ISSN: 0976-1160

EDUSEARCH

(Bi-annual & Bi-lingual)

JOURNAL OF EDUCATIONAL RESEARCH

VOLUME 1 NUMBER 2 October-2010

RESEARCHERS ORGANIZATION
BILASPUR.CHHATTISGARH

EDUSEARCH

ISSN : 0976 - 1160

(Bi-annual & Bi-lingual)

JOURNAL OF EDUCATIONAL RESEARCH

Volume 1	Number 2	October 2010

RESEARCHERS ORGANIZATION
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EDUSEARCH

ISSN : 0976 - 1160

(Bi-annual & Bi-lingual)

JOURNAL OF EDUCATIONAL RESEARCH

Volume 1 **Number 2** **October 2010**

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Dear friend,

Research investigates ideas and uncovers useful knowledge. It is personally rewarding and socially beneficial. There are about 400 universities and 20000 colleges in India and thousands of researches are being conducted every year but the results are becoming limited to the personal reward only, no way they stood beneficial to the society. Here is the question of quality of the research arises. As there is no standard definition of quality of research, therefore no single yardstick exists for its assessment across all discipline, regions and culture in India.

National Committee for Ethics in Social Science Research in Health NCESSRH (2000) has identified following ethical principles of research viz., *i) the principle of non-malfeasance; (ii) the principle of beneficence; iii) the principle of autonomy; iv) the principle of justice*. Ethics are essential for maintaining uniformity, understanding researcher's role in the society, their accountability, transparency in objectives, method and fraternity among the researchers. There is no national body in India to regulate the quality of the research likewise in UK and Hong Kong where the Research Assessment Exercise (RAE) process is being done since 1986. The quality profile awarded by RAE shows the proportion of quality of the research activity under 4*,3*,2*,1* & U levels. Where '4*' is the highest quality (world leading in terms of originality, significance and rigor) and 'U' is quality that falls below the standard of nationally recognized work and does not meet the published definition.

B.V.Ramana Rao

About

RESEARCHERS ORGANIZATION, BILASPUR
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It is an association of like minded people consisiting of research scholars, teachers, teacher educators and professors. It was formed with an aim to transform research into reality and mass applicability.

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- *To promote research in the area of school and higher education and to extend academic and technical support to the young researchers.*
- *To extend support in the implementation of the government policies in the area of education, social-welfare and environment.*
- *To provide a platform to the young writers for publication of their books.*
- *To publish research journals in various subjects.*
- *To develop and publish various research tools, scales of measurement in various subjects.*
- *To conduct research experiments in education and other subjects.*
- *To provide consultancy services to young researchers.*
- *To organize national and state level seminars, conferences, workshops etc.*
- *To conduct various projects in school and higher education fields in consultation with the apex bodies of the country.*

Secretary

Researchers Organization, Bilaspur (C.G.)

EDUSEARCH

ISSN : 0976 - 1160

(Bi-annual & Bi-lingual)

JOURNAL OF EDUCATIONAL RESEARCH

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

A Study of Creative Writing Potentials of B.Ed. Trainees in Gujarati Language

*Dr. Anjali Mehta **

Abstract

Creativity is essentially characterized by novelty. The novelty is not merely in degree but in kind, not in quaintly but in quality. It is a passage from confusion to configuration, from chaos to order. There is something more, something different, not a mere resultant like the parallelogram of forces but an emergent like the lotus from the mud, it is a new value. Hence the creative act is unpredictable, sportily is another important feature of creativity. It means three things creativity is a played activity, having no ulterior purpose, it is opposite to laboriousness and drudgery, and it is full of joy. It begins in joy, is sustained in joy and ends in joy. It own reward. But it is always an upward march, an onwards process. It is not merely a change but a change for the better in some respects and hence creative activity is progressive activity.The present study is based on different surveyed literature for identifying creative potentials and procedure for data collection and suitable techniques applied for data analysis.

Introduction :

Creativity is essentially characterized by novelty. The novelty is not merely in degree but in kind; not in quaintly but in quality. It is a passage from confusion to configuration, from chaos to order. There is something more, something different, not a mere resultant like the parallelogram of forces but an emergent like the lotus from the mud, it is a new value. Hence the creative act is unpredictable; sportiveness is another important feature of creativity. It means, creativity is a played activity, having no ulterior purpose, it is opposite to laboriousness and drudgery, and it is full of joy. It begins in joy, is sustains in joy and ends in joy. It is always an upward march, an onwards process. It is not merely a change but a change for the better in some respects and hence creative activity is progressive activity.

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Creativity has been taken on different forms at the different levels of reality. Thus at the level of matter, the mechanical activity is repetitive as in a machine and redistributive as in a kaleidoscope. Even in a mechanical jerk there is an emergence of a new design. The chemical activity is constitutive of the elements into a compound with new properties.

At the level of life, the creative activity becomes assimilative, adaptive and regenerative. At the level of mind the creativity is in all the aspects, cognitive, affective and conative. Under cognitive activity come (i) Intuitive activity which is directive of animal and human activity (ii) Perceptive activity which is formative of sensations (iii) Intellectual activity which is constructive upon the perceptions, and (iv) Institutive which semi creative of axioms, postulates, hypotheses and values.

At the effective levels, we have (1) Literature as the imaginative activity (2) Fine arts are re-creative (3) mysticism or religion is meditative or devotional.
Research in this field beginning from Thurston (1952), Terman (1968) to Guilford (1958), Torrance (1964), Getzels and Jaekson (1966), Hudson and Mackinon (1978) revealed that creativity and intelligence are not identical in as much as the former involves a divergent response while the latter, the convergent response which could be illustrated as convergent and divergent responses i.e. is how the response of a creative person diverges from focal point of a conventional idea/ fact. This concept has a great bearing for education for it, not only clears misconception of a high intelligent child as the high creative but also suggest the need of creative education.

Guilford's contribution to creativity is his concept of divergent thinking. Divergent thinking abilities generally include fluency, flexibility, originality and elaboration.
Fluency: is the ability to produce many ideas for a given task. The more ideas a person produces, the higher is his fluency.
Flexibility: is the ability to produce ideas that shows persons movement from are level of thinking to another, or shifts in thinking. It indicates variety in thinking.
Originality: is the ability to produce ideas that not many people think of or that are unusual remote or clever.
Elaboration: is the ability that enables a person to go in to details.

Importance and Need of Creative Education:
The creative education in the world is felt because the present day crisis of world's annihilation, the new awareness of man's immense potentialities and the individual and the social obligations function of creative education.
Creativity is both constructive and destructive, which can bless the world with the pleasant fruits of development, progress and prosperity, Therefore, the fostering of creativity is needed both to facilitate the goal and to avert the space wars and dangerous missiles which pose a great threat to the peaceful

coexistence of nations in the world and to the survival of mankind. To achieve a creative advance to counter this danger, one creative person brain won't be sufficient. Several creative geniuses should come together to work and training of such large scale activities only possible through education.
Guilford (1950) identified about six mental abilities, which classified as conative, convergent, memory operations, productive thinking and evaluative process. All these mental abilities and the divergent thinking abilities have greater implications for education. Secondly Education commission (1952) and Kothari commission (1966) highlighted that immediate need of rising thinking inventive and creative individuals in our schools and colleges. Radha Krishnan (1960) observes that man has been endowed with spark of creativity.

Creativity and Language Arts:
Creativity in language arts is also called as creative writing or literary writing which is part and parcel of the aesthetic creativity. Language is mainly spoken and meant for daily communication, the creative expression provides pleasure and delight and teaches truth.

The language goals and curriculum transaction are centered on the practical communicative level and acquisition of basic skills–listening, speaking, reading and writing. But it stops at the appreciation level. i.e. self expression. Lesser scope is given for original expression; the composition are dictated by teachers or dictated at home by parent, little scope is given for original thinking and ideas. The goals, curriculum and methods of teaching, do not allow to rich higher goal of creative writing. The students should be given an opportunity for self discovery, expression of ideas, feelings and emotions; that there can be some creative exercises through which their aesthetic sense is triggered up of and get to start of writing creatively, which hopefully, in the long run results in making a poet.

The objectives of teaching language are formed from the practical point of view. The study is related to Gujarati language Bhogayate and others (1994) have highlighted the following objectives to develop four basic language skills i.e. listening, speaking, reading, writing while the main stress, is on language acquisition.

Rationale:
The success of developing creativity depends on enthusiastic and careful transaction by the teacher in the classroom. Early identification of creative children and subsequently nurturing their creativity goes a long way in the development of any nation.
The programmes of teacher education should be designed to promote creative teachers who in turn would develop student's creativity. Malhotra (1980) found that teacher's encouraging behaviour, his creative techniques, open-mindedness; high motivation and his own creativity contribute significantly to the development of student's creativity.

There is a need for comprehensive criteria to identify the creative writing talents.

Operational Definition of Creative Writing Potentials

It comprises of the creative writing potentials of composing poem, flow of thoughts, developing a story, Dramatization of a lesson, reflective thinking and developing a story. The creative writing potential stands for innate capacity for creative expression which could be reflected in a favourable creative attitude, aptitude and early experience of creative writing.

Objectives of the Study:

1. To identify the components of creative writing.
2. To prepare the programme for creative writing potentials on the basis of above components for B.Ed. trainees of Gujarati method.

Research Methodology:

In this section an attempt has been made to systematically present the methodology used for investigation. The structure of this section is as follows: Sample, Programme for identifying creative writing potentials, surveyed literature used the procedure for data collection and suitable techniques applied to analyze the data.

Sample

Forty seven B.Ed. students of Gujarati method of CASE M. S. University of Barod awere selected by purposive sampling technique.

Programme for Identifying Creative Writing Potentials:

In order to indentify potentials of creative writing of B.Ed. trainees a programme was prepared on the basic of identified components from surveyed literature. After preparing the initial draft, the same was given to six teacher educators from the CASE M. S. University of Baroda for their suggestions and comments. Their main task was to examine items and components. It was felt by experts to give picture for composition of Poem so that item was modified.

The following components were identified and suitable items were selected.

Sr.	Item/Activity	Components
1	Flow of Thoughts	F, F_1,O, E
2	Developing a Story	F, F_1,O, E
3	Dramatization of a lesson	F, O, E
4	Reflective Thinking	F, F_1,O,E
5	Poem Composition Sensitivity, Mood, Rhythm & Rhyme	F, F_1,O, E,

Note : F = Fluency, F_1 = Flexibility, O = Originality, E = Elaboration.

Procedure for Data Collection:

The data of forty seven student of Gujarati method have been collected. The data was collected during the last week of February 2010 and first week of March, 2010. The details of which is given in the table :

TABLE : 1
Data Collection Schedule

Sr.	Programme Items	Duration	Identified Components	Approach Selected
1	Flow of Thought	01 hr.	F, F_1, O, E	Activity
2	Development of a Story	01 hr.	F, F_1, O, E	Activity
3	Dramatization of a lesson	04 hr.	F, O, E	Workshop cum Activity
4	Reflective Thinking	01 hr.	F, F_1, O, E	Activity
5	Poet Composition Sensitivity, Mood, Rhythm, rhyme etc.	02 hr.	F, F_1, O, E,	Workshop cum Activity

Data Analysis :

The Data pertaining to objective 1: The investigation identified the components for creative writing from survey of literature viz., fluency, flexibility, originality and elaboration.

The Data pertaining to objective 2 : The programme for identifying creative writing potentials, the performance of students analyzed through frequency and percentages.

Table - 2
% Analysis of 'Flow of Thought' against identified components of B.Ed. Trainees of Gujarati Method.

Sr.	Component	No. Stu.	%
1.	Fluency	28	59.57
2.	Flexibility	14	29.78
3.	Originality	16	34.04
4.	Elaboration	20	42.55

It can be observed from the above table that 28 students (59.57%), 14 students (29.78%), 16 students (34.04%), 20 students (42.55%) have shown their fluency, flexibility, originality and elaboration potentials in creative writing in above item respectively. 29.78% students and 34.04% students showed very low flexibility and originality potentials in creative writing respectively. So it may be due to their non exposure in thinking process of flexibility and originality during their study period. They may be used to memorization and reproduction of thought.

Table - 3
% Analysis of 'Developing A Story' against identified components of B.Ed. Trainees of Gujarati Method.

Sr.	Component	No. Stu.	%
1.	Fluency	32	68.05
2.	Flexibility	20	42.55
3.	Originality	28	59.57
4.	Elaboration	22	46.80

It can be observed from the above table that in the item 'Developing a story' 32 students (68.05%), 20 students

(42.55%), 28 students (59.57%), 22 students (46.80%) have shown their fluency, flexibility, originality and elaboration potentials in creative writing in above item respectively.

Table - 4
% Analysis of 'Dramatization of a Lesson' against identified components of B.Ed. Trainees of Gujarati Method.

Sr.	Component	No. Stu.	%
1.	Fluency	33	70.21
2.	Originality	31	65.95
3.	Elaboration	34	72.34

The total forty seven students attempted the item 'Dramatization of a lesson'. It can be observed from the table that 33 students (70.21%), 31 students (65.95%), 34 students (72.34%) have shown their fluency, originality and elaboration potentials in creative writing of above item respectively, which is very high. It seems students have more interest in such kind of items.

Table - 5
% Analysis of 'Reflective Thinking' against identified components of B.Ed. Trainees of Gujarati Method.

Sr.	Component	No. Stu.	%
1.	Fluency	20	42.55
2.	Flexibility	13	27.65
3.	Originality	15	31.95
4.	Elaboration	11	23.40

It can be observed from the table that 20 students (42.55%), 13 students (27.65%), 15 students (31.95%), 11 students (23.40%) have shown their fluency, flexibility originality and elaboration potentials in creative writing in above item respectively students are found weak in flexibility, originality and elaboration potentials in creative writing. It may be due to lack of exposure of this item.

Table - 6
% Analysis of 'Poem Composition' against identified components of B.Ed. Trainees of Gujarati Method.

Sr.	Component	No. Stu.	%
1.	Sensitivity	17	36.17
2.	Mood	15	31.91
3.	Rhythm & Rhyme	24	51.06
4.	Reference to title	24	51.06
5.	Fluency	26	55.31
6.	Flexibility	11	23.04
7.	Originality	20	42.55
8.	Elaboration	22	46.80

Major Findings

In the item 'flow of thought' 59.57% , 29.78%, 34.04% and 42.55% of B. Ed trainees found lack in flexibility and originality potentials in creative writing respectively 59.57% students found little high fluency potential in creative writing.

In the item 'developing a story' 42.55% and 46.80% of B. Ed trainees found low flexibility and elaboration potentials in creative writing respectively. 68.05% of B. Ed trainees found high fluency in creative writing.

In the item "dramatization of a lesson' 70.21%, 61.95%, 72.34% of B.Ed. trainees found high in fluency, originality and elaboration potential in creative writing respectively.

In item related to 'Reflective thinking' 27.65% and 23,40% of B. Ed trainees found lack in flexibility and elaboration potentials in creative writing respectively 42.55% of B.Ed. trainees found, average in fluency potential in creative writing.

