes in the behavior of a child or man in accordance with aims of the society and nation. Youth are the hope for future of the world or in other words the future of the world lies in the hands of the youth. They are the pillars who build up the nations. They are the resources of our country and the development of our nation depends on their empowerment. History is evident for several revolutions happened in the world, which had changed the destiny of those nations. This was only possible because of the power of our youth since they are a great asset for any nation.

In the midst of their strong and stubborn nature, we realise the fact that there are several problems among the present day youth. These problems are most often psychological and are developed during their stages of development. There is no other way but to recognise, identify and find out remedies to such problems of them. Approximately 600 million populations in

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India are younger than 25 year of age and close to 70% of the total population is less than 40 year of age. Near about 40% of the Indian population is aged between 13 and 35 year that is defined as youth according to the National Youth Policy (Kakkar and Chaudhry, 1970). Such a huge population of young is not only exceptional in India but also in the World.

SOME KEY CONCERNS FOR TODAY'S YOUTH

Education

First and the foremost concern of today's youth in India is education. Indian youth demands for better education, employment driven training and brighter future. Youth also want that skill-based education and job placement should be a part of every higher institution. More emphasis should be laid down on career oriented courses and there should be a connection with real life scenario rather than just bookish Buch (1988). Youth from non-urban setting generally lacks good communication skills. This is also one of the major concerns because it acts as an obstacle on the way to get job and progress.

Job

Youth unemployment in India is on rise. According to the World Development Report 2013, 9% of males and 11% females aged between 15 and 24 year are unemployed. As per data of 2009–2010, 9.7% of young men and 18.7% of young women in India were unemployed. At global level, chances of youth being unemployed is three times more than adults. Global financial crisis hit youth first then adult (George, 1972). Also, as per NSSO survey, youth unemployment among illiterate is less as compared to educated youth. Because illiterate youth is willing to do all sorts of work whereas educated ones look for jobs in their respective field only. Young graduates suffer the most as far as getting job is concerned.

Corruption

Today's youth is concerned with the issue of corruption more than anything else and that is why most of the protestors in the recent Anna Hazare's campaign against corruption were the Indian youth. Mr Ratan Tata once said, "The youth of today will need to recognize that they shoulder a great responsibility. They will need to fight for rooting out corruption, for ensuring that no one is above the law and uniting the citizens of India as 'India first' instead of communal or geographic factions". Though fighting against corruption is the responsibility of every citizen but youth by virtue of their nature and energy participate more in this cause. Corruption should be rooted out of country.

DEFINITIONS OF KEY TERMS

Youth Problems

The problems of youth related to personal, economic, family and social affairs, limit the energy and productivity of youth.

B.Ed. Course Students

The graduate or post-graduate students doing B.Ed. teacher training course from recognised self-financed colleges.

B.Ed. Self-Financed Colleges

The privately managed colleges are those who run B.Ed. teacher training course under the guidelines of NCTE and are affiliated to any state government university.

NEED OF THE STUDY

Due to rapid urbanisation and fast growing world, the needs and aspirations of youth are also changing, causing more stress and anxiety in them, doing more harm to our society and ultimately the nation, Mangal (2008).They face some more problems which are being related with their education, economy, family and finally with society. Family and societal pressure also become a great constraint in their personal and professional life. There are several problems, which our youth is facing in their day-to-day life. Most often they get disturb, get stressed which may lead to anxiety and depression. They face some more problems which are being related with their education, economy, family and finally with the society (Rao, 1992).

In present study an attempt was made to find out the general youth problems of B.Ed. students studying in self-finance private colleges of NCR Ghaziabad. Moreover, study will provide significant difference in youth problems between male and female pupil teachers and will also give some useful suggestions to cope up with these problems.

STATEMENT OF THE PROBLEM

Study of youth problems of B.Ed. course students studying in self-financed private colleges.

OBJECTIVES

1. To study the status of youth problems of B.Ed. course male students studying in self-financed private colleges.
2. To study the status of youth problems of B.Ed. course female students studying in self-financed private colleges.
3. To find out the difference in youth problems between male and female B.Ed. course students studying in self-financed private colleges.

HYPOTHESIS

The null hypothesis (H0) was formulated for the present study.

Null Hypothesis (H0-1)

'There is no significant difference in youth problems between male and female B.Ed. course students studying in self-finance private colleges'.

Design of The Study

The present study is descriptive in nature and normative research survey method was applied for data collection.

Population

All self-financed private B.Ed. colleges of NCR Ghaziabad affiliated to CCS University Meerut, Uttar Pradesh have been constituted the population for the study.

Sample

The purposive quota sampling technique will be used to select the B.Ed. students of age group of 25 year. A total of 120 students (60 male and 60 female) were selected from four B.Ed. self-financed private colleges of NCR Ghaziabad.

Tools Used

A standardised tool, Youth problem inventory by Kumari Sandhya Sharma, Ex research scholar department of psychology, Agra University was used for data collection.

Procedure of Data Collection

The Researcher went personally to the selected four B.Ed. self-financed private colleges of NCR Ghaziabad to seek the permission from the principal/head of these colleges to conduct the study.

There is no time limit to fill the questionnaire by the respondents but researcher gave 45 minutes to complete it by giving their true reactions to each item given in the questionnaire.

Procedure of Data Analysis

The analysis and interpretation of relevant data will be done quantitatively and qualitatively by using appropriate statistical techniques; the percentage, mean, standard deviation, tables and *t*- test was used to analyse the data and interpret the results.

Tabular Presentation of Analysed Data

Data is the main source of any research, thus its classification and arrangement should be done cautiously to get useful results, Singh and Bajpai, (2007). Generally, data are being kept in lists and tables so that we can understand and analyse them as per the need of research. For analysing the data table helps a lot to summarise results. Following tables were constructed to present the analysed data:

Table 1: Level number and percentage of male student's youth problem

Youth problem levels	Number of student *N*=60	Percentage of student (%)	Interpretation/results
High level	09	15.00	15% students show high level of youth problem
Average level	44	73.00	73% students show average level of youth problem
Low level	07	12.00	20% students show low level of youth problem
Very low level	00	00.00	None of students show very low level of youth problem

Interpretation As Per The Objectives

As per the first objective of the study, Table 1 shows the level of youth problem of the selected male students of B.Ed. course studying in self-financed private college of NCR Ghaziabad. Keeping in mind the obtained raw scores of all students it was concluded that, Fifteen per cent (15 %) students possess *high level of youth problem,* whereas 73% students show *average level of youth problem*. Only 12% students have shown *low level of youth problem*, whereas none of the student was recorded in *very low youth problem* category (no problem category).

Table 2: Level number and percentage of female student's youth problem

Youth problem levels	Number of student *N*=60	Percentage of student (%)	Interpretation/results
High level	02	03.00	Only 3% students show high level of youth problem
Average level (no problem)	18	30.00	30% students show average level of youth problem
Low level	34	57.00	57% students show low level of youth problem
Very low level	06	10.00	10% of students show very low level of youth problem

As per the second objective of the study, Table 2 shows the level of youth problem of the selected female students of B.Ed. course studying in self-finance private college of NCR Ghaziabad. Keeping in mind the obtained raw scores of all students it was concluded that, 3% students possess *high level of youth problem,* whereas 30% students show *average level of youth problem*. Majority of students (57 %) have shown *low level of youth problem*, whereas 10% students were reported in *very low youth problem* category (no problem category).

Testing of Hypothesis

As per the third major objective of the study, Table 3 reveals a big difference in the mean (39.79) and standard deviation (33.86) values of data related to youth problem level, that is reflected in calculated *t-value as 3.49*,* which is *significant** at both levels of confidence (0.01 and 0.05). Therefore, as per the *Null hypothesis;* **"**there is no significant difference in level of youth problem between male and female B.Ed. course students studying in self-financed private college of NCR Ghaziabad'' was *strongly rejected.* With the result, it was

Table 3: Comparison of youth problem between male and female B.Ed. students

Type of student	Sample size (*N*)	Mean score (*M*)	Standard deviation (S.D.)	Degree of freedom (D.F)	Significance difference *t*-value	Result/ inference
Male	60	96.58	82.49	*N*1+*N*2–	*t* = 3.49	**Significant*
Female	60	56.79	48.63	260+60–		*at 0.01 and*
Total	**120**			**2118**		*0.05 levels*

concluded that the level of youth problem of female students was found low as compare to the male students.

FINDINGS AND RESULT DISCUSSION

Major findings of the present study are being listed as follows:

- The overall result shows that majority of the male B.Ed. students show high and average level of youth problem, which could be due to their gender, nature, family and social life.
- None of the male student was reported in very low or no youth problem category, which indicates that, males are more susceptible to all kind of problems than females.
- None of the male student was found under very low level (no problem) of youth problem category. Whereas 10% female students showed very low level or no problem category.
- As per the first objective of the study the status of youth problem of male B.Ed. students studying in self-financed private college of NCR Ghaziabad was found; under high level (15%) and average level (73%) of youth problem category. Only 7% students were reported in low level of youth problem. None student was found under very low level or no youth problem category.
- As per the second objective of the study the status of youth problem of female B.Ed. students was found under high level of 3% and an average level of 30%.Whereas majority of female students 67% were reported in low level and very low level of youth problem category.
- As per the third main objective of the study, the value of significance difference (*t*-value) was calculated as *t= 3.49* which is *significant** at both levels of confidence (0.01 and 0.05 level). Thus, the null hypothesis; **'**There is no significant difference in level of youth problem between male and female B.Ed. course students was strongly '*rejected'***.**

EDUCATIONAL IMPLICATIONS

Youth problem is a common problem in the world and it effects the adjustment of all students specially adolescents and adults.

- The major findings of the study reveal that a high degree of significance difference was seen in level of youth problem between male and female students of B.Ed. self-finance course, which indicates that male need to be identified who are in any kind of problem and also there problem be sorted out by the concerned teachers and parents.
- The past academic results of school boards and other professional exams of higher education also reveal that female students do much better than males since they are more serious in their studies and less worried about the other social and personal affairs.
- The results of present study may provide the feedback to all teachers and parents to understand the trend of today's youth needs and their life style for proper counseling.

- There is an imperative need to check out the youth problems of all education level students, so that their problems could be identified early and also be sorted out on time by the teachers and their parents.
- This could only be possible when all concerned teachers, parents and principals should take care of each student in academic and social settings to get desired results from the youth of any professional course.

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Mixed Methods Research on Knowledge Management Strategies of Teacher Educators

Abha Marathe

ABSTRACT

Knowledge management strategies, essential in the present knowledge driven economy, are significant for an educational institute since knowledge is the fundamental unit on which it is built. These strategies are influenced by the prevalent organizational culture. This mixed methods sequential explanatory study investigated the existing knowledge management strategies adopted by teacher educators and developed a model of knowledge sharing. The quantitative phase was explored for differences in knowledge management strategies among teacher educators on the basis of their qualification and years of experience and also investigated the relationship between these strategies and organizational culture with a sample size of 83. The qualitative phase developed a model of knowledge sharing chain reaction using grounded theory with theoretical sampling.

Keywords: Knowledge management, Knowledge sharing model, Mixed methods research, Grounded theory, Organizational culture, Teacher Education, Knowledge sharing strategies

INTRODUCTION

The concept of knowledge management has gained prominence in the last two decades. It has survived the controversy of being a fad and has emerged as a valuable management function. The process of knowledge management consists of three major activities: knowledge creation, knowledge codification and knowledge transfer. Educational institutes are constantly engaged in these processes without any conscious awareness and therefore, it is important that knowledge management systems are applied to streamline the knowledge creations and knowledge sharing processes. Teachers are the key players in any educational institute. They are also a rich source of tacit knowledge. Examples of teachers' tacit knowledge are their ability to modify their teaching strategy when their students have not grasped the topic and their ability to model any existing teaching technique to match different learners. Unfortunately, such knowledge and many more, are lost when any teacher leaves the institute. Quite often, it may also happen that a teacher creates a new knowledge but it goes unnoticed because there was no system in place to capture the tacit knowledge. Therefore, educational institutes need to apply knowledge management system to manage tacit knowledge of teachers. However, before any formal system is introduced it is important to know the existing strategies of knowledge management adopted by teachers. Though these would be informal, it could provide a valuable insight in creating a new system. There have been studies on knowledge management in the

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field of education highlighting its importance. Haryani and Alias (2011) conducted a grounded theory research on knowledge internalization among academicians, Buckley and Du Toit (2009) conducted a grounded theory research on possible reasons preventing faculty members of management studies from participating in Communities of Practice (CoP) and Blankenship and Ruona (2008) explored the knowledge sharing among members of CoP in a large urban school, but there were no researches to study the existing strategies of knowledge management of teachers.

KNOWLEDGE MANAGEMENT AND ORGANIZATIONAL CULTURE

Organizational culture heavily influences the knowledge sharing process in any organization (Davel and Snyman, 2005; DeLong and Fahey, 2000; Leidner *et al.*, 2006; Davenport and Prusak, 2000; Syed-Ikhsan and Rowland, 2004). Organizational culture is the basic underlying assumption, which guides the values held by the employees (Schein, 1990) and therefore, if the organization values the process of knowledge sharing, more than hoarding, a knowledge sharing culture will flourish. Introducing a knowledge management system without the knowledge of the existing culture will only backfire the efforts. It is also not easy to change the culture of an organization. Therefore, before any new system of knowledge management is introduced, it is important to study the prevailing system in the existing culture. It is important to know how teachers create and share knowledge in the prevailing organizational culture.