More than 50% of B. Ed trainees found average in fluency, rhythm and rhyme reference to title potentials in poem composition. 23.04% of B. Ed. trainees found lack in flexibility potential in creative writing.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

Small Under Resourced Schools in India: Imperatives for Quality Improvement with Reference to RTE Act. 2009

*Dr. Rashmi Diwan**

Abstract

With 94 percent of the country's rural population having schooling facilities within one kilometer and 85 percent at the upper primary stage, one can comprehend that access to schools is no longer a major challenge in India. The expansion in primary schools has accelerated access to schooling but has also brought in proliferation of small-sized schools all over the country. These undersized schools have been providing access to large segments of isolated, neglected and never enrolled children in scattered habitations, but with limited physical and human resources. One may say that the contributions of small schools have been immense in the provision of primary schooling, but at what cost? Is it meaningful to have access to under-resourced schools without basic input of adequate teachers, classrooms, buildings etc.? The paper draws evidences from secondary sources and observation of the investigator in government small schools in Rajasthan and Madhya Pradesh, beginning 2007 to mid 2008. The paper draws attention to large sector of small under-resourced schools neglected in all respects. The insights point to the seriousness with which small schools needs to be addressed, especially when RTE Act 2009 is on the anvil of implementation in the states, which legitimizes the right of each child to quality education.

(Scenario of a Small Rural School in the Outskirts of Delhi)

A small school in the outskirts of Delhi, the capital of India, considered to be in the rural belt, initially with kutcha infrastructure, was built into brick and mortar walls with roofs made of sheets (like used in tin shades) that gets heated during the day in sunny weather and during rainy season, makes loud noise when rain drops on it. On the day of visit to this school, it was pouring heavily but class was on, a teacher standing with the text book was busy reading the chapter aloud, with children repeating the sentence that teacher has read. There was so much noise on the roof top that nothing was audible at all—but the class was on. Slowly one child got up and jumped from the window, followed by another. The teacher was not even aware of this and kept on peeping through the book with entire face sunken into it and reading through on top of her voice. Can we call it a quality school?

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Introduction

This is the story of most of the schools among 91percent primary schools located in rural India on which 75 percent of our population depend. Invariably schools created in such areas, most likely do not have established infrastructure according to existing norms. In most of these locations, small schools with single teacher set ups, functioning in multi grade and multi-age situations, struggling with feeble enrolment and limited resources have been set up.

The number of such small schools is quite massive. DISE* 2006-07 reports that still 3,05,283 schools (of the total 12, 50, 775 schools) that comes to around one-third of elementary schools in the country have enrolment 50 and fewer. 14.99 percent of elementary schools are managed by a single teacher. Seventh All India Educational Survey (2002) reported that 16.41 percent of single teacher primary schools are in rural locations of the country.

Small schools in different forms including EGS/ AIE and alternative schools are widely known for making significant contributions in habitations with scattered population especially in Scheduled Caste and Scheduled Tribe pockets, in difficult terrain belts and other in accessible pockets where the incidence of low literacy levels of parents, lack of transport facilities and migration is high. Out of 24,333 SC dominated habitations which do not have primary schooling facility within 1 km,

** District Information System for Education is an EMIS Programme designed for collection of large scale school information. The data generated through DISE has been accorded official status.*

11.08 percent have alternative schools, while the rest are without any school. Almost 75.76 percent ST dominated habitations still do not have either a primary or an alternative school within a distance of one km. Small schools, no doubt, have become a necessity for meeting requirements of large number of deprived habitations but have further marginalized the already isolated sections of our society, but at what cost? These schools, small in size are marked with poor infrastructure, high student-classroom ratio, multigrade teaching, less number of children, single teacher schools, high teacher absenteeism, and low paid teachers. Addressing quality in such schools is becoming a major challenge especially when proliferation of these schools are without building, without blackboard (not even usable condition in several schools), single classroom, single teacher resulting in constant decline in enrolment as revealed by the DISE reports from 2002-2005 onwards.

Understanding Small schools

The major quantum of empirical research on small undersized schools in the West and India, points out to the benefits of small schools. One set of studies consider size as an important parameter. The studies (Raywid, Mary Anne, 1999; Fine and Somerville, 1998;

Lee and Smith 1996 and 1997; The Small Schools Project[1]; Cotton 1996 and 2001; Cushman, 1997; Aimee Howley and Craig Howley, 2006; Perry Theresa, 2003; P. Wasley, M. Fine, M. Gladden, N. Holland, S. King, E. Mosak, and L. Powell, 2000; Center for Collaborative Education, 2001) fall into this category. They have reported size as a vital predictor of smallness of schools and have quoted limits as low as 250 and as high a range as 600 through 800 and beyond. Indian studies so far classify these schools with enrolment upto 25 (DISE 2005) to less than 100 (Govinda 1995). Aggarwal (1997) ascertained small schools as having enrolment less than 60 and by definition two teacher schools, handling multi grade and multi level classes. Angela Little (2008) pointed out to the relative definition the size of schools when variations in size are observed, from 'very small' with 50 or fewer pupils to small elementary schools in USA with 300-400 students. Another set of studies www.smallschoolsworkshop.org/info1.html, Deborah Meier, 1998 College of Education, The Small Schools Project[2], 2001). An overview of literature (2006) focuses on personalized learning and a collegial approach in the understanding of small-sized schools. Looking at the diversity of situations in which small schools function in India, this study comes out with justifications that small schools need to be looked beyond size, content, highly personalized learning.

[1] *http://www.smallschoolsproject.org*

[2] http://depts.washington.edu/coenews res_spotlight/ssp.html

Numerous experiences during visits to small schools in M.P. and Rajasthan reveals that these schools are greatly impacted by the community and social profile of village. Therefore each small school needs to be given contextual meaning within the socio-economic-political matrix it operates—making it a unique experience. Small schools are much more than size.

Rajasthan experience tells the story of several small schools which do not cater to more than 11-12 children in interior pockets, because local politicians wanted to show 'power' in their constituency through establishment of schools in close neighbourhood. A nearest private school also draws substantial number of children from the village. Government small schools are most affected as the size of these schools are shrinking and becoming smaller by compulsion, since these schools are open to limited children, who can not afford fee-charging institutions and therefore are left with the choice of small schools. The sight of these schools is pathetic and so is the commitment of teachers, because of unfavourable conditions for their regularization in the states. The issues of inequality and access particularly arise from harsh social and economic realities of the contexts in which small schools are located (Blum and Diwan, 2007).

In several pockets of Madhya Pradesh, school administrators asserted that majority of schools have adequate facilities, but on observations a different

picture came to view. There were schools with more than 200 children managed by one regular and one para teacher (teacher appointed on contract), but para teachers in several schools were not paid the consolidated salary by the state. They were providing honorary services for the past 12 years with a hope that their services will be regularized formally. When this matter was discussed with Block Resource Co ordinator, the investigator came to know that there is remote possibility of their induction into the system since their names do not appear in the list of contract teachers prepared about 10-12 years ago. Even in schools where permanent two teachers are provided, one practically remains outside the premises for managing mid day meal or attending meetings and the entire school is left with a single teacher to manage all the five classes. Similarly in some schools, inspite of adequate number of classrooms, the classes are conducted in one classroom because there is only one teacher to manage five classes. In another situation, one teacher was seen managing grade III and IV with children sitting in opposite direction in the same classroom. In these kinds of situations what quality of teaching in the absence of need-based training can be expected? Is it not a threat to the quality of teaching in the years to come?

The Small school setup: An overview

(a) Basic Infrastructure

Primary schools which do not have building are located in rural areas in India. Majority of primary schools with one-three classrooms and enrolment as low as 1 to 25 and 26 to 50 are more prominent in rural locations of India. Although DISE 2006 figures and the Seventh All India Survey reports decline in the number of such schools, from 4.20 percent (1993) to 2.58 percent (2002) and in rural areas from 4.40 percent (1993) to 2.63 percent (2002), still schools functioning in tents and open space can not be ignored. There are schools with buildings where officials claim that a building has been provided to a school, but it is in most depleting condition. DISE 2005-06 revealed that percentage share of enrolment in rural schools without building is on decline when compared with the year 2002.

In several such schools visited in Rewa district of M.P., shabby classrooms, dull walls, gloomy environment, dark and dingy rooms with total absence of comfort level pose a series of issues to be addressed seriously when looked from quality point of view. A broken chair for teachers and benches without support for children is a common scene in several schools of Dindori and Rewa clusters of M.P. Children are made to sit on the mud floor without proper mats during winters, while in others, classrooms are utilized as a store house for mid day meal items, or construction material for instance.

With the overall increase in schools, the schools without blackboard have also been on rise. A little over 10 percent of primary schools do not have blackboard and almost of same percentage are

single classroom schools. The percentage of schools without a blackboard may not look very high but in absolute numbers, it does matter. Not only do primary schools lack this basic input, but its absence can be felt at higher stages of schooling. Govinda (1995) revealed that nearly 14 percent of primary classes in urban areas did not have usable blackboard. In one fourth of the schools, there were no mats or furniture for the pupils. But 15 percent of schools did not own even a chair and table for the teacher. A constant decline in percentage share of enrolment in such schools in all the categories of rural schools is noticed. The earlier study by the investigator on the *Quality of Primary Education in Municipal Corporation Schools of Delhi in 1993* revealed that teachers in almost all the schools had common complaint that the level of understanding among children was so poor that they were unable to copy accurately from the blackboard. If this is the situation, then what can one expect from schools where there is nothing visual on which children could depend on except a textbook which is also not supplied on time? Unfortunately our teaching learning transactions are so rhetoric that it is highly dependent on a blackboard and if there is none, then how is it ensured that children are learning? Quality or learning levels here can be placed on high risk.

(b) Teachers

The schools with limited human resources specifically deal with problems which big schools may not be facing like sharing of roles and responsibilities, division of time between different activities in multigrade settings, the functioning of schools with the absence of both the teachers etc. These issues become bigger in small schools when one looks at the multiple activities handled by one or two teachers within a classroom with multi-age groups. The numbers are limited, 10-15 in certain cases, across Grade 1-V demanding attention of a single teacher or multiple classes in one or two functional classrooms by two teachers is yet serious concerns for addressing quality in small schools. Govinda (2007) draws serious attention to the one-fourth of the total number of primary schools in the country which are very small with only one teacher and/or one classroom and generally located in small habitations.

The Seventh Survey also reports increase in the proportion of single teacher schools, although inter state variations are prominent. It is further explained that more than 95 percent primary schools in rural locations have two categories of enrolment 1-25 and 26-50, while the schools in urban areas have larger enrolment ranges. Interestingly the share of enrolment in rural single teacher schools has been seen to be on rise from 2003 onwards at all levels, but the highest share of enrolment has been in single teacher independent primary schools. This indicates to the demand for a school, which calls for gearing of single teacher schools in remote locations to create enabling conditions for longer retention

and participation of children. It may be derived from the discussion above that *schools with low enrolment, managed by single teachers with limited physical resources qualify to be considered as small schools.* But small schools are not all about under resources but are deeply engrained into the situations around in which they operate.

Major Critical Issues

(i) The Isolated Struggling teacher

The job of teaching is far more complex in remotely located schools due to inadequate and poor quality of school facilities, lack of interaction with peer group of teachers and learners, and isolation due to poor connectivity. The teacher is mainly untrained in handling first generation learners, multi- grade, multi- level and multi- age class composition and most of them are 'teachers on contract'. Often they have to manage diversity and some of these might also be special needs students (physically or mentally handicapped). The teachers are instructed to put the special needs students up at the front of the room near them so that they can help them, but in reality it does not work that way (these students become stigmatized and probably ignored because of the demands of other students). Overall training provided to them does not really prepare them for what they are likely to find in the classroom. They find it hard to handle individual needs, expectations, learning capacity, health conditions etc in multigrade classroom setting. Multi grade teaching requires a comprehensive approach and flexibility – which just isn't happening presently. Teachers are struggling with duties in addition to teaching, and then have to choose how best to spend their remaining time. In many cases, teachers are also still following the mono quasi model of multigrade, dividing their class (es) into grade groups and then dividing their time amongst them. Often this means that some grades get more neglected than others.

Teachers tend to give more attention to the older students because they have to prepare them for the exam in Grade 5. During the field observation in small schools of Rajasthan, the teachers confided that since there are more failures in Grade III and the chances of drop out becomes more intense at this stage, more time is devoted to children in this grade. This means that younger students – who often need much more support, especially the first generation learners – aren't getting it. The impact of the rural location and multigrade school situations in small size schools tends to have a greater impact on student attendance and classroom participation levels. There is absolutely no evidence to state that multi grade comes as a support for small schools.

In fact, some recent studies (one currently underway by the Ministry of Human Resource Development, for example, which is studying the 'time on task' of teachers) show that the Grade 1 and 2 are often the most neglected. This study found that in multi grade situations, for almost 66 percent time

during school hours, children are left free.

(ii) Lack of clarity in Learner Assessment

Evaluating differential age group children in multi grade situations without even understanding the concept of Continuous Comprehensive Evaluation, that too in the absence of training and induction for teachers is a major challenge faced in small schools. Teachers in multi grade schools are finding it hard to examine their students (every 2-3 months) since this requires a great deal of additional responsibility that is taking more of the teachers' time. Assessing and keeping track of records on a more regular or frequent basis is one more added responsibility for teachers. It is irony that multi grade students are still examined by the state system, as they will still need to pass examination for Grade V to get their certificates. However, implementation of RTE Act would necessitate preparedness for teachers to handle learner assessment in multiple ways for single age children in one grade, but still its implications have to be waited for.

Recommendations

***(a)* Judicious Choice of Approaches**

There are lots of programmes doing similar, but also following different approaches in this area. Often there is confusion about what is being done. This is true about the difference between multigrade and multi-level methods, for example. Multi-level programmes like Bodh Shiksha Samiti in Rajasthan are often considered to be useful in dealing with the different levels of learning in any classroom setting (for details refer to Blum and Diwan, Research Monograph No. 17, CREATE Pathways to Access, October 2007). One needs to derive best from the approaches followed either from within the country or abroad. Sometimes there are also problems when an NGO approach is taken up and applied in the government sector schools. The Rishi Valley programme, for example, taken up in many states – includes 'multigrade learning centres'in Tamil Nadu and Karnataka, among others. The Escuela Nueva programmes (followed in Columbian schools) are 'Rishi Valley plus something else'. Clearly the Escuela Nueva work has made a very positive impression. Lessons learnt from Bodh Shiksha Samiti in Rajasthan about developing strong NGO and government linkages for functioning of small schools in difficult location can best be derived in other states also. In Karnataka, where Rishi Valley ideas have been implemented in government schools, there are four things missing either from what the original Rishi Valley programme intended or from what Escuela Nueva could supply. Firstly, the empowerment factor – which is so important to the Escuela Nueva approach to multi grade teaching – is largely missing. The teaching methods (using cards, learning ladders, etc.) have been adopted, but not the underlying spirit of Escuela Nueva's intention to empower students in terms of their personal development and directing their own learning. Multi grade offers

such great opportunities for education to be made locally relevant and to draw on resources in each community. The programmes tend to focus too much on using just the activity cards and do not use enough other kinds of resources. For example, reference books should be available in the classroom for students to consult when they have questions or are curious about something although the level of learning displayed by the children of Rishi Valley satellite schools in particular is quite high. Rishi Valley focuses too much on individual card-based learning and not enough on the kind of group learning approach that Escuela Nueva promotes. Of course, Escuela Nueva is also explicitly intended to cultivate tolerance of difference and peace – which are particularly important in the Columbian context. This emphasis has happened less with multigrade programmes in India, but would certainly be useful here too, in terms of cultivating tolerance of difference and promoting peaceful interaction.