This mixed methods research therefore attempts to explore the existing knowledge management strategies of teacher educators, its relationship with organizational culture and develop a knowledge-sharing model for teacher educators using grounded theory.

RATIONALE FOR USING MIXED METHODS RESEARCH DESIGN

The focal point of this research was to develop a model of knowledge sharing for teacher educators. Adopting a pragmatic worldview (Creswell and Clark, 2007; Teddlie and Tashakkori, 2009), Mixed Method Explanatory Design – follow-up explanation model given by Creswell and Clark (2007) was chosen. Grounded theory for the qualitative phase helped the researcher to generate a theory explaining the strategies adopted by teacher educators in managing their knowledge within a prevalent organizational culture.

METHOD

The study was conducted in two phases. The first phase was quantitative phase, which identified the difference between knowledge management strategies of teacher educators on the basis of their qualification and years of experience and ascertained its relationship with organizational culture. The second phase was qualitative in which grounded theory was used to develop a theory of knowledge management strategies. The results of the quantitative phase served as a guide to select the samples for the qualitative phase. Tool was constructed such that higher scores reflected better knowledge management strategies and so teacher educators scoring high in the quantitative phase were selected as samples for the qualitative phase. Both the phases were given equal priority (Creswell and Clark, 2007).

Sampling and Data Collection

Quantitative Phase

Stratified random sampling was used to collect data from 83 teacher educators from teacher training colleges across Mumbai city, using a tool prepared by the researcher based on the dimensions given by Organizational Knowledge Assessment (OKA) tool (Fonseca and Fonseca, 2006).

The tool had 69 items which assessed knowledge management strategies on five dimensions namely, knowledge and incentives, knowledge identification and creation, knowledge sharing, communities of practice and knowledge teams and knowledge and learning. Responses to all items were measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The tool had a reliability of 0.85.

Data for organizational culture was collected using the tool prepared by Hee-Jae (2000) on Denison's (1990) model of organizational culture. There were 60 items measuring four underlying traits: Involvement, Consistency, Adaptability and Mission. Responses to all items were measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The reliability of the tool was 0.87.

There were 27 teacher educators with less than three years of experience and 56 with more than three years of experience. Teacher educators with doctorate degree were 13.

Qualitative Phase

Following sequential sampling, teacher educators scoring high in the quantitative phase were selected for the theoretical sampling (Corbin and Strauss, 1990) in the qualitative phase. Data for grounded theory was saturated (Corbin and Strauss 1990) with 12 teacher educators. Consent from (Lichtman 2013; Teddlie and Tashakkori, 2009) the participants was taken for data collection.

Research questions, which guided data collection in this phase were:

1. What were the strategies of knowledge management adopted by teacher educators?
2. What were the factors that influenced these strategies?

Data Analysis

Quantitative Phase

The difference in the knowledge management strategies of teacher educators on the basis of the years of experience and educational qualification was investigated using the *t*-test. Pearson's product moment coefficient was used to investigate the relationship between organizational culture and knowledge management strategies.

Qualitative Phase

The grounded theory model of Corbin and Strauss (2008) was formed the basis of analysis in the qualitative phase. Interviews were transcribed verbatim. The transcripts were read line-

by-line and labeled into codes. Constant comparative technique (Corbin and Strauss) was used to identify similarities and differences between the codes and appropriate categories were formed (Saldana 2009). After identifying the core phenomenon, the casual conditions, strategies, barriers and consequences for the phenomenon were identified. Transactional validity approach (Cho and Trent, 2006) was used to validate the data, using member checking and investigator triangulation. To protect the identity of the participants all the 12 teacher educators were named with letters from 'A' to 'L'.

RESULT

The present research being a sequential mixed methods research, results for the quantitative and qualitative phase are reported separately and then merged in the Discussion (Mertens, 2010).

Quantitative Phase

It was found that teacher educators with more than three years of experience had better knowledge management strategies as compared to those with less than three years of experience (t (81) = 3.78, p<0.01). Teacher educators with Ph.D. qualification demonstrated better knowledge management strategies as compared to those without the Ph.D. qualification (t (81) = 2.21, p<0.05).

Knowledge management and organizational culture were significantly correlated, r = 0.41, p<0.05. The result of correlation between organizational culture and all the dimensions of knowledge management strategies is shown in Figure 1. Organizational culture was significantly related to all the dimensions except knowledge and learning.

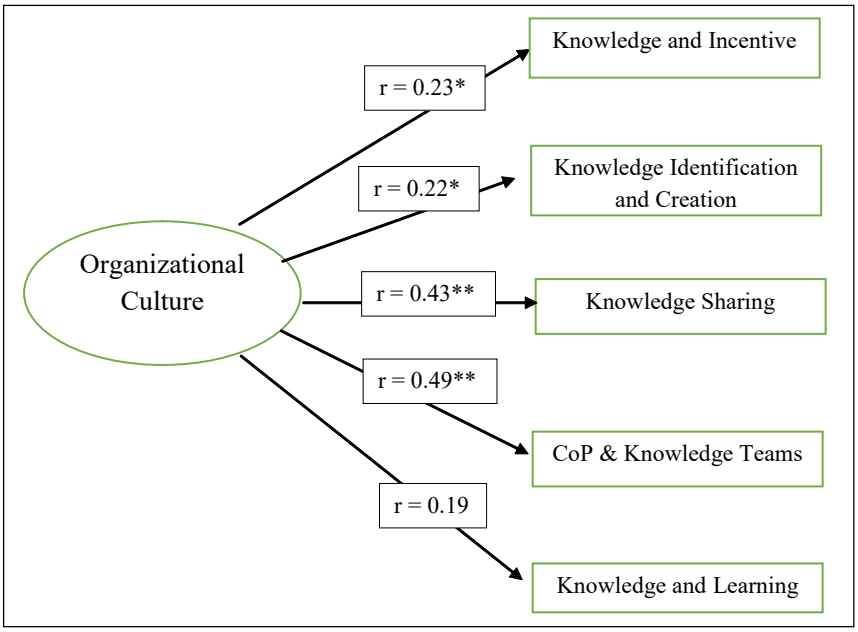

Figure 1: Results of coefficient of correlation; *Note:* * p< 0.05 ; ** p< 0.01

Qualitative Phase

From the open coding 23 categories emerged which were consolidated to 14, which then lead to formation of five major categories and 1 core phenomena.

Table 1 shows the major categories and the core phenomena after axial coding.

Table 1: Axial coding for grounded theory data analysis

Phenomenon	• Knowledge gaining • Knowledge sharing • Knowledge utilization
Causal conditions	• Internal motivation • Teachers as lifelong learners • Repute • Altruism • Necessity
Strategies	• Discussion • Research • Publication • Professional development programs • Reports • Reading • Technology
Conditions required	• Trust • Freedom • Opportunities
Barriers	• Lack of time • Lack of open-mindedness • Competition • Experience if not accompanied with experimentation
Consequences	• Power • Welfare • Reward in terms of recognition

Qualitative data analysis answered the two research questions, which were formulated at the start.

(1) What Were the Strategies of Knowledge Management Adopted by Teacher Educators?

Knowledge management for teacher educators consists of three major activities: knowledge gaining, knowledge sharing and knowledge utilization.

Strategies used by teacher educators to gain knowledge were reading (reference books, journals and newspapers), using the internet, discussion among peers and colleagues, attending professional development programs like workshops, refresher courses and research.

Knowledge sharing was done through discussion. Informal discussion was the most common and preferred way of sharing knowledge. One of the participants mentioned,

> *I share personal, social, economic and professional knowledge. We all live like a family.*

Knowledge was also shared through writing reports after attending any seminar or workshop; however, this was not a regular feature. Those colleges undergoing accreditation by National Assessment and Accreditation Council of India (NAAC) shared their knowledge by writing reports since it was a requirement. A participant shared the following:

> *For NAAC, documentation of all the activities in college is necessary therefore I have made records of the modules for constructive teaching in my subject.*

Teachers undertaking research preferred to share their knowledge by writing research papers and articles.

Knowledge gained was utilized to present papers in seminars. Teacher educators utilized the techniques mentioned in the syllabus of the Bachelor of Education course (University of Mumbai) but never attempted at inventing any new technique.

> *I have not developed any new teaching technique but applied it... for example I have used co-operative teaching technique in my lectures and also included Meta cognitive techniques in the lectures. The methodologies I have learnt I have incorporated in my lectures.*

The causal conditions which motivated the teacher educators to either gain, share or utilize knowledge was internal motivation. Some believed that teachers were lifelong learners and therefore constantly engaged in these activities. Reputation of being known as an expert on a particular topic encouraged teacher educators to indulge in knowledge gaining activities. Teachers wanted to know more because it would help them in being a keynote speaker in a seminar or a member of syllabus revision committee or a guest lecturer in a workshop or seminar.

> *...Personal motive that people look up to you for your attitude to share with all is also what motivates me to share knowledge with all...knowledge about the subject matter e.g. evaluation of education, science and ICT has helped me to become a member of the syllabus revision committee. Since I have knowledge and experience about technology, many people consult me for buying technological gadgets….*

Altruism (unselfish concern) also encouraged teacher educators to engage in the knowledge sharing.

(2) What Were The Factors That Influenced These Strategies?

Trust and freedom form important aspects of Organizational Culture (Genetzky-Haugen, 2010). Both trust and freedom are found to be mentioned as the conditions required for the core phenomena. Teacher educators were given freedom by the organization to utilize and share

knowledge amongst them. Trust was a prerequisite for sharing, gaining and utilizing knowledge. Teacher educators were ready to share knowledge if they were assured that there would be no plagiarism. They were skeptical in obtaining and using the knowledge provided by the source they did not trust.

> *Trust is very important in knowledge sharing. If you trust a person for his knowledge you may approach him for knowledge. You could also trust a person with your knowledge if you believe that he will not breach your trust and will not plagiarize.*

Teacher educators wanted freedom in selecting the kind of professional development programs they attended and undertaking research work. They also wanted more opportunities.

> *There should be time given for professional growth. Leaves should be granted for those teachers who wish to go abroad for updating their knowledge and for teacher exchange programs. Encouragement should be given for publishing books.*

Lack of sufficient time emerged as a major barrier in the knowledge management activities. Teacher educators did not consider experience synonymous with years of teaching but with experimentation and application of new ideas learnt. Therefore, when experience was not accompanied with experimentation it became a barrier.

> *.....I feel that problem arises when you relate experience with time. Experience has nothing to do with time but it is the instances which one has gone through which is important and therefore the context of the experience is important.*

Many felt that they were unable to share their knowledge or seek knowledge because their colleagues were not very open to other peoples' view and so lack of open-mindedness emerged as a barrier. Sometimes knowledge was not shared because of an apprehension that the other person may succeed. Therefore, competition also was seen as a barrier.

> *There should be no hoarding of knowledge and people should not be selfish in terms of success.*

Teacher educators undertook knowledge management activities for the welfare of their institute and benefit of their students.

They felt powerful when they possessed knowledge and believed that power of knowledge was negative when it was not shared and used for manipulation and positive when used for enhancing effectiveness of work.

Teacher educators felt that knowledge sharing was the essence of their profession and they were already paid for it (salary). They expected formal appreciation when they experimented with any existing method of teaching.

Model of Knowledge Sharing

With the help of the grounded theory a model of knowledge sharing was developed. This model, (represented in Figure 2), called as 'Knowledge Sharing Chain Reaction', resembled the nuclear fission reaction.

In this model, each triangle represented an individual teacher educator. The triangle was divided into two parts: explicit knowledge, which represented the teacher educator's visible knowledge; and tacit knowledge, which was the invisible knowledge.

Both the tacit and the explicit knowledge of a teacher educator formed his/her knowledge resource and were acquired from three major sources:

- Professional Development Programs (PDP) undertaken,
- Personal References (PR) done (which could be from technological resources for example use of internet, referring e-journals, etc. and/or non-technical resources for example libraries) and
- Interaction (I) with colleagues within or outside the institute and interaction with self (personal reflections).