In order to facilitate the process of improvement in small schools, including multi grade schools, the first step is to familiarise the State Departments of Education with innovations followed within and countries abroad. In order to make practical applications of such innovations, the second step is to create at the national level, a platform for intensive national consultation on the options and ways by which the innovation can be implemented. This entire programme will call for a well thought out plan and policy specifically on small schools which takes into consideration the diversity in small schools in particular.

(b) Locking Small Schools in the Cycle of Improvement

Multigrade teaching requires some real changes to the way in which teaching and learning happen in this country. RTE Act 2009 looks at School Improvement Planning as the ultimate goal and therefore SCERTs and DIETs need to gear itself to take up the challenge for initiating school-based improvement initiatives.

(C) Provision of Appropriate Teacher Training

The State Governments can take a policy decision on organizing pre service training for teachers to manage diversity in levels, interests and needs among children of multiple age-groups in a small classroom set up. Similarly special efforts to familiarize teachers with science kit practicals, mathematics and the like can also be augmented.

(d) Teacher Deployment

In several independent primary and upper primary schools, there is a dearth of subject teachers while several primary schools teachers with Ph.D, M.Sc, B.Ed degrees are employed in small primary schools. The highly qualified teachers can be employed in big schools and lower qualified ones can be transferred to small schools with specific professional training for multigrade teaching and management of small heterogenous children groups in small schools. This can be ensured with proper planning for human

resources by the State Departments of Education. A policy that takes into cognizance that teachers need to be liberated from additional administrative tasks and cumbersome record keeping and record maintenance needs to be framed, when the same time can be utilized to enable them to give more attention, time and guidance to children

(e) Survival through Community Involvement

Changes in small schools have been happening through active involvement of community in various forms and there are ample evidences available in the schools visited in Rajasthan. The story of contributions of community through donation of land, landscaping the school grounds, cultivating trees and plants, developing the school into a village resource centre, participating in activities with children and encouraging them in their learning, mothers as community teachers paying special attention to health and hygiene practices, providing help in the organization of classrooms and the school, organizing story writing workshops, helping teachers in preparing aids, etc., well narrates the journey of transformation of a small school into a big set up—more pronounced in rural settings. Therefore community can make a big difference to school, only right people with positive approach need to be tapped. This is seriously recognized with RTE Act 2009 recommending clearly for the need of establishing School Management Committee for each school, which should become instrumental in provision of quality education to children by improving schools from within.

(f) Consolidation of Neighbourhood Schools

With large number of small habitation and sparsely populated areas, the small schools are scattered within the radius of one km. These schools seriously suffer from inadequate resources. Creating a pool of resources in one school, (lead school) with feeder schools to utilize the resources centralized in lead school, like the concept adopted in School Complexes seem to be a workable proposition. Govinda (2007) recommended that attention to consolidating existing provisions if necessary be combined among unviable small schools working in close neighbourhood.

Concluding Remarks

Small schools in India in a government set up are losing its identity. Functioning as isolated divisions of a bureaucratically run system, no concerted effort is taken to bring a change in the conditions these schools survive. If we have to make a mention of policy thrust on small schools in India, there is absolute lack of clarity in the NPE 1986 and subsequent 1992 policy documents. For the first time, the component of *small schools* appeared in the draft Eleventh Working Group Report as part of SSA programme but in the ensuing report it was found to be missing. The blanket approaches on applying same policy for all kinds and sizes of schools will no longer work today if the issue of quality is to be

addressed seriously in Indian small schools. The RTE Act 2009 provides sufficient rationalization for the need to bring quality improvement in the small school sector in the country. The Act holds a vision to follow a systematic approach for improving the planning and management of small schools coupled with collaborative decisions to come out with a plan to combat inequity among schools to bring large sector of small schools in the scaffold of improvement and sustenance.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

Teachers Literacy Towards the Child Rights

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Abstract

In this study it is aimed to take a survey of the secondary school teachers towards the child rights. Every day we hear infringements of human rights. It is necessary to look at the rights of young people .The study was conducted on 60 secondary school teachers in Mumbai city. Survey method was adopted. Data in this study were collected through the self made questionnaire on child rights. Self prepared tool was used. The scale has 14 statements belonging child rights each statement is set against five point scale of strongly agree, agree, undecided, disagree and strongly disagree. For the present investigation the population was the secondary teachers of Mumbai region. 60 teachers were selected randomly. From each of the division (East, West, and North&South) the researcher selects 10 schools. The literacy of teachers was analyzed on the basis of different variables like age, teaching experience, category, sex. In this study, data were analyzed with statistical processes such as t- test. Percentage was also calculated. The investigator found that the trainee teachers were satisfactorily aware or literate with the child Rights along with the different variables.

Introduction-

General awareness of human rights issues increased over the past few decades. Every day we hear infringements of human rights. It is necessary to look at the rights of young people.Children who learn about human rights are more likely to become advocates for children's rights and rights of all citizens in the future.

In 1919 an English woman named *Eglantine Jebb* established, "Save the Children", an organization to help children left destitute by tile first world war. In 1924 *Jebb's* '7-point Charter of the Rights of the Child' was adopted by the League of Nations, the forerunner of today's United Nations. This Charter codified 'Children Rights' on an international basis. It was expanded over the succeeding years to form the basis for the 1959 declaration of 'Rights of the Child' which was adopted by the United Nation General Assembly. In 1979 during the 'International Year of the Child', many states expressed concern that something more binding

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than a declaration was needed. During the 1980's representative from tile UN member states, commission of human rights and non-governmental organization expanded the article of the 1959 Declaration to form the Convention on the Rights of the Child. The Un General Assembly unanimously approved this convention in 1989. It came into force in 1990.

The convention is one of the most important international rights treaties for protection and support of children. Every government that ratified it is bound to develop programmes and policies that will respect the rights of children set out in the Convention.

Review of the literature-

Karaman-Kepenekci, Yasemin (2010) found that the 'Children's Rights' are legally protected benefits for children to develop physically, mentally, emotionally, socially and morally with freedom and honor in a healthy and normal way. It is important that children know the rights they have. Works of high quality children's literature ensure the socialization of children.

Howe, R. Brian; Covell, Katherine (2010) article concerns educating children in schools about their basic rights under the United Nations Convention on the Rights of the Child. The question address is the teaching of responsibilities. They point out that although there is no mention of children's responsibilities in the Convention; responsibilities are inherent in the concept of rights. Therefore, children's rights education requires that children learn responsibilities that go together with rights. But we also point out that although there is a conceptual linkage between rights and responsibilities, effective education requires that the central focus is on rights and that children are given the opportunity to discover for themselves the connection between rights and responsibilities. That teachers unduly focus on responsibilities is mis-education about children's rights.

Layland, Judy (2010) 'Children's Rights' have become a significant field of study during the past decades, largely due to the adoption of the United Nations Convention on the Rights of the Child (UNCRC) in 1989. Today, scholarly work on children's rights is almost inconceivable without considering the Convention as the bearer of the children's rights debate. The goal of this article is to critically explore academic work on the UNCRC. By means of a discourse analysis of international literature, the article maps the academic discourse on children's rights. Three themes are identified that predominate in the academic work on the UNCRC: (1) autonomy and participation rights as the new norm in children's rights practice and policy, (2) children's rights vs parental rights and (3) the global children's rights industry. That these three themes distinguish contemporary scholarly work on the UNCRC might not be a coincidence, analyses from the process of

"educationalization" that has characterized childhood in western societies since the 19th century. The perspective of educationalization presents a contemporary research agenda for children's rights for the coming decades

Significance of the study-

Teachers are the nation builder's. They play an important role in the organization of child rights. Are all teachers aware of the child rights and duties in the classroom? Teachers should be equipped with knowledge, skills and understanding to inculcate child rights as a part of their teacher education courses both preservice and in-service. Child rights are important because they protect child from discrimination, unfair treatment .and promote the development of democratic values and attitude and freedom. Understanding and experience of child rights is an important ingredient of preparation of all young people for life in a multicultural and democratic society. Child rights is the part of human rights and the teachers are the social engineer that's why the teachers have the literacy towards child rights hence it is the need of hour.

Objectives-

1. To study the literacy of teachers towards child rights.

2. To compare the literacy of teachers towards child rights on the basis of
   A) Age B) Teaching experience
   C) Category D) Sex

Hypotheses-

1. There is no significant difference in the literacy level of teachers towards child rights on the basis of age, teaching experience, category and sex.
2. Literacy of teachers towards 'Child Rights' is an average.

Design of the study-

A survey method of research was employed for the present concern with surveying, investigating and describing the issues. Literacy of child rights was dependent variable and independent variable were age, sex, category, and teaching experience.

Sample-

For the present investigation the population was the secondary teachers of Mumbai region. 60 teachers were selected randomly. From each of the division (East, West, and North&South) the researcher selected 10 schools.

Tool used-

Self prepared tool was used. The scale has 14 statements belonging child rights each statement is set against five point scale of strongly agree, agree, undecided, disagree and strongly disagree. The scoring is of 5, 4, 3, 2&1 are given. The reliability is 0.75. Scale has contained 14 statements.The maximum and minimum scores for the scale were 70 14 respectively.

Sr.	Range of score	Literacy level
1.	14-28	Low
2.	28-42	Satisfactory
3.	42-56	Average
4.	56-70	high

Data analysis and interpretation:-

Table 1

Means and S.D's. of the scores of male and female teachers Child Rights literacy

Sex	N	Mean	S.D.	t-value	Sign.
Ma.	31	36.45	1.96	0.692	
Fe.	29	36.93	2.49		N.S.

From the table no. 1 it can be noticed that calculated 't' value is less than the tabulated value thus 't' is not significant at .05 level hence the null hypothesis is accepted and it can be stated that, there is no significant difference in the literacy level of male and female teachers.

Table 2

Means and S.D's. of the scores of age wise teachers Child Rights literacy

Age	N	Mean	S.D.	t-value	Sign.
24-34	39	36.47	2.24	0.50	
35-45	21	36.37	2.22		N.S.

The table no. 2 shows that, calculated 't' value is less than the tabulated value thus 't' is not significant at 0.05 level hence the null hypothesis is accepted. It means there is no significant difference in the literacy level belonging the age group between 24-34 and 35-45 years.

The table no. 3 informs that calculated 't' value is less than the tabulated value thus 't' is not significant at .05 level hence the null hypothesis is accepted. It means there is no significant difference in the literacy level of open and reserved category teachers.

Table 3

Means and S.D's. of the scores of category wise teachers C R literacy

Cate.	N	Mean	S.D.	t-value	Sign.
Open	30	36.53	2.23	0.516	
Reser -ved	30	36.83	2.24		N.S.

Table 4

Means and S.D's. of the scores of experience wise teachers Child Rights literacy

Exp.	N	Mean	S.D.	t-value	Sign.
1-10	47	36.95	2.22	1.56	
10<	13	36.69	2.01		N.S.

The table no. 4 states that the calculated 't' value is less than the tabulated value thus t is not significant at .05 level hence the null hypothesis is accepted.It means there is no significant difference in the literacy level of teachers having the experience of 10 years and above 10 years.

It could be seen from tables 1 to 4 that the Mean overall literacy scores about Child Rights of different variables were below the neutral point (42), indicating that all the teachers irrespective of different variables was aware about child rights satisfactorily.

Findings-

1. The teachers were aware of Child Rights at satisfactory level.

2. No significant difference in the Child Rights literacy level of male and female teachers.
3. No significant difference in the Child Rights literacy level belonging the age group between 24-34 and 35-45 years.
4. No significant difference in the Child Rights literacy level of open and reserved category teachers.
5. No significant difference in the Child Rights literacy level of teachers having the experience of 10 years and above 10 years.

Conclusion-

From the analysis, it can be concluded that all the teachers were aware about Child Rights at satisfactory level.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

Attitudes and Reflections of Prospective Teachers on Environmental Concerns

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Abstract

The present article has tried to explore the attitudes and reflections of student teachers on environmental concerns. The study has been conducted by using survey method with the help of an attitude scale to obtain the perceptions of student teachers. The study found that most of the students showed moderate level of attitude towards environmental concerns. They also showed positive reflections towards initiating action plans which are reflected in the qualitative analysis.

Introduction

"Environment .....we have not inherited it from our fore fathers! We have borrowed it from our children." (Prime Minister of India, 1972 Stockholm Conference.)

World over, the environment is being destroyed by the human beings today. To overcome the destruction many conferences seminars, symposiums, workshops and training programmes are being conducted so as to awaken the people to the issue.

About man's ruthless attacks on the environment, his abuse of nature, a lot has been said without much impact on this particular species which considers itself to be the most intelligent of all living beings. Despite being aware of the degradation caused due to his actions and deeds, there is still a refusal to mend ways..... hardened attitudes and shameless indifference have together made up a deadly combination which is difficult all around!

With open mind, new ideas are well received by the students. With their ingenuity and creativity, they hold the power to explore can convince. They can influence others. If they are convinced

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themselves that they can change the globe. They are, in fact, our best hope those tender budding teachers can bring a sea change in coming 16 generations.

For every evil on the earth and every problem of the human being, 'education' is viewed as a panacea. Today, everyone says that curriculum should do something to check this degradation and to avert the catastrophe waiting to strike on us, since education is the perfect instrument to protect the environment by inculcating a positive attitude towards environmental concerns among teachers of tomorrow. Even former President of the U.S.A., Richard Nixon emphasized the role of education on several occasions. In his introduction to the First Annual Report of the Council (Aug,1970) on Environmental quality, he stated "The basic causes of our environmental troubles are deeply embedded. It is obvious that we cannot correct deep-rooted causes overnight.

Our educational system has a key role to play in bringing about this reform. Because, the purpose of education is to impart knowledge, stimulate learning and inculcate values in students in particular and the public in general. It should enable and motivate them individually and collectively, to develop their personalities, lead integrated lives in harmony with the environment and use their talents at the service of the society." Every student teacher should be fluent in the principles of ecology and should have a "working knowledge of environmental wisdom." According to William K. Reilly (former Administrator of Environmental Protection Agency EPA, USA), Environmental literacy can help to create a sense of duty to care for and manage wisely our natural endowment and our productive natural resources for the long haul, "environmental education" boils down to one profoundly important imperative; preparing ourselves for life into the next century.