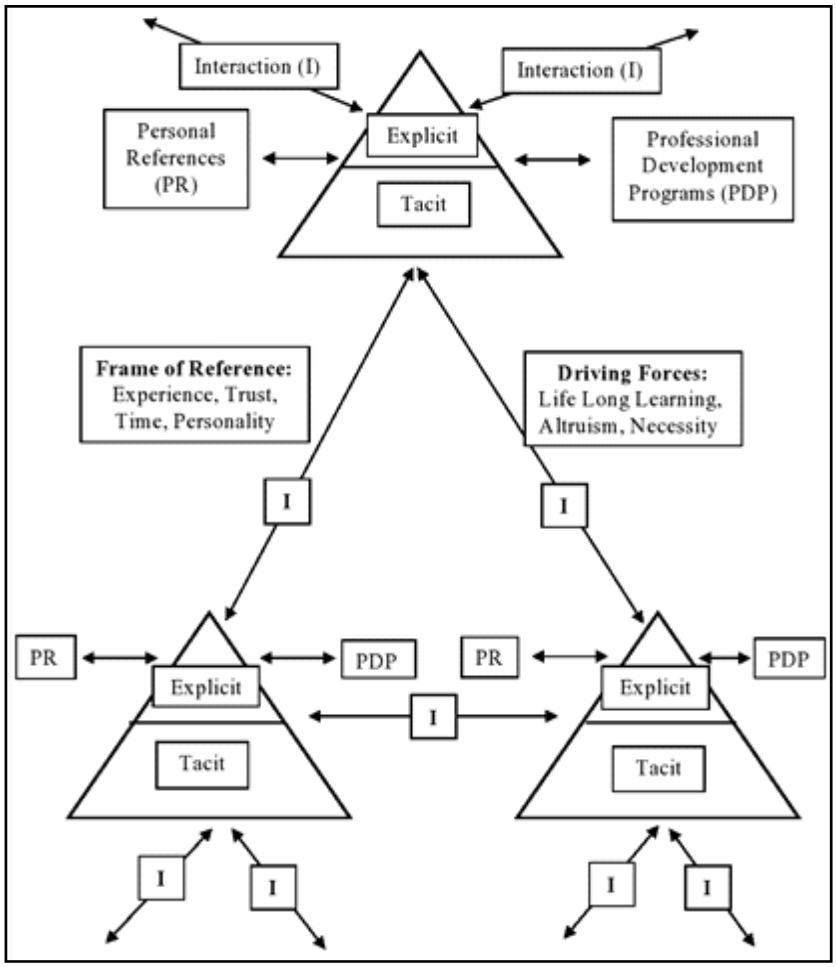

Figure 2: Knowledge sharing chain reaction model

Out of the three sources of knowledge acquisition, interaction was the major source of a teacher's knowledge resource. Every teacher educator shared knowledge with colleagues and this sharing became the interaction source of knowledge acquisition for that colleague. Thus, interaction source of knowledge acquisition helped to maintain the chain reaction of knowledge sharing (which may or may not lead to knowledge generation).

The strength of each type of knowledge source was dependent on its usage and efforts taken by the teacher to develop it. In case a teacher did not attend professional development programs (PDP) this source of knowledge acquisition would be weak. If the teacher refrained from doing reference work, then that source of knowledge acquisition would be weak. If a teacher was not open to knowledge sharing through interaction then he/she would be a weak link and unable to keep the knowledge sharing chain reaction alive. In organizations where the culture did not promote knowledge sharing the web of knowledge sharing would never be generated and there would be many weak links.

Personal reference work done and professional development programs did not give rise to the knowledge-sharing chain reaction because it did not involve people and were restricted to the individual teacher's ability to gain knowledge. However, in case any of these lead to interaction with people then it could trigger a new series of interaction and a new knowledge chain.

The entire knowledge sharing was driven by altruism, necessity and the teachers' belief that they were lifelong learners. Experience, time, trust and personality formed the frame of reference or context of the knowledge-sharing chain reaction.

DISCUSSION

Results from the quantitative phase and qualitative phase were merged to obtain insights into the study. The quantitative result showed that organizational culture had a direct moderate relationship with knowledge sharing (r=0.43, p<0.01) and a substantial relationship with communities of practice and knowledge team *(*r=0.49, p<0.01). It also revealed that better knowledge management strategies were demonstrated by teacher educators with more than three years of experience (t (81) = 3.78, p<0.01) and with Ph.D. degree (t *(81)* = 2.21, p < 0.05).

Mentoring and partnership was therefore the best way of transferring tacit knowledge of experienced and qualified teacher educators to the newcomers. Since trust was an important condition for sharing knowledge, institutes should work towards developing a culture of trust and freedom. Lack of time and experimentation were the major barriers in the existing knowledge management strategies. Hence, more opportunities and time could be provided to indulge in casual 'water cooler conversations' (Davenport and Prusark, 2000).

Organizational culture is specific to every institute. Therefore with the understanding that interaction with self and colleagues can create and maintain a chain reaction of knowledge sharing, which may lead to generation of new knowledge, it is important that institutes emphasize on an open culture of sharing based on trust and experimentation.

CONCLUSION

All the aspects of knowledge management are dependent on the culture of the organization. From the kind of knowledge which is considered important, to which knowledge remains tacit and which is made explicit, to the horizontal and vertical flow of knowledge, all are dependent on organizational culture. Thus, institutions should encourage a knowledge sharing culture as it is the best way of capturing tacit knowledge and developing organizational memory. The knowledge sharing chain reaction model provides a theoretical background for tacit knowledge management in the field of teacher training emphasizing the importance of organizational culture. Further researches need to be done to develop this model further.

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Status of Educational Development at Primary and Upper Primary School Level in India

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ABSTRACT

This study was aimed to highlight the development of education in India by the implementation of different programmes concerned with growth of education like RTE Act 2009, Sarva Shiksha Abhiyan (SSA), etc. By reviewing different studies, it has been concluded that at present education is not at satisfactory level, but progress in education at different levels and for students of different communities is in developing condition. Some of studies indicate the poor condition of elementary education and this condition is due to poor condition of infrastructure, poor teacher learning process, parent's illiteracy, and social and economic discriminations. There is a need to monitor the programmes running for school going children. For successful implementation of any programmes serious monitoring and effective information system is required.

Keywords: Dropout and educational development, Elementary education, Enrolment, Gross enrolment ratio, Right to education, Sarva Shiksha Abhiyan

INTRODUCTION

The education is the gateway of allover development of human being. It facilitates the acquisition of knowledge, skills habits, beliefs and teaching and learning. It is regarded as the strategic tool as it shapes the destiny of a people and consequently the whole nation. It differs a man from the beast and creates equality of gender, community and society at large. A human without education is equal to animal (Sharma, 1993). This unequal educational status of women, particular group, and religion is the main cause of unequal level of society. In India, education is regarded as a tradition and country other than India have such love for learning and early origin. In fact, education was not exotic to India (Thomas, 1891). In the *'Neethishatakam'* by Bhartruhari the importance has been emphasized as in following words: 'Education is the special manifestation of man; Education is the treasure which can be preserved without the fear of loss; Education secures material pleasure, happiness and fame; Education is the teacher of the teacher; Education is God incarnate; Education secures honors at the hands of the State, not money'. About 19% of World's children live in India, most of these children belong to rural areas. India has World's one-third illiterate population.

In 1990, World conference was held in Jomtein, Thailand on Education for All (EFA). In this conference, 155 countries including India participated and ensured education for all by the year 2000 and different important aims for educational development.

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Several studies indicate that progress in education at different levels is in progress. The education system and its development involve student's enrolment, student's retention, and progress in literacy of women and students belonging to socially deprived communities at primary and upper primary levels. The Sarva Shiksha Abhiyan (SSA) is regarded as educational development programme to facilitate universal access and enrolment. The prime priority of SSA is the enrolment and retention of children of age group 6–13 year for achieving universal elementary education within a reasonable distance from the residence of children. Keeping in mind the status of basic education, Government of India has enacted the RTE Act, 2009 to improve the education level at primary level. This Act is for free and compulsory education of children and is inserted in Article 21-A in the constitution of India to ensures the fundamental right of children (6–14 years) for satisfactory and equitable quality education. This provision was enacted for children from disadvantaged group and weaker sections who have been denied or voluntary under various circumstances not been able or have admitted in the school to a class suitable to his/her age, to reduce the gap of learning and help him come par with other students of class.

Many studies have shown that women education is the key to reduce the women's discrimination and infant mortality rate can be reduced by women as well as child girl's education. The social and geographical conditions of any state have major implications for education in general and more specifically. To prevent dropping out of schools by children, quality education is necessary (Rajeshwari and Saxena, 2014). Ojha (2013) through her study provided an insight into the status of implementation of RTE Act, in schools of rural area, awareness and understanding of the RTE Act amongst the teachers, parents, and students studying in Government Schools. In her study, it has been concluded that the public schools are up to the mark only in terms of enrollment and basic structure, maintenance was not well and quality of teaching was minimal. The framed laws are not implemented with the true spirit in India.

A study was made by Kumar (2014) in Uttarkashi district of Uttarakhand state and reported relatively low rates of enrolment in school and alarming dropout and failure rates. The children of educated parents are able to take formal education but no doubt, uneducated parents are unable to do this. In many countries, like the UK, educational policy is subject to continuous change but unfortunately not in India. Barthwal (2014) made study and concluded that more than 13% (2044) primary schools in Uttarakhand are going to close because number of enrolled students is below 10 and more than 60 primary schools have zero enrolment. Out of 2044 schools, the maximum number of schools are in Pauri (380) followed by Pithoragarh (330), Almora (280), Tehri (170), Chamoli (165), Dehradun (122), Uttarkashi (105), Rudraprayag (90), Bageswar(75), Champwat (60), Nainital (45)and the minimum number of such condition's primary schools in Udham Singh Nagar (4) is present. Another study was carried out by Bora (2014). In this study it has been found that more than 5000 government primary schools are going to close in Uttarakhand. This study confirmed that during 2013–2014 more than 178 primary schools have been closed due to zero enrolment and more than 5645 primary schools are going to close. This study also concluded that, 800 primary schools have less than 5 students in each school, while remaining schools have less than 20 students in each school. A study was made to analyze the development of primary education in Dehradun district of

Uttarakhand from 2000 to 2011, and it has been found that enrolments in government primary schools are consistently declining and enrolment growth rate was reported in most of years, while this rate was positive in district Dehradun in last decades. This study was also reported the enrolment shifting from government primary schools towards public schools. This shifting is may be due to migration of the people from rural to urban areas, negative teacher's growth rate and lack of basic facilities like toilets, electricity, playground, libraries, furniture and even school buildings (Kumar and Raj, 2015). Pushola (2015) visited government primary schools, *Challang* in Dehradun, which is just 10 Km. from State secretariat. In this study it was also found that school building is in very poor condition which can be dangerous for students any time and students were forced to study in verandah. This study concluded that lack of basic facilities like toilets, electricity, playground, libraries, furniture and even school building are the main reason for low rate of enrolments.

Adhikari (2001) in his study under Navi Mumbai Municipal Corporation revealed that the number of classrooms, teachers, tables, and chairs were inadequate and infrastructure was in a very poor condition. It has been reported that only three classrooms and only two teachers looked after the entire school. Due to this poor condition of education, there is a need to strengthen teachers on aspects of motivation, pro-children attitudes, and creative teaching learning process. Appointment of suitable staff is also recommended in order to lessen the burden on teachers. Banerjee (2000) reported the influences of poverty on primary schooling in Mumbai and Delhi. In this study, he concluded that school system is responsible for attracting and keeping children in school than economic conditions. The number of student's enrolments in schools has risen day by day in cities and villages, but quality of education is very poor and less impressive.

Mondal and Mete (2010) in their study of policy perspective for education of children with special needs has focused on the efforts that have been made for their education post-independence. They recommended a comprehensive change in the institutional arrangements and legal provisions as well changes in the attitudes and approach towards dealing with children with special needs. In another study conducted by Vyas (2011) amongst 160 elementary schools in Delhi, using 20 multiple choice questions, the level of school teachers was studied after a year of implementation of the study which also showed that the Government teachers are more aware as compared to private schools. A survey has been conducted by Bhatnagar and Das (2013) in about 470 regular schools of Delhi and found that the teachers had a moderate interest for implementation of inclusive education in their schools; the level of concern was not good due to the excessive workload and improper training of teachers. A number of studies have been made to show the status of RTE Act in schools, but all the studies show discrepancy in support for the fulfillment of the provisions of the Act (Chauhan, 2016).

Bhatnagar and Das (2014) in their study to know the concern barriers for implementing inclusive education have undertaken 20 teachers from schools, which have implemented education for needy children, for this, teachers were selected randomly from four administrative zones. The barriers and concerns were identified like poor infrastructure facilities, financial limitations and disproportion of pupil–teacher ratio. The quality of training provided to the teachers was not upto the mark, which resulted in low quality education.

During the period 2000–2001 to 2013–2014, the number of primary schools has increased from 638,738 to 858,916 schools, while the number of upper primary schools has increased from 206,269 to 589,796. All over India almost all primary schools in rural area are present within a distance of 1 km. Likewise the enrolment in primary education has been increased (from 113.8 million to 132.4 million) during the period 2000–2001 to 2013–2014 and the enrolment in upper primary education has increased by 23.7 million (from 42.8 million to 66.5 million). The enrolment in elementary education of children from Scheduled Castes (SC), Scheduled Tribes (ST), minority communities and children with special needs has increased, from 2000–2001 to 2013–2014, the Gross Enrolment Ratio (GER) in primary education and upper primary education has increased from 96.8% to 113% and 65.3% to 98.3%, respectively for SC children. Similarly for ST students GER in primary and upper primary education has increased by 12.1% and 31.1%, respectively during period 2000–2001 to 2013–2014 (Tables 1–4).

At the commencement of the SSA, a total of 207,995 new primary and 159,499 upper primary schools were sanctioned to cover un-served habitations. Out of these sanctioned primary schools, and upper primary (97%) schools have been opened and made functional upto year 2013–2014, this leads to about 98% of rural habitations with primary school within a distance of 1 km and about 96% of rural area have upper primary schools within 3 kms (Table 1).

Table 1: Number of primary schools, schools imparting upper primary education and schools imparting elementary education (2000–2001 to 2013–2014)

Year	No of primary schools	No of schools imparting upper primary education	No. of schools imparting elementary education
2000–2001	638,738	206,269	845,007
2001–2002	664,041	219,626	883,667
2002–2003	651,382	245,274	896,656
2003–2004	712,239	262,286	974,525
2004–2005	767,520	274,731	1,042,251
2005–2006	772,568	288,493	1,061,061
2006–2007	784,852	305,584	1,090,436
2007–2008	805,667	445,108	1,250,775
2008–2009	809,108	476,468	1,285,576
2009–2010	809,974	493,838	1,303,812
2010–2011	827,244	535,080	1,362,324
2011–2012	842,481	569,697	1,412,178
2012–2013	853,870	577832	1,431,702
2013–2014	858,916	589,796	1,448,712

*Source***:** Statistics of School Education, 2007–2008, MHRD, GoI; and Unified District Information System for Education (U-DISE), National University of Educational Planning and Administration (NUEPA).