Every discipline should include an environmental component in each major course. Environmental literacy is not the responsibility of a single discipline or a few disciplines but all disciplines. To accomplish this, substantial faculty training is necessary.

National Policy on Education, 1986 emphasized thus: "There is a paramount need to create a consciousness of the environment. It must permeate all ages and all sections of society beginning with the child." Environmental consciousness should form teaching in schools and colleges. This aspect has become a part of curriculum at different levels of education through the Supreme Court direction.

Considering the potential of teacher education as an effective instrument in tackling environmental crisis, "Environmental Education" can be a powerful instrument in understanding, preventing and solving environmental problems of forth coming generations.

Significance of the Study:

Environment is the concern of all human races. Human beings and environment are interdependent on

each other. Human beings are a part of environment. The modern age of information technology, scientific advancements and revolution in every dimension damaged the environment to the core. Every day we add huge amounts of waste more so plastic revolution and fiber age is adding much more non-biodegradable material to the environment.

At this juncture, it is the responsibility of every individual to be conscious of the environmental concerns and should feel accountable for the degradations and must initiate action to protect the same. In this context the present paper made an attempt to take into consideration the concerns and attitudes of the future responsible prospective teachers and their reflections on environmental concerns who are the backbone of our future society.

Objectives:

The following objectives are framed to conduct the present study.

1. To find out the attitudes of prospective teachers on environmental concerns.
2. To understand the reflections of prospective teachers on environmental concerns.
3. To analyze critically the reflections and the action plans to protect the environment.
4. To probe into the subject background and other independent variables influence on their attitudes towards environmental concerns.

Hypotheses:

The following hypotheses were framed to conduct the present study.

1. There will be no significant relationship between the age and positive attitude on environment.
2. There will be no significant difference between the gender and positive attitude on environment.
3. There will be no significant difference between the community and positive attitude on environment.
4. There will be no significant difference between the subject background and positive attitude on environment.
5. There will be no significant difference between the qualification of the teachers and positive attitude on environment.
6. There will be no significant difference between the locality and positive attitude on environment al concerns.

Method:

survey method was adopted to conduct the study.

Sampling technique:

purposive sampling technique is utilized in selecting the sample.

Sample:

Representative samples of 90 prospective teachers were included in the sample. Sample includes both girls and boys from rural and urban background and the students with science and social sciences background. The sample also consists of undergraduates and post graduates from different faculties.

Tools used for the study:
In view of the objectives the following tools were constructed.
A self constructed attitude scale is used to collect the data. An open ended questions were added to know the action plans and reflections. The scale included 20 questions about their attitudes related to different environmental concerns related to conservation, protection and general trends. Also an open ended questionnaire added to collect their reflections in terms of action plans they have in mind towards the protection of environment.

Statistical techniques:
Descriptive and inferential statistics were used in the analysis.

Analysis of the data:
Both quantitative and qualitative analysis is adopted to analyze the data.

Distribution of the sample:
The collected data were processed and analyzed with respect to the independent variables age, gender, community, educational qualification, subject background and the locality.

The data has been processed and analyzed with respect to the independent variables and their relation to the attitudes and reflections of respondents to environmental concerns.
From the table 1, it can be observed that most of the sample included belongs to lower age (35%) with the moderate level of positive attitude towards environmental concern. Equal no. of higher age group (50% each) show moderate and high positive attitude, similarly equal no. of them (50%) show low and high positive attitude towards environmental concerns.

Table No.1
Age Vs Environmental Concern Attitudes

Age	**L**	**%**	**M**	**%**	**H**	**%**	**T**
low	20	27	36	35	18	24	74
mod	4	50	0	0	4	50	8
high	0	0	4	50	4	50	8
Total							90

The chi-square test has been applied to verify the above difference between the opinions on environment and age. The calculated chi- square value (10.689) is greater than the tabled value (9.499) at df 4, 0.05 level of significance. Hence the null hypothesis is rejected. *It can be said that there is significant difference between the age and positive attitudes on environment.*

Table No.2
Chi-Square value of Age Vs Environmental Concern Attitudes

Sr.	**Items**	**Value**
1.	Calculated Value	10.689
2.	Table Value 0.05 level	9.49
3.	Degree of Freedom	4

In order to test the hypothesis 2, Gender Vs Environmental Concern Attitudes following analysis has been done.

Table No.3
Gender Vs Environmental Concern Attitudes

Sex	L	%	M	%	H	%	T
Male	18	32	26	46	12	20	56
Fem.	8	24	14	40	12	35	34
Total							90

From the table 3, it can be observed that most of the boys show high positive attitude towards environmental concern, where as most of the girls (40%) show moderately positive attitude towards environmental concerns.

Table No.4
Chi-Square value of Gender Vs Environmental Concern Attitudes

Sr.	Items	Value
1.	Calculated Value	2.19
2.	Table Value 0.05 level	5.99
3.	Degree of Freedom	2

The chi-square test has been applied to verify the above null hypothesis. The calculated chi- square value (2.19) is less than the standard table value (5.99) at df-2, 0.05 level of significance. Since the calculated value is less than the table value the null hypothesis is accepted.
It can be said that there is no significant difference between the boys and girls in their attitude on environmental concerns.

In order to test the hypothesis 3, Community Vs Environmental Concern Attitudes following analysis has been done.

Table No.5
Community Vs Environmental Concern Attitudes

Com.	L	%	M	%	H	%	T
OC	4	29	6	41	4	29	14
BC	16	31	24	46	12	23	52
SC	6	35	7	41	4	24	17
ST	1	14	4	57	2	29	7
Total							90

From the table 5, it can be seen that almost equal no. of OC's (41%), BC's (46%), SC's (41%) and ST's (57%) moderate positive attitude towards environmental concerns.
Thus it can be concluded that ST's in comparison to other communities show positive attitude towards environmental concern.

Table No.6
Chi-Square value of Community Vs Environmental Concern Attitudes

Sr.	Items	Value
1.	Calculated Value	1.25
2.	Table Value 0.05 level	12.59
3.	Degree of Freedom	6

The chi-square test has been applied to verify the above null hypothesis. The calculated chi- square value (1.25) is less than the standard table value (12.59) at df-6, 0.05 level of significance. Since the calculated value is less than the table value the null hypothesis is accepted.
It can be said that there is no significant difference between the community and positive attitude on environmental concern.

In order to test the hypothesis 4, Subject Background Vs Environmental Concern Attitudes following analysis has been done.

Table No.7

Subject Background Vs Environmental Concern Attitudes

Sub.	**L**	**%**	**M**	**%**	**H**	**%**	**T**
Bio	8	31	16	62	2	8	26
So.St.	6	43	4	29	4	29	14
Maths	10	20	24	48	16	32	50
Total							90

From the table it can be observed that most of the (62%) respondents with bio-science background show, similarly (48%) of maths respondents show moderate, 43% of social studies respondents show low positive attitude towards environmental concerns. Thus it can be concluded that most of the bio-science students have positive attitude towards environmental concern.

The chi-square test has been applied to verify the above difference between the opinions on environment and subject background. The calculated chi- square value (8.05) is less than the tabled value (9.499) at df 4, 0.05 level of significance. Hence the null hypothesis is accepted.

Table No.8

Chi-Square value of Subject Background Vs Environmental Concern Attitudes

Sr.	**Items**	**Value**
1.	Calculated Value	8.05
2.	Table Value 0.05 level	9.49
3.	Degree of Freedom	4

It can be said that there is no significant difference between the subject background and positive attitudes on environment.

In order to test the hypothesis 5, Educational Qualification Vs Environmental Concern Attitudes following analysis has been done.

Table No.9

Educational Qualification Vs Environmental Concern Attitudes

Edu.	**L**	**%**	**M**	**%**	**H**	**%**	**T**
PG	4	20	8	40	8	40	20
UG	22	31	32	46	16	23	70
Total							90

From the table 9, it can be observed that educational qualification of post graduate 40%, 46% of UG students show moderate positive attitude towards environmental concerns. Thus, it can be understood that UG students show higher level of positive attitude than PG students towards environmental concerns

Table No.10

Chi-Square value of Educational Qualification Vs Environmental Concern Attitudes

Sr.	**Items**	**Value**
1.	Calculated Value	2.53
2.	Table Value 0.05 level	5.99
3.	Degree of Freedom	2

The chi-square test has been applied to verify the above difference between the opinions on environment and subject background. The calculated chi-

square value (2.53) is less than the tabled value (5.99) at df 2, 0.05 level of significance. Hence the null hypothesis is accepted.

It can be said that there is no significant difference between the attitude on environmental concerns of different educational qualification background students.

In order to test the hypothesis 6, Locality Vs Environmental Concern Attitudes following analysis has been done.

Table No.11

Locality Vs Environmental Concern Attitudes

Loca.	L	%	M	%	H	%	T
Rural	22	32	32	47	14	21	68
Urban	4	18	8	36	10	45	22
Total							90

From the table 11, it can be observed that rural students shown moderately positive attitude 47%, where as the most of urban 45% shown higher positive attitude towards environment concerns. Thus it can be understood that urban students show more concern than rural students.

Table No.12

Chi-Square value of Locality Vs Environmental Concern Attitudes

Sr.	Items	Value
1.	Calculated Value	5.44
2.	Table Value 0.05 level	5.99
3.	Degree of Freedom	2

The chi-square test has been applied to verify the above difference between the opinions on environment and locality of the students. The calculated chi- square value (2.53) is less than the tabled value (5.99) at df 2, 0.05 level of significance. Hence the null hypothesis is accepted.

It can be said that there is no significant difference between the attitude on environmental concerns of different locality of students.

Qualitative analysis

Qualitative analysis of the open ended questions on action plans to be taken up in future-

Reflections of the students showing their concern towards environment

- Most of the students expressed their action plan when open ended questions were asked i.e. if you become a teacher what action plan do you initiate?
- Motivates children to plant and protect trees.
- Makes the students to involve themselves in keeping clean their own environment and surroundings.
- Encourage children to avoid using plastic bags.
- Would undertake awareness camps about pollution, using biodegradable things.
- Train children to recycle things.
- Plastics can be used to make roads.
- Train children in the direction of how to protect forests.
- Conducting rallies on banning plastics.
- Growing trees.
- Rallies on clean, healthy and hygienic environment.

Findings:

Major findings of the study were-

- Moderate age group (35.1%) students show higher positive attitude towards environmental concern.
- Most of the boys (40.11%) show moderate positive attitude towards environmental concern.
- There is no much difference in the opinion of respondents with respect to different communities.
- Biological science (61%) students show moderate attitude towards environmental concern.
- Both PG (40%) and UG (45.96%) students show moderate positive attitude towards environmental concern.
- Most of the rural students showed moderately positive attitude whereas most of the urban students show high attitude towards environmental concern.

Conclusions:

Thus, it can be concluded that-

- Mostly students in higher age show the concern towards environment.
- Boys are relatively more concerned about the environment.
- Bio-science students show moderate positive attitude towards environmental concerns.
- UG and PG students show moderate positive attitude towards environmental concerns.
- Most of urban students show high positive attitude towards environmental concerns.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

Effect of 5E'Learning Strategy on Fifth Grade Students' Mathematics Achievement

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Abstract

The study investigated the effect of 5E learning cycle techniques on the academic achievement of Mathematics in the constructivist classroom. Pre-test post-test control group design was adopted for the study. A purposive sampling technique was used to select three schools out of fifty six co-education elementary school in Bhubaneswar city. 229 Class-V Mathematics students were participated for the study. Mathematics Achievement Test (MAT) was used to collect data and the co-efficient of internal consistency for MAT was 0.78. Two hypothesis were tested at $p<0.05$ level of significances using t-test and ANCOVA analysis. The result of the findings showed that the students taught through 5E learning cycle techniques performed better and enhance their mathematics achievement than those taught with conventional learning method. There was no significant gender difference in the performance of students taught with 5E learning techniques. It is recommended that 5E learning techniques should be used in schools to teach various concepts in Mathematics.

Introduction

Knowledge is not attained but constructed (Von Glaserfeild, 1989). This statement is a new challenge in the present mathematics classroom. Classroom teaching practice becomes more effective when it is well informed by an understanding of how students learn. It is therefore essential that the major implication of learning theory should be reflected in a more child focused manner. Constructivist perspectives on learning have helped mathematics and science educators better understand how students make sense of their experiences (Windschits, 1999). Unfortunately, the intuitively appealing explanations of how learners construct knowledge have not been translated into a systematic body of pedagogical methods or a coherent curricular approach (Fosnot, 1996). As a consequence, teachers have difficulty to understanding constructivism and

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the role it plays in classroom practice (Clements, 1997). Many researchers have identified different solutions among which is the use of different instructional methods such as guided discovery, concept mapping, field trip, self-regulated learning, problem solving techniques to learn mathematics in the constructivist classroom.

In mathematics education, 5E learning cycle is basically a constructivist learning theory that improves students' enthusiasm of investigation, meets their expectations and encourages them to search for knowledge.

5E' learning cycle in constructivist classroom based on cognitive theory of learning which holds that learning takes place as learners actively involved, socially mediated and individual intuitively to bring a number of events together to serve a purpose in different problems in mathematics. This means that students must listen to the teacher and their peers, be able to explain their mathematical reasoning to others, and there by build their own mathematical knowledge (Baxter, Wood Ward & Olson, 2001). Research has shown such techniques to be promising in mathematics learning (Ginsburg-Block & Fantuzzo, 1998) and positive effects have been found for both students mathematics achievement and motivation.

The 5E' Learning cycle is one of the constructivist approach models, developed represents the BCCS group, It consists of five stages; engage explore, explain, elaborate and evaluate (Bybee, 2001). In the engagement stage, firstly the instructional task is identified and introduced to the students. In this stage, connections are made between past and present learning experiences. They concentrate on this task by asking questions, describing a problem, demonstrating a surprising event and making act-outs. In the exploration stage, the students have the opportunity to engage with the materials and phenomena. By this way, they have the opportunity to construct a sense of common experience which helps them in sharing and communicating. The facilitator is the teacher who provides materials and guides the students' concentration. If the students are curious and inquire, these characteristics run the instruction of exploration. In the stage of 'explain' the students begin to have abstract experiences.