Table 2: Enrolment in primary (Classes I–V), upper primary (Classes VI–VIII) and Elementary (Classes I–VIII) education (SC children) (2000–2001 to 2013–2014) (in Millions)

Year	Primary Education (Class I–V)			Upper Primary Education (class V–VIII)			Elementary Education (class I–VIII)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2000–2001	12.1	9.1	21.2	4.1	2.6	6.7	16.2	11.7	27.9
2001–2002	12.3	9.3	21.5	4.6	2.9	7.5	16.9	12.2	29.1
2002–2003	11.9	9.7	21.7	4.4	3.1	7.5	16.3	12.8	29.1
2003–2004	12.8	10.4	23.1	4.7	3.3	8.1	17.5	13.7	31.2
2004–2005	13.8	11.0	24.8	5.1	3.6	8.7	18.9	14.6	33.5
2005–2006	14.0	11.3	25.3	5.3	3.8	9.1	19.3	15.1	34.4
2006–2007	14.4	11.8	26.2	5.4	3.9	9.3	19.8	15.7	35.5
2007–2008	13.7	12.5	26.2	5.3	4.6	9.9	19.0	17.1	36.1
2008–2009	13.8	12.7	26.5	5.6	4.9	10.5	19.6	17.6	37.2
2009–2010	13.8	12.7	26.5	5.8	5.1	10.9	19.6	17.8	37.4
2010–2011	14.1	13.0	27.1	6.0	5.3	11.3	20.1	18.33	38.4
2011–2012	14.2	13.3	27.5	6.1	5.8	11.9	20.3	19.1	39.4
2012–2013	14.1	13.2	27.3	6.4	6.2	12.6	20.5	19.4	39.9
2013–2014	13.6	12.7	26.3	6.6	6.3	12.9	20.2	19.0	39.2

Source: Statistics of School Education, 2007–2008, MHRD, GoI; Educational Statistics at a Glance, 2011, MHRD, GoI; Statistics of School Education, 2010–2011, MHRD, GoI; and U-DISE, NUEPA.

Table 3: Enrolment in primary, upper primary and elementary education (2000–2001 to 2013–2014) (in Millions)

Year	Primary Education (Class I–V)			Upper Primary Education (class V–VIII)			Elementary Education (class I–VIII)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2000–2001	64.0	49.8	113.8	25.3	17.5	42.8	89.3	67.3	156.6
2001–2002	63.6	50.3	113.9	26.1	18.7	44.8	89.7	69.0	158.7
2002–2003	65.1	57.3	122.4	26.3	20.6	46.9	91.4	77.9	169.3
2003–2004	68.4	59.9	128.3	27.3	21.5	48.8	95.7	81.4	177.1
2004–2005	69.7	61.1	130.8	28.5	22.7	51.2	98.2	83.8	182.0
2005–2006	70.5	61.6	132.1	28.9	23.3	52.2	99.4	84.9	184.3
2006–2007	71.0	62.7	133.7	29.8	24.6	54.4	100.8	87.3	188.1
2007–2008	71.1	64.4	135.5	31.0	26.2	57.2	102.1	90.6	192.7
2008–2009	70.0	64.5	134.5	29.4	26.0	55.4	99.4	90.5	189.9

Table 3 cont.....

Year	Primary Education (Class I–V)			Upper Primary Education (class V–VIII)			Elementary Education (class I–VIII)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2009–2010	70.8	64.8	135.6	31.8	27.6	59.4	102.6	92.4	195.0
2010–2011	70.5	64.8	135.3	328	29.3	62.1	103.3	94.1	197.4
2011–2012	70.8	66.3	137.1	31.8	30.1	61.9	102.6	96.5	199.0
2012–2013	69.6	65.2	134.8	33.2	31.1	64.9	102.8	96.9	199.7
2013–2014	68.6	63.8	132.4	34.2	32.3	66.5	102.8	96.1	198.9

Source: Statistics of School Education, 2007–2008, MHRD, GoI; Educational Statistics at a Glance, 2011, MHRD, GoI; Statistics of School Education, 2010–2011, MHRD, GoI; and U-DISE, NUEPA.

Table 4: Enrolment in primary, upper primary and elementary education (ST children) (2000–2001 to 2013–2014) (in Millions)

Year	Primary Education (Class I–V)			Upper Primary Education (class V–VIII)			Elementary Education (class I–VIII)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2000–2001	6.3	4.7	11.0	1.9	1.2	3.1	8.2	5.9	14.1
2001–2002	6.7	5.0	11.7	2.1	1.3	3.7	8.8	6.3	15.1
2002–2003	6.4	5.4	11.8	1.9	1.3	3.2	8.3	6.7	15.0
2003–2004	6.8	5.7	12.5	2.1	1.5	3.6	8.9	7.2	16.1
2004–2005	7.4	6.4	13.7	2.4	1.8	4.2	9.8	8.2	18.0
2005–2006	7.5	6.7	14.2	2.5	2.0	4.5	10.0	8.7	18.7
2006–2007	7.6	6.8	14.4	2.6	2.0	4.6	10.2	8.8	19.0
2007–2008	7.6	7.0	14.6	2.6	2.1	4.7	10.2	9.1	19.9
2008–2009	7.9	7.3	15.2	2.7	2.3	5.0	10.6	9.6	20.2
2009–2010	7.9	7.3	15.2	2.8	2.3	5.1	10.7	9.6	20.3
2010–2011	7.7	7.2	14.9	2.8	2.6	5.4	10.5	9.8	20.3
2011–2012	8.1	7.6	15.7	3.1	3.0	6.1	11.2	10.6	21.8
2012–2013	7.8	7.4	15.2	3.3	3.1	6.4	11.1	10.5	21.6
2013–2014	7.6	7.1	14.7	3.3	3.2	6.5	10.9	10.2	21.1

Source: Statistics of School Education, 2007–2008, MHRD, GoI; Educational Statistics at a Glance, 2011, MHRD, GoI; Statistics of School Education, 2010–2011, MHRD, GoI; and U-DISE, NUEPA.

For the progression in literacy rate Central and state governments and NGOs have made significant contributions all over India for providing equal opportunity to girls, students of rural areas, SC, ST students and students of minority.

In primary education, the Gross Enrolment Ratio increased from 95.7% (2000–2001) to 116.0% (2010–2011) and declined to 101.4% in 2013–2014.The GER in elementary education has increased by 15.4% points during the period 2001–2002 to 2013–2014, the increment in GER for boys and girls was 4.8% and 26.7% points, respectively. The GER for this period in upper primary education increased by 30.7% points. It has been reported 19.6% and 42.9% points for boys and girls, respectively (Table 2).