Each group's misconception and alternative conceptions are explained by the teacher and learners have the chance to verify their hypotheses. In the stage of 'elaboration' the students enlarge their conceptions, make connections between related concepts and use what they have learned in the real world. These connections initiate further inquiry and new conceptions. The last stage evaluation which is an ongoing diagnostic process and allowing the teacher to see whether students have attained conceptions and knowledge (Bybee, 2001)

In recent years, the question of whether such constructivist based mathematics instruction is as effective for low achieving students as for normally

achieving students has been raised (Woodward & Baxter, 1997). One assumption underlying the above mentioned reforms is that the new mathematics instruction is effective for all students and therefore for low achievers. However, results of a few recently published studies show that this assumption is not always correct. For example, Baxter et al. (2001) studied the response of low achieving third graders in five classrooms to reform based mathematics instruction and concluded that the form and content of instruction must be adapted to the needs of low achievers before they can benefit from reform-based instruction. In an earlier study, Woodward and Baxter (1997) also found an innovative curriculum to clearly benefit average and above average students with learning disabilities and low achievers only marginally. However, in a recent study, constructivist instruction was more effective than direction instruction for low achiever (Kroesbergen & Van Luit, 2002). Many researchers believe that students with learning difficulties need more direct and explicit instruction to learn basic facts and problem solving skills (Jitendra & Hoff, 1996).

A discrepancy exists between the application of constructivist learning theories in general education as promoted by the current mathematics reforms, and the application of direct instruction as recommended for low achievers.

In the present study, the researcher investigated this discrepancy further, specifically using 5E' teaching strategies on mathematics in the constructivist classroom.

Research Questions

This study has attempted to evaluate whether 5E' learning cycle in constructivist classroom enhance mathematics achievement. In short, this study sought to explore the following questions.

- Does constructivist approach improved students' achievement in Mathematics?
- Is there are any difference in knowledge understanding, application and skill level acquisition between traditional method and constructivist approach teaching mathematics?

Objective of the Study

- To study the effect of 5E learning cycle on mathematics achievement of fifth grade students.

Hypothesis

- There exist no significant difference in mathematics achievement between student taught through 5E' strategy and traditional method of teaching.

Method

The study was aimed to investigate the effect of 5E' learning strategy model on fifth grade students' achievement in mathematics. It was *an experimental study* to compare students mathematics performance between experimental and control group, in which experimental

group was exposed to 5E learning cycle method and control group was treated traditional ways of teaching.

Sample and Sampling Technique

The sample consisted 229 class-V students from three different English medium schools in Bhubaneswar city. The selection of these three schools was through *purposive sampling method*. One section of each school taken as experimental group and other one as control group. The decision about control group and experimental group taken randomly from each school. The details of the sample of the present study are given as.

Name of the School	Exp. group No. of Stu.	Con. group No. of Stu.
DM School,	34	32
KV No.2,	45	45
Mother Public School,	37	36
Total	116	113

Total 116 students were randomly assigned as the experimental group; the other 113 no. of students were used as control group.

Instrumentation and Validation

The instrument used to measure student Achievement in Mathematics; Mathematics Achievement Test (MAT) was developed by researcher and it was validated by two mathematics experts and educational evaluator. This test consisted 28 items, including both subjective and objective items on six different chapters from Class-V Mathematics Text book. The instruments were trial tested to establish reliability. One of the schools that met the criteria but not used for the main study was used for the trial testing study. Test-Re Test formula was used to calculate the reliability coefficient of the MAT and the co-efficient of internal consistency for MAT was 0.76 which was highly reliable.

Experimental Design and Procedure

The experiment was set up according to the *non-randomized pre-test post-test quasi experimental control group design.* The design as follows

Purposively Assigned Group	Pre Test	Treatment	Post Test
Experimental	A_1	Teaching through 5E learn-ing cycle	A_2
Control Group	A_3	Traditional Method of Teaching	A_4

A_1, A_3– Pretest and A_2, A_4– Post test scores of Mathematics Achievement Test (MAT).

Before the start of the course, the researcher collected the students previous year Mathematics scores, and then conducted an advanced MAT pre-test was also administered to ensure that prior to the experiment, whether the two groups had achieved the same levels of mathematics performance.

During the treatment process, the experimental group participated in 5E' learning strategy and the control group participated in the normal traditional instructional strategy. The 5E' learning strategy is an instructional model in constructivist classroom where teacher followed five stages; Engagement phase; Exploration phase; Explanation phase; Elaboration phase; Evaluation phase. In Engagement phase teacher engaged the learners through different instructional tasks and students encounter this task with relating their past experiences. In Exploration phase , students explored through direct observation and depending on the nature of the task involved or the degree of difficulty, students were given to solve these problems with the members of their co-operative group. This provided an opportunity for interaction with other classmates as they tried to make sense of the new information relevant to past experiences or previous knowledge. Their consensus answers i.e. misconceptions arises on a sheet that was turned in (Explain Phase). The amount of discussion was depending on the accuracy of the responses of prior understanding of the students and amount of time remaining. Then I proceeded to the Elaborate Phase in which addressed misconceptions evidence arises by each group. Then I listen carefully the students expanded concepts what they have learned and how they make connection it to the world around them. At the end Evaluation, the fifth 'E' is an ongoing diagnostic process that allows me to determine whether the learners have attained understanding of discussed concept.

The treatment was given until the completion of six chapters and totals an implementation period of 12 weeks to both the experimental and control group. At the end of the experiment, the same Mathematics Achievement Test (MAT) post-test was administered to the two classes to compare their learning achievement and to ensure the effect of intervention.

Analysis and Interpretation of Data

Analysis was carried out using both descriptive statistics and inferential. Both the hypothesis was tested at $p<0.05$ levels of significance.

Hypotheses –1

There exist no significance difference between mathematics achievement of students taught with 5E learning cycle and those taught with conventional method. The result is presented in following table.

Table-1

Pre-test t-value and descriptive statistics for two classes.

Test	Classes	Mean (x)	SD(G)	df	t-value
Annual Test score	Experi. (116)	32.25	8.44	227	1.36
	Control (113)	29.89	7.21		
(MAT) score	Experi. (116)	18.51	7.40	227	1.51
	Control (113)	17.12	6.35		

Table-1 indicates, the obtained t-value of Annual Test score is 1.36 and Mathematics Achievement Test (MAT) score is 1.51. In both the cases t-value is less than the table value at 0.05 level of significance. Hence there is no significant difference between experimental group and control group on their achievement in mathematics. Therefore both the group was found to be almost equal as far as their previous performance was concerned.

statistically significant at 0.01 level. Therefore, the null hypothesis 1 was rejected. Hence both the groups were found to be different in achievement scores, the difference being in favour of the experimental group. Since the pre-test scores may have influenced the experimental effect, a one-way analysis of co-variance (ANCOVA) was applied. The pre-test score were taken as co-variety and the post-test score as the dependent variables.

Table-2
Post-test t-value and descriptive statistics for two classes.

Test	Group	Mean (x)	SD (G)	df	t-value
Mathematics Achievement Test (MAT)	Experi. (N=116)	35.01	9.24	227	9.83**
	Control (N=113)	23.70	8.09		

** $p<0.01$

Table-2, presents the results to examine whether 5E learning cycle contribute student's mathematics achievement. It reveals that experimental group achieved greater mean score (M_1=35.01) than Control group (M_2=23.7) after experiment. The t-value clarifies, the difference between the two mean achievement scores was found to be

Results of table 3 shows that the experimental class that was exposed to 5E learning cycle has a significant higher achievement in Mathematics than the control group that was received traditional expository teaching at ($p<0.01$ with $F=130.69$). Therefore constructivist 5E learning cycle enhanced the achievement in

Table-3
Analysis of co-variance for the mathematics achievement of the two classes Dependent variable – post achievement score

Score	Sum of squares	df	Mean square	F-value
Correlated model	14301.875	2	7150.94	158.59
Intercept	6722.83	1	6722.83	149.10
Co-variate (pre-test score)	6980.57	1	6980.57	154.81
Main effect (Treatment)	5892.78	1	5892.78	130.69**
Total correlated	222807.000	229		
Total	24492.06	228		

mathematics over the traditional method of teaching.

As achievement of an individual included the ability of knowledge, understanding, application and skill dimensions. In order to confirm which dimension of achievement level really differ between two classes after given the treatment, the t-test and descriptive statistics was applied, as shown in the following table.

based items the achievement in favour of experimental group (M_2=19.69) than control group (M_2=11.34).

The t-value result also shows there is significance difference in understanding and application score between the experimental group and control group at 0.01 level of significance.

The post-test scores of MAT both the classes were converted into five point

Table-4:
Post-test t-value and descriptive statistics for different dimension of MAT (Mathematics Achievement Test) between two classes.

Test	Different	Classes	Mean (x)	S.D.(Γ)	df	t-value
MAT	**Dimensions of MAT**					
	Knowledge	Exp.(116)	7.23	3.29	227	0.51
		Cont.(113)	6.72	3.17		
	Understanding	Exp.(116)	22.16	4.58	227	7.93**
		Cont.(113)	14.23	5.52		
	Application	Exp.(116)	19.69	5.18	227	8.35**
		Cont.(113)	11.34	3.67		
	Skill	Exp.(116)	9.26	2.35	227	2.06
		Cont.(113)	7.20	1.13		

** p<0.01

The results of table 4 reveals that, there is no significance difference in knowledge, skill dimension between the experimental group and control group as both these cases t-value less than the table value at 0.05 level of significant. But experimental group achieved greater mean in understanding (M_1=22.16) than control group (M_2=14.23). Similarly application

grade (A, B, C, D, and E) for comparing achievement level between experimental group and control group. The percentage of student found different grade shown in the table-5.

Table5 shows that in experimental group more no. of students secured grade A and B as compared to control group but it was reverse in case of grade C and D and very less difference in grade E.

Table-5
Students post-test scores on MAT in terms of grade

Assigned grade	Marks in Percentage	No. of students in two classes	% of students in two classes
A	Above 85% (>51)	E=8	E=6.8%
		C=1	C=1.2%
B	Between 75%-85%	E=22	E=18.6%
	(45-51) marks	C=5	C=4.5%
C	Between65%-74%	E=27	E=23.5%
	(39-44 marks)	C=42	C=36.6%
D	Between 55%-64%	E=33	E=28.9%
	(32-38 marks)	C=45	C=39.6%
E	Below 55% < 33 marks	E=26	E=22.2%
		C=20	C=18.1%

Research Findings

The major findings of this study revealed that -

1. Children learned by following 5E' learning strategy in constructivist class room obtained a significantly higher achievement in mathematics than children who exposed through traditional method of teaching.
2. It was found that, when post test scores converted in five point scale, from experimental group maximum number of students secured grade A and B as compare to control group but it was reverse in case of grade C and D and very less difference in grade E.

Discussion and Conclusion

The main objective of this study was to investigate whether the meta-learning strategy of 5E' learning could be used to help students for meaningful learning and improve their learning achievement in mathematics of Class-V learner.

Three different schools of Bhubaneswar city had been chosen to participate in the experiment.

The result showed that students in the constructivist classroom followed by 5E' learning cycle improved their learning achievement in Mathematics more than that of students in the traditional expository teaching followed by direct instruction.

An important result of this study finds that learning mathematics through 5E' cycle in the constructivist classroom enhanced particular understanding, application and in general knowledge, skill as compare to traditional ways of teaching.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

A Study of Computer Assisted Instruction (CAI) in Relation to Students Achievement in English Grammar.

Dr. Prabha S. Chiniwar *

Abstract

The researcher has developed a latest instructional technology based programme on English Grammar for students of VIIIth Standard keeping in view the individualized instruction, i.e., Computer Assisted Instruction (CAI). The present study is an experimental research with the criterion variables like attitude towards English Grammar and Achievement in English Grammar. The study involves pre-test and post-test design with treatment in-between. Research evidenced indicates that the CAI can improve student's performance; therefore, the focus of the study is on the development of CAI for teaching English Grammar. CAI being an innovative approach to teaching-learning process endless drill and practice without repetition, and provides immediate feedback to the learner on his/her progress. Thus, the study assumes its significance and relevance in the present context.

Introduction

The performance of students in secondary school exams has revealed consistently that the percentage of failure in English in comparison with other subjects is the highest. The standard of teaching English, as well as its grammar, comprehension of students in secondary school has considerably declined over the years. The examination oriented methods of teaching and the pupil's dependence on digests/guides, rote memory etc, hampered the development of right method of teaching as well as comprehension.

The teachers are baffled by the countless mistakes committed by the secondary school students and more failures in English examinations. It is generally agreed by the psycholinguists that the teacher has to prepare the self instructional material, according to the nature of the language to be learnt by the students.

There are several external and internal factors, hindering in learning of English. Hence the teachers engaged

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in teaching English as the second language encounters with the problems of teaching the language.

The investigator is expected to diagnose the errors in learning of English by his/her students and prepare self instructional material or programmed learning materials to make the difficult grammar concept, easy to understand.

So, this process requires research skill, time and energy which are not easily available to the school teachers. Moreover, after reviewing the related studies in the area of the present problem, the researcher found the gaps in the study. The hypotheses of the study were framed looking into the scenario of the classroom conditions in schools. Hence the researcher has undertaken this study and developed the programme for selected English grammar for VIII standard students of Kannada medium.

The purpose of the study is to develop a programme for teaching of English Grammar for students studying in VIII standard. Hence, the researcher has decided to develop a latest instructional technology based programme on English Grammar keeping in view the individualized instruction, i.e., Computer Assisted Instruction (CAI). The present study being an experimental study with the criterion variables like attitude towards English Grammar and achievement in English grammar. The study involves pre-test and post-test design with treatment in-between. Research results indicate that the CAI can improve student's performance; therefore, the focus of the study is on the development of CAI for teaching English Grammar. CAI being an innovative approach to teaching-learning process endless drill and practice without repetition, and provides immediate feedback to the learner on his/her progress. Thus, the study assumes its significance and relevance in the present context.

Rationale

The performance of students in secondary school exams has reveal that the percentage of failure in English in comparison with other subjects is the highest. The standard of teaching English, as well as its grammar, comprehension of students in secondary school has considerably declined over the years. The examination oriented methods of teaching and the pupil's dependence on digests/guides, rote memory etc, hamper the development of right method of teaching as well as comprehension.

The investigator is baffled by the countless mistakes committed by the secondary school students and more failures in English examinations. It is generally agreed by the psycholinguists that the teacher has to prepare the self instructional material, according to the nature of the language to be learnt by the students.

The investigator is expected to diagnose the errors in learning of English Grammar by his/her students and

prepare self instructional material or programmed learning materials to make the difficult grammar concept, easy to understand.

This process requires research skill, time and energy which is not easily available to the school teachers. Moreover, after reviewing the related studies in the area of the present problem, the researcher found the gaps in the study. The objective of the study was framed looking into the scenario of the classroom conditions in schools. Hence, the researcher has undertaken this study and developed the programme for selected English grammar for VIII standard students of Kannada medium.

Objective of the Study

1. To compare the effectiveness of CAI and Conventional Method of teaching grammar in terms of enhancing achievement of students in English grammar.

Hypotheses

Ho_1 There is no significant difference between Conventional group and Experimental group with respect to achievement in English Grammar before treatment.

Ho_2 There is no significant difference between Conventional group and Experimental group with respect to achievement in English Grammar after treatment.

Ho_3 There is no significant difference between Conventional group and Experimental group with respect to gain scores in achievement in English Grammar.