CONCLUSION

From all the above studies, it is concluded that educational development do not confers satisfactory changes in the overall levels of education, but it has been revealed that literacy rate is increasing day by day in terms of enrolment number, reduction in dropout rate of students. This educational development is due to promotion of ground level requirements. The most of studies indicates the poor condition of elementary education because of poor infrastructure, teacher's performance, parent's illiteracy, social and economic discriminations.

Overall condition of primary and upper primary education in India still in need to reconsider the whole education system. There is a need to monitor the programmes running for school going children. A serious monitoring and an effective information system are required for implementation and progress of any programs.

SIGNIFICANCE OF STUDY

The present study was carried out to know the status of educational development at primary and upper primary level. This study highlighted the growth rate of enrolled students and also helpful to know the literacy rate. The present study is helpful to know the status of literacy rate of child girls, SC, ST and minority students and urban student.

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Difficulties Faced by the Higher Secondary School Students in Learning Chemistry

Panchanatha Boobathy G.

ABSTRACT

Chemistry is often regarded as a difficult subject, an observation that sometimes repels learners from continuing with studies in chemistry. This paper seeks to bring together the general findings obtained from research over the past few decades for both school pupils and university students in an attempt to suggest the key reasons for this difficulty. Suggestions are made on ways to minimize the problems based on understandings of attitudes and motivation as well as the psychological understandings of how learning takes place.

Keywords: Challenges in learning chemistry, Chemistry difficulties, Chemistry, Higher secondary school chemistry, Learning difficulties

INTRODUCTION

Chemistry is an important branch of science taught in the Senior Secondary Schools; it enables students to understand what happens in the world they live in and how it contributes to the quality of life on our planet. Chemistry curricula commonly incorporate many abstract concepts, which are central to further learning in both chemistry and other sciences. Chemistry topics are generally related to or based on the structure of matter, and chemistry is proved to be a difficult subject for many students.

An understanding of how students can learn and get help from teachers: This requires that research into the learning process is made accessible. Because chemistry topics are generally related to base on the structure of matter, many students can prove chemistry is a difficult subject. Chemistry curriculum commonly incorporates many abstract concepts, which are central to further learning in both chemistry and other sciences. These concepts are important because further chemistry concepts or theories cannot be easily understood if these underpinning concepts are not sufficiently grasped by the student.

NEED FOR STUDY

Study of chemistry is very important for the students. Each and everywhere the application of chemistry is to be mention. Students should differentiate various kinds of words used in chemistry that are advanced English words, therefore they feel them unaccepted in their studies and face difficulties to learn other modulated names of chemistry. Parents are not able to understand the learning situation of chemistry of their children. In chemistry many molecules,

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physical and chemical properties, and synthesis are fully different from other subjects. Therefore, students face difficulties in their studies. It consist sons/daughters of three major parts, which are difficult to learn for chemistry students.

Most of the things in chemistry are found in laboratory work, so students face difficult to handle the laboratory apparatus and chemicals. Working methods of chemistry and applying in daily life is fully different from other subject. There are many reasons for students finding chemistry difficult to learn. Hence, the researcher selected the topic 'Difficulties Faced by the Higher Secondary School Students in Learning Chemistry'.

METHODOLOGY OF RESEARCH

The study will adopt a normative survey method since, it aims to find out the difficulties faced by the higher secondary school students in learning chemistry. The variable is difficulties faced in learning chemistry by the students in higher secondary level.

Population

The population of the study is higher secondary school 250 students.

Sample

The higher secondary school students as for six schools were selected by using the simple random sampling method for the study. The students of 11th standard of the schools constituted the sample.

DATA COLLECTION

The investigator used a questionnaire, which consisted of 32 statements for students questions; it was administrated that 250 students of different type of management and different locality (Rural and Urban) were selected.

DATA ANALYSIS

Analysis and interpretation of data means studying the tabulated materials in order to determine inherent facts and meanings. The present study is intended to 'Difficulties faced by the higher secondary school students in learning chemistry'**.** The collected data was analyzed statistically with regard to the objectives of the study. The purpose of this chapter is to analyze the data, which have been collected and presented in such a way that meaningful interpretation and discussion can be made.

Comparison of difficulty faced in learning chemistry

Respondents were asked to indicate which difficulties their companies had faced to learning chemistry. The responses for each variables are shown in Table 1.

FINDINGS OF THE STUDY

1. 'There is no significant difference between Male and Female students in difficulties faced by the higher secondary school students in learning chemistry'.

Table 1: Comparison of difficulty faced by the higher secondary school students in learning chemistry with respect to variables

Variables		Mean	S.D	*N*	df	*'t'* value	Level of significanceat (5%)
Gender	Male	66.84	6.23	134	248	1.10	NS
	Female	67.78	7.20	116			
Locality	Rural	65.42	7.13	83	248	3.14	Significant
	Urban	68.20	6.30	167			
Medium	Tamil	68.12	6.65	157	248	2.60	Significant
	English	65.86	6.59	93			
Study	Individual	68.58	6.209	163	248	4.35	Significant
	Group	64.84	6.95	87			
Interest	Lab	161	68.25	6.828	248	3.14	Significant
	Theory	89	65.52	6.133			

2. 'There is a significant difference between Rural and Urban school locality in difficulties faced by the higher secondary school students in learning chemistry'. The obtained mean value stated that the urban school students faced more difficulties when compared to the rural students.
3. 'There is no significant difference between Tamil and English medium of instructions in difficulties faced by the higher secondary school students in learning chemistry'. The obtained mean value stated that the Tamil medium school students faced more difficulties when compared to the English medium students.
4. 'There is a significant difference between Individual and Group study habits in difficulties faced by the higher secondary school students in learning chemistry'. The obtained mean value stated that the individual study habit school students faced more difficulties when compared to the group study students.
5. 'There is no significant difference between study on laboratory and classroom students in difficulties faced by the higher secondary school students in learning chemistry'. The obtained mean value stated that the students mostly like the laboratory classes when compared to the theory classes.

EDUCATIONAL IMPLICATION OF THE STUDY

The present study shows that the effectiveness of instructional material for teaching chemistry, which is important and that teachers should take care to inculcate behaviour at the earliest.

1. Teacher may give a special care to the urban students.
2. The can use a group teaching and group study method to enhance the learning chemistry.

CONCLUSION

This study brings out the importance of learning chemistry and the students may face more difficulties in the symbols, equations, etc. Teacher has to enhance the chemistry learning through various teaching methods and teaching equipment's Teacher should preferred lab classes for teaching instead of ordinary theoretical classroom. Teacher should bring out the students innovative thoughts and fun methods of teaching. Teacher must teach in a group study method; it will enhance the learning level of students.

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