Variables

In experimental research method, the investigator manipulates variables(S) (independent variable) under controlled or natural field conditions by assigning the samples randomly to experimental and examines whether changes occur in a second variable (S) (dependent variable). The investigator considered two major types of variables, viz., Independent and Dependent Variables in the present study.

Independent Variable - Teaching Methods

Dependent Variable - Achievement

Sampling

The sample consists of 100 students in two different schools (50 each) studying in VIII Standard during the academic year 2007-08. In order to match students of both the groups a non-verbal group intelligence test was administered to the students of both the schools. The obtained scores were arranged in a descending order and the students were matched exactly or most nearly with the obtained intelligence scores and were paired. Hence, the top 50 students from Sl. No. – 1 to 50 were selected in both the schools. One School was identified as Experimental group and the other School as Control group.

Table. 1
Distribution of Sample

Groups	N	Boys	Girls
Control	50	26	24
Experimental	50	21	29
Total	100	47	53

Construction of Tools

Due to the non-availability of appropriate standardized scale, the researcher has constructed the Achievement in English Grammar scale, satisfying the objectives set forth in the present study.

Research Method

A. Pre Test – 1 : Achievement in English Grammar

B. Treatment

The Experimental treatment involved the teaching of a selected content of English Grammar, viz., 'Parts of Speech' and 'Punctuations' involving definitions, illustrations and enough exercises comprehensively covering the whole selected content for the students of VIII Standard.

A total of 9 concepts of English Grammar were taught by using Computer Assisted Instruction Design to the Experimental Group students and the same 9 concepts of English Grammar were taught by using Conventional Method to the Controlled Group students.

C. Post-Test

Immediately after the completion of the treatment, the Experimental group and the Controlled Group were Post – Tested. The Post – Test items were from the selected content of English Grammar incorporated in VIII standard Text Book (i.e. parallel to pre-test).

Data Analysis and Interpretation

In pursuance of the objectives of the present study, the Mean, S.D and 't'-test were applied to the data. The summary of the same is presented in table no. 2.

Observation

It is evident from the above table that all the obtained 't' values are significant except for the pre-test. Therefore, null hypothesis (Ho_1) is accepted and

Table. 2
Comparison of Conventional and Experimental Groups with respect to Improvement in Achievement in English Grammar before and after Treatment

Scores	Group	Mean	SD	t-value	Signi.
Pre-test	**Control**	27.58	4.99	0.21	NS
	Experiment	27.82	6.37		
Post-test	**Control**	29.38	5.25	7.86	Yes
	Experiment	37.26	4.77		
Gain =	**Control**	1.80	2.37	10.17	Yes
Post-pre test	**Experiment**	9.44	4.75		

alternative hypothesis is rejected. Further, null hypotheses (Ho_2 & Ho_3) are rejected and alternative hypotheses are accepted.

Major Findings

The major findings of the study are as following :

1. There is no significant difference between Conventional and Experimental group with respect to improvement in Achievement in English grammar – before treatment.
2. There is a significant difference between Conventional and Experimental group with respect to improvement in Achievement in English grammar – after treatment.
3. There is a significant difference between Conventional and Experimental group with respect to improvement in Achievement in English grammar – gain scores.

Conclusion

Based on the discussing of findings of the study it can be concluded that, *"Teaching English Grammar through CAI is more effective in terms of enhancing achievement of students in English Grammar."*

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

A Comparative Study of Creative Thinking of Scheduled Tribe and Non-Scheduled Tribe Students of Bastar District

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Abstract

The present investigation intends to assess the verbal and Non-verbal creativity of ST and Non-ST students. A sample of 800 students studying in 11th standard were taken from various Govt. Schools of Bastar district in Chhattisgarh state. The sample consists of 400 ST (200 boys and 200 girls) and 400 Non-ST (200 boys and 200 girls) category students. A verbal test (2004-revised version) and Non-verbal test (1999 revised version) of Creativity of Baquer Mehdi were administered, "t" test used to analysis the data. The obtained results are discussed in the light of the proposed hypotheses.

Introduction :

Creativity is the most important attribute of human beings. Creative persons are needed in every walk of life in the modern world. Such persons are upmost importance for the technological, aesthetic, cultural and educational progress of a nation. Creativity is the key to education in its fullest sense and to the solution to the mankind's most serious problems (Congdon,1980). It is considered as a natural, healthy and complex phenomenon, involving the ability to see new relationships, to draw upon the experiences of the past, and an intuitive flash and formulating an original idea.

The creative person wants to change reality in order to beautify in or to enlarge the field of human knowledge or experience in order to provide usefulness under standing and predictability or to evoke a universal response (Arieti, 1978). The present study is an attempt to investigate the impact of caste on creative thinking. Only a few studies are available in this particular reference.

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Sample :

The sample consisted of 800 (400 ST and 400 Non-ST) govt. higher secondary school students drawn from different areas (Urban and Rural) including both the sexes of the Bastar region in Chhattisgarh state. The sample was drawn randomly.

Tools :

In order to measure creative thinking verbal test (2004 revised version) of creativity and non verbal test (1999 revised version) of creativity (TCW) by Baquer Mehdi was applied. The test is highly reliable and valid tool for measuring creativity.

Objectives :

The objectives of the study were following -

1. To find out the difference between tribal and non-tribal students in verbal and non-verbal creativity and its dimensions.
2. To find out the difference between tribal and non-tribal boys in verbal and non-verbal creativity and its dimensions.
3. To find out the difference between tribal and non-tribal girls in verbal and non-verbal creativity and its dimensions.

Hypotheses :

The hypotheses of the study were as following -

H_1 There exists no significant difference between tribal and non-tribal students in verbal and non-verbal creativity and its dimensions.

H_2 There exists no significant difference between tribal and non-tribal boys in verbal and non-verbal creativity and its dimensions.

H_3 There exists no significant difference between tribal and non-tribal girls in verbal and non-verbal creativity and its dimensions.

Table – 1(a)

Mean, SD and "t" value of verbal creativity test in Tribal and Non-Tribal students

Sr.	Verbal Creativity	Tribal Students			Non-Tribal Students			"t" Value
		N	M	SD	N	M	SD	
1.	Fluency	400	234.44	83.02	400	261.88	81.41	4.70*
2.	Flexibility	400	227.49	66.91	400	248.20	66.54	4.38*
3.	Originality	400	114.83	38.14	400	121.74	32.93	2.74*
4.	Composite Verbal Creativity	400	576.55	166.07	400	639.06	225.77	4.46*

df = 798, * = Significant at 0.01 level.

Data Analysis and Interpretation :

The data obtained by the administration of the tool has been analysed as following-A close inspection of the table 1(a) reveals that there exists significant difference between non-tribal and tribal students in fluency (M = 261.88, M = 234.44, t = 5.40 P < 0.01), flexibility (M = 248.20, M = 227.49, t = 4.38, P< 0.01) originality (M = 121.74, M = 114.83, t = 2.74, P < 0.01) and composite verbal creativity (M = 639.06, M = 576.55, t = 4.46, P < 0.01) respectively. Non-tribal students show better verbal creativity than tribal students. Hence the hypothesis stated above is accepted on the strength of the result obtained.

Table – 1(b)

Mean, SD and "t" value of verbal creativity test in Tribal and Non-Tribal students

Sr.	Non-Verbal Creativity	Tribal Students			Non-Tribal Students			"t" Value
		N	M	SD	N	M	SD	
1.	Elaboration	400	233.21	38.08	400	204.26	39.84	10.74*
2.	Originality	400	160.99	34.43	400	168.80	55.73	3.07*
3.	Composite Non-Verbal Creativity	400	394.03	64.42	400	372.64	86.45	4.60*

df = 798, * = Significant at 0.01 level.

Table – 2(a)

Mean, SD and "t" value of verbal creativity test in Tribal and Non-Tribal boys:

Sr.	Verbal Creativity	Tribal Boys			Non-Tribal Boys			"t" Value
		N	M	SD	N	M	SD	
1.	Fluency	200	257.36	90.19	200	262.96	79.70	0.730 NS
2.	Flexibility	200	245.75	63.94	200	250.73	66.75	0.803 NS
3.	Originality	200	130.59	39.58	200	125.80	31.20	1.51 NS
4.	Composite Verbal Creativity	200	633.84	165.71	200	651.77	273.72	0.885 NS

df = 398 NS = Not significant

Table – 2(b)
Mean, SD and "t" values of Non-verbal Creativity test in Tribal and Non-Tribal Boys.

Sr.	Non-Verbal Creativity	Tribal Boys			Non-Tribal Boys			"t" Value
		N	M	SD	N	M	SD	
1.	Elaboration	200	223.83	42.32	200	230.78	37.40	1.97**
2.	Originality	200	157.49	39.68	200	205.89	52.90	21.37*
3.	Composite Non-Verbal Creativity	200	381.27	73.64	200	436.15	73.35	12.44*

df = 398, * = P < 0.01 ** = P < 0.05

It is observed from the table 2(a) that there exists no significant difference between tribal and non-tribal boys in the scores of verbal creative thinking.

Table No. 2(b) exhibits that mean values of non-tribal boys in elaboration (230.78), originality (205.89) and composite non-verbal creativity (436.15) are greater than the mean values of tribal boys in elaboration (223.83), originality (151.49) and composite non-verbal creative thinking (381.27). The "t" value being elaboration (t=1.97, P < 0.05), originality (t = 21.37, P < 0.01), and composite non-verbal creativity (t = 12.44, P < 0.01) respectively. It shows that there exists significant difference between tribal and non-tribal boys in the scores of non-verbal creativity.

Table – 3(a)
Mean, SD and "t" value of verbal creativity test in Tribal and Non-Tribal Girls

Sr.	Verbal Creativity	Tribal Girls			Non-Tribal Girls			"t" Value
		N	M	SD	N	M	SD	
1.	Fluency	200	211.52	68.04	200	260.81	83.27	7.80*
2.	Flexibility	200	209.23	64.95	200	245.66	66.40	6.62*
3.	Originality	200	99.01	29.16	200	117.68	34.18	6.83*
4.	Composite Verbal Creativity	200	519.27	145.74	200	626.35	164.19	8.80*

df = 398, * = P < 0.01

Table – 3(b)
Mean, SD and "t" values of Non-verbal Creativity test in Tribal and Non-Tribal Girls

Sr.	Non Verbal Creativity	Tribal Girls			Non-Tribal Girls			"t" Value
		N	M	SD	N	M	SD	
1.	Elaboration	200	242.59	30.66	200	177.75	33.59	19.35*
2.	Originality	200	164.49	27.89	200	131.71	25.78	15.86*
3.	Composite Non-Verbal Creativity	200	406.78	50.71	200	309.14	38.72	23.54*

df = 398, * = P < 0.01

On the basis of the results obtained, the above hypothesis has been partially accepted.

Table 3(a) indicate that mean values of non-tribal girls in fluency (260.81), flexibility (245.66), Originality (117.68) and composite verbal creativity (626.35) are higher than the mean values of tribal girls in fluency (211.52) flexibility (209.23), originality (99.01) and composite verbal creative thinking (519.27) respectively. It shows there exists significant difference between tribal and non-tribal girls in the scores of verbal creative thinking.

It is observed from the table No. 3(b) that there exists significant difference between tribal and non-tribal girls in elaboration (M = 242.59, M = 177.75, t = 19.35, P < 0.01), Originality (M = 164.49, M = 131.71, t = 15.86, P < 0.01) and composite non verbal creativity (M = 406.78, M = 309.14, t = 23.54, P < 0.01). Mean scores of tribal girls greater than the non-tribal girls in all the dimensions of non-verbal creative thinking, indicating the superiority of tribal girls over the non-tribal girls. Hence the hypothesis stated above is accepted on the strength of the result obtained.

FINDINGS :

1. Non-tribal students show better verbal creativity than tribal students in all the dimensions. Non-tribal students are better than tribal students in originality but tribal students show superiority in elaboration and composite non-verbal creativity.
2. Tribal and Non-tribal boys do not differ significantly in their mean scores of verbal creative thinking whereas Non-tribal boys are significantly more creative (Non-verbal creativity) than tribal boys.
3. Non-tribal girls are significantly higher on verbal creativity and its dimensions whereas non-verbal creativity of tribal girls perform better than non tribal girls.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

Developing and Implementing the Programmed Instruction Material of Physics for Secondary School Students.

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Abstract

Science has become a priority area in education, both at compulsory and specialized levels of schooling. The methodology of teaching science is also undergoing a constant change to suit the present needs of enriched content and changing environment of teaching-learning process. In this context the researcher has conducted a study to provide some new and innovative ideas about methodology of teaching science. The main objective of the study was to develop a programmed instruction material and to see its impact on achievement of secondary school students. Two groups: Randomized matched subject: Pre-Test, Post-Test design method was used to solve the purpose. A sample of IXth class student has been taken and two groups 'Experimental and Controlled' were formed. The methodology uses Central Tendency and dispersion to know the nature of data and 't' test has been used to see the effect of programmed instruction material. The result of the study shows that post-test achievement scores of students of experimental group were significantly higher than their pre-test achievement scores. So, programmed instruction method is effective in raising the achievement of student. It is also noticed that programmed instruction method can work effectively in increasing the retention of students in Physics.

Introduction

The development in technology has given a new orientation to school structure. Science education occupies a very eminent place in curriculum both at school and university stages of education in India. Continuous advancement in scientific and technological research have led to the growth and greater application of science in contemporary society. Accordingly science has become a priority area in education, both at compulsory as well as at specialization level. The methodology of teaching science is undergoing a constant change and modification to suit the

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enormously increased and enriched contents of the subject. It is, therefore, in the fitness of things that the researchers should probe into the subject for evolving the most effective methods of teaching science and out some useful findings. Besides the traditional methods, either enthusiastic teachers or researchers have also tried few others out.

Concept of Programmed Instruction

Programmed instruction represents one of the effective innovations in teaching learning process. As a highly individualized and systematic instructional strategy it has been found quite useful for classroom instruction as well as self-learning or auto-instruction. Generally speaking, the instructions provided by a teaching machine or programmed text book are referred to as programmed instruction or programmed learning. Programmed instruction is the process of arranging the material to be learned into a series of sequential steps; usually it moves the student from a familiar background into a complex and new set of concept, principles and understanding (Smith & Moore, 1962). Programmed instruction is a method or technique of giving or receiving individualized instruction from a variety of sources like programmed textbook, teaching machine, computers etc. with or without the help of a teacher. In this method the subject matter of programme is presented into logical sequence of small steps or segments called frames. In actual operation the beginning is made by presenting a frame (a small but meaningful segment of subject matter). The learner is required to read or listen and then respond actively. It also has an adequate provision for immediate feedback, which is based on the theory of reinforcement. Programmed instruction provides self-pacing and thus learning may occur at individual rate rather than general, depending upon nature of the learner, learning material and learning situations. It has the provision for continuous evaluation, which may help in improving the student's performance and the quality of programmed material.

Research in science education should be urgently addressed to the problem of developing a scientific attitude in the educand. Science education should primarily be concerned with the education of the mind rather than acquisition of isolated pieces of scientific knowledge. In order to keep pace with the developed nations, efforts should be made to build up a team of researchers in science through education. It would be helpful in evolving new methods and techniques through which science teaching can be made easier and more effective. In most of the schools, teaching-learning is being carried out on mere passive and blind memorization of the content to reproduce it at the time of examination. It only encourages cramming. The traditional methods of teaching and evaluation in the modern era don't serve any useful purpose. Therefore, new methods based on discoveries of science should be evolved. In the present study the researcher has made an attempt to

develop a suitable programmed text in Physics. The researcher also has ventured to conduct an experiment in order to know the effectiveness of programmed instruction.

Objectives of the Study

The study was conducted with the following objectives in view :

- To develop a programme in branching style on some concepts of Physics for secondary school students.
- To implement the developed programmed instruction material.
- To find out whether the secondary school students improve their achievement after the use of programmed instruction material.
- To find out experimentally whether the programmed instruction method is more effective than the expository method in teaching the selected concepts of Physics.
- To study the retention effect of these two treatments i.e. Programmed Instruction Method and Expository Method.

Hypotheses

The following hypotheses were framed:

- There will be no significant difference between mean achievement scores of pre-test and post-test of IX class science students treated with Programmed Instruction material.
- There will be no significant difference in learning through Programmed Instruction method and Expository method.
- There will be no significant difference in retention effect of these two treatments i.e. Programmed Instruction Method and Expository method.

Research Methodology

The present study was conducted on a sample of 72 students studying in class IX. Two groups with 36 students in each group were formed. One group was designated as Experimental group and the other as the Control group. For acquisition of data, the researcher employed three tools: Programmed Instruction Scrambled text Booklet, Science Achievement Test and Expository Lecture for measurement of outcomes of the programme. The experiment was conducted in following phases:

Phase I : Administration of the Pre-Test:

The administration of the pre-test was carried out as per norms and an instruction contained in their manual and prior to this, proper orientation has been done to the students. Separate response sheets were provided, which were scored with the help of scoring key. This all took first day.

Phase II : Conducting the Instructional Programme:

To find out the efficacy of the independent variables, the experimental variables were manipulated in the form of teaching based on programmed instruction method and expository method. The experimental group was treated through Programmed Instruction Method. A copy of the programmed instruction material was provided to each student, with proper explanation about the procedure of reading programmed Instruction Material. They were asked to read the information

given in frame and answer the question. If their answer matched with the correct one, they proceeded to the next frame. However, if their answer didn't match with the given correct answer, they were directed to re-read the question correctly. Then they could proceed to the next frame. Altogether, three weeks were taken to complete the programmed instruction material in each group. The second group was taught using expository method and three weeks were also required for this group. The researchers themselves conducted the treatment in both groups so as to avoid teacher variable and for maximum precision. Same topics were taught to both groups.

Phase III

Administration of the Post-Test

Immediately after the treatment was over, the subjects were administered the post-test. The same criterion test as taken in pre-test was taken. Both the groups were subjected to those post-test. The response sheets were scored with the help of the scoring key. This all took one day.

Phase IV:

Administration of the Retention Test:

After the completion of the third phase, a gap of twenty days was given and during this period no instruction relating to the selected content was provided to any of the groups of students. Achievement test was again administered to both the experimental and control groups to get the measure of retention. The obtained response sheets were scored with the help of scoring key.

Statistical Technique Employed

Keeping in view the objectives, the statistical techniques such as central tendency, dispersion and't' test were employed.

Design of Experiment

Sr.	Duration	Phase	Group	Activity
1.	1 day	Pre-test	Expt. Group Control Group	Test Administered: Achievement in Science
2.	3 weeks	Treatment	Expt. Group Control Group	Teaching science through programmed instruction material Teaching science through expository method
3.	1 day	Post-test	Expt.Group Control Group	Test Administered : Achievement in Science
4.	1 day	Retention	Expt. Group Control Group	Test Administered : Achievement in test Science

Analysis and Interpretation

The data in the present study is interpreted in the following way:

Effectiveness of Implemented Programmed Instruction Material deals with students' achievement in physics of IX class. This has been studied here to find out whether the secondary school students improve their achievement after the use of programmed instruction material.

Table 1
Mean, S.D. and't' value of Achievement in Physics at Pre-test and Post-test of Experiment Group

Sr.	Test	N	Mean	S.D.	't' value	Remarks
1.	Pre-Test	36	24	3.40	8.86	Significant at 0.01 level
2.	Post-Test	36	31	3.30		

From table 1 it is evident that the mean and S.D. of pre-test group respectively is 24 and 3.40 whereas the mean and S.D. of post-test group respectively is 31 and 3.30. The 't'-value is 8.86 and it is found significant at 0.01 level with df =70. This indicates that mean achievement scores of pre-test and post-test of experimental group differ significantly. So in this case null hypothesis "There is no significant difference between mean achievement scores of pre-test and post-test of IX class science students treated with programmed instruction material is rejected.

Comparison of Mean Achievement Scores of Experimental And Controlled Group

This section deals with comparison of effectiveness of programmed instruction method and expository method. This has been studied here focusing on following objectives:

(i) Comparison of mean achievement scores of the two groups of students, who taught physics with the use of programmed instruction method and expository method, before the experimental treatment.

From Table 2, it is evident that the 't' value is 0.92 that is not significant at 0.05 level with df = 70. It indicates that

Table 2
Mean, S.D. and't' value for Pre-test Achi1evement Scores of Experimental and Control Group

Sr.	Groups	N	Mean	S.D.	't' value	Remarks
1.	Experimental	36	24	3.40	0.92	Not Significant
2.	Control	36	23.3	3.02		

mean achievement scores of experimental and control group do not differ significantly. It indicates that there is no significant difference between mean achievement scores of pre-test of experimental and control group.

(ii) Comparison of mean achievement scores of the two groups of students, who taught physics with the use of programmed instruction method and expository method, after the experimental treatment.

Comparison of Retention Effect of Experimental and Controlled Group.

This section deals with comparison of retention effect of Programmed Instruction Method and Expository Method.

From Table 4, it is evident that the 't' value is 3.64 which is found significant at 0.01 level with df = 70. It indicates that 20 days' retention of experimental and control group differ significantly. So, in this case the null hypothesis "There is no significant difference in retention effect of these two treatments i.e. Programmed Instruction Method and Expository Method" is rejected.

Table 3

Mean, S.D. and't' value for Post-test Achievement Scores of Experimental and Control Group

Sr.	Groups	N	Mean	S.D.	't' value	Remarks
1.	Experimental	36	31	3.3	5.46	Significant at 0.01 level
2.	Control	36	26.8	3.23		

Table 4

Mean, S.D. and't' value for Retention Test Achievement Scores of Experimental and Control Group

Sr.	Groups	N	Mean	S.D.	't' value	Remarks
1.	Experimental	36	27	3.53	3.64	Significant at 0.01 level
2.	Control	36	24.3	2.70		

From Table 3, it is evident that the 't' value is 5.46 which is found significant at 0.01 level with df = 70. It indicates that mean achievement scores of experimental and control group differ significantly. So, in this case the null hypothesis "There is no significant difference in learning through Programme Instruction Method and Expository Method" is rejected.

Main Findings of the Study

The results have been drawn keeping in mind the objectives framed for the study and by testing the hypotheses formulated thereafter. The major findings of the study are:

- It has been found that the post-test achievement scores of students of experimental group were significantly higher than their pre-test achievement scores.
- It has been found that Post-test achievement scores of students of experimental group and those of control group differ significantly in favour of experimental group.
- It has been found that retention test achievement scores of students of experimental group and those of control group differ significantly in favour of experimental group.

Concluding Remarks

On the basis of the findings of the study, it can be concluded that the programmed instruction method of teaching is found to be significantly more effective to enhance the achievement of students as compared to conventional method. Side by side it may have certain useful implications in the field of education for teachers, students, textbooks writers, researchers and educational administration from various angles. Programmed instruction may help in individualizing, the instructional process and its scope of self-pacing gives opportunity to the students for learning with their-own speed without obstructing the path of others and helps the students to learn better but also help the teacher to know how the students learn better. The social setting of the classroom may be properly improved and problem of discipline gets solved automatically with the help of programmed instruction. It may be effectively used in providing guidance and remedial instruction. In last we can say that Programmed instruction helps in the development of integrative, judgmental and creative learning. The power of discrimination and making immediate and effective responses is developed through such instruction.

Suggestions

Based on the findings of the current study, some of the suggestions in the area of Programmed Instruction are worth mentioning here. The present paper only deals with limited topics of Science syllabus of class IXth, it is desirable to investigate the effect of programmed instruction on achievement of learners of different grade level, Sex, Intellectual level and subject area. Similar work can also be done to explore the effectiveness of programmed instruction on disadvantaged groups such as backward, low achievers, mentally retarded and gifted as well as creative students. Effectiveness of Programmed Instruction may be studied in relation to other variables such as group size, creativity, economic background, age, cognitive style, personality and classroom climate etc. The current paper indicates that programmed instruction is an effective intervention for improving student's academic achievement. Further, work is needed to predict and explain how programmed instruction can become more effective instructional tool.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

Language Laboratory : An Excellent E-Learning Equipment for Spoken English

Dr. Sushil D. Shindkhekar **

Abstract

Language Laboratory is a well-designed teaching-aid for the English learners to improve accentuation, pronunciation and intonation. It is a teaching-learning room equipped with certain electronic devices for recording or reproducing speech. The students sit in semi-sound-proof booths where they can listen to the master tape and record their own responses. The teacher who controls control-panel can talk to all or any student he desires and thus help them in their work.

Introduction:

English is spoken as first language in the United States, the United Kingdom, Canada, Australia, New Zealand and South Africa. It is spoken with little difference in all these countries due to various reasons. Even within Britain, there are different varieties of pronunciation which are equally acceptable. Received Pronunciation is used in Southern England. R.P. is taught in public schools in England whose products occupy high positions in different faculties.

• This is an age of science and technology and the use of machines has changed the form and face of English language teaching in the world. Like radio or television, language laboratories have now entered the English language teaching field and are widely used for variety of purposes. These purposes are

- listening to develop the ability to understand the language spoken at normal speed,
- imitation - to pronounce the sounds, stress, rhythm and tone like a native speaker,
- repetition to practice the spoken English, practice in the reading and testing,

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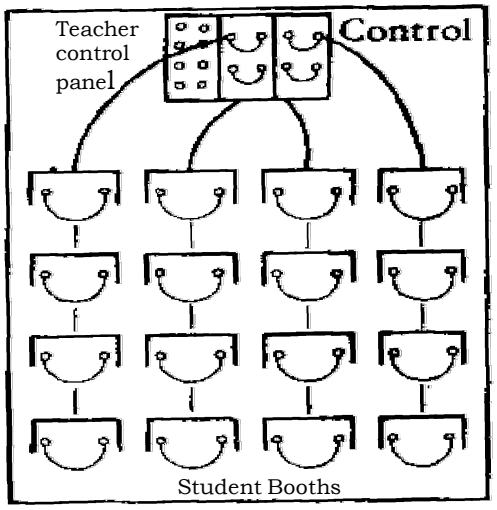
to practice in putting words in suitable contexts. The language laboratory introduces automation in the classroom teaching. According to Edgar Dale, "It is apparent that the mere installation of language laboratory is no guarantee that improvement in linguistic skills will occur automatically. Good results demand equipment of good quality with potential for a variety of learning experiences, teachers' skill in handling equipment, materials prepared specifically with regard to the goals of the course and techniques of laboratory learning and careful allotment of laboratory time."

Diagram of well equipped Language Laboratory:



In our country very few schools and colleges have installed language laboratory. This is because of its huge cost and dearth of skilled teachers. A language laboratory is designed to improve the pronunciation and intonation of the learners. It is a

(Courtesy : "*Acoustics Engineers; 301, Siddharth Towers, G. A. Kulkarni Road, Kothrud, Pune)*

teaching room equipped with certain electronic devices for recording or reproducing speech. The students sit in semi-sound-proof booths where they can listen to a master tape and record their own responses. The teacher who operates the control panel can talk to all or any student he likes and thus help them in their work.

A language laboratory has several advantages. Firstly it relieves the teacher of the task providing linguistic models of speech himself. Secondly, in a single period each student has enough listening and speaking practice. A student cannot have much speaking practice in general classroom. Thirdly, each student can work on his own way. Fourthly, the student can make self-correction by listening to the correct response on the tape.

Technological aids in language teaching are a major course today. Language

laboratories are designed for research on the analysis and description of languages. It may be regarded as an effective aid designed for the teaching of language. According to A. S. Hayes, "*A language laboratory is a class room containing equipment designed and arrange to make language learning more effective than is usually possible without it.*" The language teaching lab consists of play back and recording equipment for students to practice the languages they are studying. Students sit in the semi sound proof booths where they can listen very carefully to the master tape and even record their own responses immediately.

The teacher who controls the operation can talk to all or any student he likes which helps them in their learning. A language laboratory is a class room fitted with electronic and mechanical equipments designed and arranged to make foreign language learning easier than usually possible without it. The important aim of a language laboratory is to consolidate what has been introduced initially in the class room. The following are the various forms of practice that can take place in a language laboratory very smoothly - listening, meaningful drills, comprehension exercise, problem solving, etc.

Necessity of Language Lab :

In the rural areas generally we find that many students are doing directly or indirectly some mistakes while they are doing the pronunciation. When the students are in the primary level it is good to solve their problems. But if they are in a higher class than it is very difficult to improve their pronunciation. Today in our country in many parts - schools, colleges are giving education in mother tongue. For them the mother tongue is first language (L1). English is sometimes second language (L2) and third language(L3) also. If the pronunciation is not proper, definitely it affects of the personality. With the help of language laboratory the teacher can improve the pronunciation of the students. The student can listen the recorded cassettes regularly. The pre-recorded cassettes of CIEFL, Hyderabad;ACEN Language Laboratory, Pune and many other recorded audio cassettes are available in the market for the practice of students.

Advantages of Language Lab :

1. All students can practice simultaneously but individually.
2. The teacher is free to focus his attention on the individualstic performance without interrupting the work of the group.
3. It provides untiring and unvarying modes of authentic speech for imitation and drill.
4. Recording can provide motivation.
5. It facilitates the testing of listening-comprehension.
6. It assists the teacher to have sufficient understanding of the content with an opportunity to improve their own proficiency in language.
7. It helps students to evaluate their own performance.
8. It can provide technical facilities for self instruction with specially designed instruction material.

9. The language laboratory helps the learners through tape script, pronunciation drills, dialogues, controlled conversation, ear training and planned practice.

Research Method & Data Collection: The researcher has been offering Spoken English Courses to the First Year Students of Arts, Science and Commerce streams for the last two decades. While offering the said course, he has reserved one hour when all the learners are taken to the Language Lab. In the beginning, the students are well-acquainted to certain linguistic concepts like syllable, tonic syllable, accent, heavily stressed syllable, pronunciation of a word, intonation, etc. In the Lang Lab such students are given enough time for hearing pre-recorded cassettes from the CIEFL, Hyderabad and the ACEN Lang Lab Manufacturing Company of Pune. The students there after are asked to record their responses on the space provided in such tapes. The Language Lab trained instructor, if necessary, contacts the students concerned and offers him required suggestions. The end results of such Spoken English Classes has been quite. The table no. 1shows the satisfactory results of such Spoken English Courses. The researcher takes delight in recording the fact that the use of Lang Lab for the English learners is simply excellent and encouraging.

Table No. 1

Sr.	Academic Year duration of SEC	Students Admitted	Results & Grades	Remarks
1.	2000-2001(6 weeks)	300	85 %A : 180,B : 120	Satisfactory
2.	2001-2002(6 weeks)	250	90 %A : 175,B : 075	Quite Encouraging
3.	2002-2003(6 weeks)	315	80 %A : 190,B : 125	Quite Encouraging
4.	2003-2004(6 weeks)	320	90 %A : 210,B : 110	Satisfactory
5.	2004-2005(6 weeks)	285	84 %A : 180,B : 105	Quite Encouraging
6.	2005-2006(6 weeks)	290	85 %A : 180,B : 110	Quite Encouraging
7.	2006-2007(6 weeks)	300	82 %A : 175,B : 125	Good
8.	2007-2008(6 weeks)	310	85 %A : 195,B : 115	Quite Encouraging
9.	2008-2009(6 weeks)	250	90 %A : 170,B : 080	Quite Encouraging
10.	2009-2010(6 weeks)	400	95 %A : 290,B : 110	Quite Encouraging

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

Literacy and Socio-economic Development of Rural Community: A Case Study of Ferozepur District.

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Abstract

Present research is an attempt to study the views and perceptions of adult respondents towards developmental issues, role of education in life and perceptions regarding adult education and educability. Qualitative approach was adopted to evaluate the views of adult respondents. Ferozepur district of Punjab was chosen as study area for its low literacy rate and border area of Punjab, from where 60 adult respondents were taken as sample. Data were collected by self administered interview schedule which seeks information regarding literacy and socio-economic conditions of rural community. Findings of this study show that adult respondents irrespective of gender give their view regarding developmental issues in a similar manner because chi-square value testing association between gender did not turn out to be significant. Near about fifty percent respondents are in the view that education help one's to come up in life. There is wide variation in the adoption of certain methods and practices by male and female adult respondents. All the respondents agreed that education enlightens human life and culture of human beings. Majority of the respondents are of the view that adult education brings modification in one's way of life, attitudes, levels of functionality and develops various technical and professional skills, needed for a better quality of life.

Introduction

Education is integral to the socio-economic development of a social order with new aspirations, goals and vision and has been described as the process of developing the faculty of reasoning among the human beings. In order to make them discriminate between the

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right and the wrong (Madan, 1975). Human development reports and UNDP concluded that education has its importance for development of any country which includes adult literacy rate i.e. percentage of adults in the country who are literate, life expectancy at birth, enrolment rate at primary, secondary and territory, levels to represent knowledge.

There goals cannot be realized by formal education with its single point entry, sequential character and full time teacher. Therefore, for all those individuals who either could not study at all or were compelled to give up education without completing it, irrespective of their age, sex or class, it is necessary to provide opportunities for education as a part of their working conditions. These opportunities have been given the name of non-formal education. Adult Education is a part of non-formal education which has been named differently under different circumstances situations and time e.g. adult education, social education, mass education, community education, public education, life long education, functional literacy, polyvalent education and continuing education etc (Shah, 1999).

One of the most popular definitions of adult education emerged when Liveright and Haygood (1969) defined: "Adult education is a process whereby persons who no longer attend school on a regular full-time basis, undertake sequential and organized activities with the conscious intention of bringing about changes in information, knowledge, understanding or skill appreciation and attitudes; or for the purpose of identifying or solving personal or community problems."

Adult education, therefore, is considered not only as the instrument of development or progress but also of reconstruction and change (Venkataih, 1977; Khajapeer, 1978; Panwar, 1978; Sahni, 1981). Adult education programme apart from developing literary skill of the women had a significant impact on their knowledge, adoption of their welfare programme, health and hygiene practices, family planning and nutritional level. (Srivastva and Shankar, 1990; Garg, 1993). Adult education programme has shown a significant impact on adult rural women in developing their skills in literacy, functional literacy, awareness and vocational training (Krupadanam, 1993; Gulhane, 2008). Social and environment awareness could be seen in health practices, civic responsibilities, and environment and pollution control, planting trees (Pani, 1994; Parikh, 1994; Pandey, 1999; Das et al., 2002; Ghosh et al., 2003). A change has also been reported in the outlook of learners on different issues like value of education, environment conservation, health awareness, population education, women employment, universal brotherhood and attainment of self improvement (Puri and Kaur, 1996; Kumar, 1998; Kumar, 2000; Chandershekar, 2002) analysed that adult education programmes were successful in imparting information on self improvement. Singh (2000) studied the impact of non formal education on tribal

people in term of perceived changes in social values, human relations, health and family planning and modernity of community life further it was concluded that adult education has a strong impact on life style (Stelmach et al., 2004). It is therefore evident that adult education is important for social development because it helps in bringing positive effects on illiterates and dispelled their misgivings about various superstitions, dogmas, child marriage, education of girl child, dowry etc.

It is also a tool for development and social consciousness. The wish to see India as a developed nation is to be realized only if we fulfill over tasks in the area of literacy i.e. education for all (EFA). It is heartening to see that consistent efforts under the banner of National Literacy Mission (NLM) has resulted in substantial increase in literacy rate, as reflected in the 2001 census. There was an outstanding increase of 12.63% in the literacy rate over the period 1991-2001. It rose from 52.21% in 1991 to 64.8% in 2001. This rise can be attributed to various adult literacy programmes launched by NLM like the total literacy campaign (TLC), post literacy campaign (PLP), Accelerated Functional Literacy Programme (AFLP), Operation Restoration (OR), and Continuing Education Programme (CEP), that have changed the literacy landscape of the country.However, there is a big gap between the literacy levels of men and women at all India and seven states in northern and central India alone are responsible for 70% of illiterate people in the country. It is more marked in case of rural areas and further in terms of socially disadvantaged groups. Keeping in view the gender gap in literacy, the HRD ministry made a change in planning to achieve 80% literacy for women by the culmination of the 11th five year plan (2007-2012), and National Literacy Mission was renamed as Sakshar Bharat Mission with some specific purpose. With its new slogan – **Literate India** – the mission has hit the ground in September 2009 in 365 districts of all over India. It would be a joint collaboration between centre and state governments and active participation of state government is equally expected.

The government is planning to educate 70 million adults in 11th five year plan, out of which 60 million would be women. Under the 11th Plan (which will culminate in 2012), the mission has been allocated Rs.1 billion, as compared to Rs.2,800 crore spent by NLM since its inception in 1988. The committees at the district, block and panchayat levels would be set-up to monitor the implementation of the adult literacy programmme at grass root level.Punjab has a literacy rate of 69.65% against 64.84% at national level as per 2001 census, the male and female literacy rates being 75.23 and 63.36%. There are 18, 93,681 person (833,897 male and 10, 59,784 female) in the illiterate group (15-35). Literacy movement in Ferozepur district was started in 1996. When the programme was started in 1996 the literacy rate was 48.09% which is increased by 61.42% in 2001, which stands at 14th position in total

districts of Punjab. Male and female literacy rate is 69.55% and 52.33% while rural and urban literacy rate is 55.75% and 79.22% as per 2001 census. Keeping in view the problem of illiteracy and non-educability in border area of Punjab, it was thought worthwhile to undertaken the present research study Literacy and Socio-Economic Development of Rural Community: A Case Study of Ferozepur District.

Objectives of the Study

1. To study the views and perceptions of adult respondents towards developmental issues i.e. (Socio-Economic and Cultural)
2. To study the perceptions of the adult respondents towards the role of education in community life.
3. To study the perceptions of adult respondents regarding adult education programmes and educability.

Research Questions Asked

1. Male and female adult respondents have favourable attitude towards developmental issues.
2. Male and females adult respondents do not differ significantly in their perceptions towards the role of education in community life.
3. Respondents have favourable attitude towards adult education programmes and educability.

Delimitations of the Study

The study was restricted to only Ferozepur district of Punjab.

Operational Definitions of the Terms Used

Literacy is defined as the achievement of reading, writing and numerical skills of adult population at pre determined level as per National Literacy Mission norms.

Socio-Economic Development of rural community refers to community development in rural areas with respect to educability, development and awareness of adult population with regard to developmental issues – Social, Economic and Cultural.

Methodology

Qualitative approach was adopted in the conduct of present study to evaluate the views of adult respondents towards developmental issues, causes of illiteracy, and perceptions towards role of education in their life and adult education programmes as perceived by adult respondents of Ferozepur District of Punjab. In present investigation case study approached was followed.

Study Area

The study area chosen for the study was Ferozepur district of Punjab because of its low literacy rate and border of Punjab. Fazilka tehsil was selected from five tehsils of Ferozepur district. Pencha wala, Jokri Kankar Wala, Shama Khan Ka villages of Fazilka tehsil were selected as area of this study.

Sample

60 adult learners from three villages, who are taking adult education in Sahara Naari Uthaan Sanstha, Painchan Wala was selected as sample. Among them 35 were male and 25 were females.

Research Tool

Data were collected with the help of a self prepared interview schedule administered on a selected sample of respondents to seek information on socio-demographic aspects of family and also seek the information regarding literacy and socio-economic condition of rural community.

Data Analysis and Interpretation

The present investigation was basically designed to study the attitude of the respondents towards development issues, role of education in their life. The primary data based on responses of adult learners, on different aspects of their life, culture and education has been analyzed to examine literacy and educability in community of Ferozepur district of Punjab.

1(a). Views regarding basic issues in Community Life

The respondents' views regarding basic issues concerning community life were presented in table no. 1

Table No. 1
Views Regarding Basic Issues in Community Life

Reasons	Responses	Male		Female		Total		Chi-Square
		No.	%	No.	%	No.	%	
Hard work pays	To Large Extent	29	82	22	88	51	85	0.387
	To some extent	4	11.4	2	8	6	10	
	Not at all	2	5.7	1	4	3	5	
Success is impossible without pull	To Large Extent	25	71	18	72	43	71	0.007
	To some extent	7	20	5	20	12	20	
	Not at all	3	8.5	2	8	5	9	
Only the rich become richer	To Large Extent	34		24		58		
	To some extent			1		1		
	Not at all	1				1		
Man does not have the power to Change his life	To Large Extent	23	66	15	60	38	63	0.209
	To some extent	7	20	6	24	13	21	
	Not at all	5	14	4	16	9	15	
Opportunities are never equal	To Large Extent	29	82	22	88	51	85	0.302
	To some extent	2	6	1	4	3	5	
	Not at all	4	12	2	8	6	10	
Education does not help one to come up in life	To Large Extent	4	11.4	6	24	10	16.6	17.99*
	To some extent	22	62.9	12	46	34	56	
	Not at all	9	25.7	7	26	16	26.6	

* P > 0.01

Table 1 indicates that 85% of respondents were in the favour of first issue 'Hard Work Pays'. 71% of the respondents viewed that success is impossible without pull. Almost all the respondents have reported that only the rich are becoming richer.
Majority of the respondents 63% viewed that man does not have the power to change his life style. However 85% respondents are in the favour of statement that 'opportunities are never equal'.

The chi-square value testing association between gender and these social issues did not turn out to be significant thereby meaning that adult respondents irrespective of gender views these social in a similar manner. However their perception with regard to statement 'education does not help one to come up in life' differ significantly as more male member do not realize the role of education in their life. Near about 56 percent respondents are in the view that education to some extent help one's to come up in life.

1(b). Adaptation of Methods/Practices in Life for better Living Standards

The information regarding adoption of certain methods and practices by respondents for better living standards was sought as reported in percentage occurrence in table 2.

The table 2 reveals that there is wide variation in the adoption of certain methods and practices by the respondents. Better nutrition and vaccination and family planning are the practices by female respondents. Improved agriculture loan for economic betterment are adopted by male respondents.

Loan for economic betterment were adopted by large number (75%) of respondents and family planning is being availed by lesser number (48%) of respondents.
It may be concluded that female respondents give more importance to health facilities like better nutrition, vaccination and family planning because government, N.G.O's and adult

Table 2

Adaptation of Methods/Practices in life for Better living Standards

Methods/ Practices	Male		Female		Total	
	No.	%	No.	%	No.	%
Improved agriculture	19	54.28	11	44	30	50.00
Better nutrition	22	62.85	16	64	38	63.33
Loan for economic betterment	27	77.14	18	72	45	75.00
Vaccination	21	60.00	18	72	39	65.00
Family planning	15	42.85	14	56	29	48.33

education centre are concentrating on women related practices like nutrition medicine and vaccination during pregnancy and improvement of health and sanitation.

While male respondents want to improve agriculture by getting the knowledge of high yielding varieties of seeds, different kinds of chemical fertilizers, new means of irrigation, machines and instruments etc.

2. Role of Education in Community Life

In the continuity the views regarding role of education in life and culture, educational aspirations for children were sought which are reported here under.

2(a).Views Regarding Education

The respondents were requested to give their views regarding education on two continuum 'yes/no'. These responses were converted into percentages which are given in table 3.

It may be observed from the table 3 that all the respondents agreed that education enlightens human life and education is third eye which gives knowledge. Almost all of them view that man is animal without education. Large number of respondents (85%) are regretting due to illiteracy.

Thus it may be inferred that respondents are aware about importance of education which leads to their development and proper role in society. Education is main power that eradicates poverty, disease and ignorance. No economic, social and personal development is possible without education.

2(b)Views Regarding Role of Education in Life and Culture

Respondents' views on regarding role of education in life and culture are presented group wise in table 4

Table 3

Views Regarding Education

Views	Responses	Male		Female		Total	
		No.	%	No.	%	No.	%
Education enlightens	Yes	35	100	25	100	60	100
	No	-		-		-	
Man is animal without education	Yes	31	88.6	24	96	55	91.7
	No	4	11.4	1	4	5	8.3
Education is third eye	Yes	35	100	25	100	60	100
	No	-		-		-	
Regretting due to illiteracy	Yes	29	82.9	22	88	51	85
	No	6	17.1	3	12	9	15

Table 4

View regarding Role of Education in Life and Culture

Options	Responses	Male		Female		Total		Chi-square
		No.	%	No.	%	No.	%	
Education improves the life	To large extent	28	80	22	88	50	83.3	0.673
	To some extent	7	20	3	12	10	16.7	
	Not at all	-		-		-		
Education promotes equality in society	To large extent	25	71.4	21	84	46	76.7	1.32
	To some extent	8	22.9	3	12	11	18.3	
	Not at all	2	3.3	1	4	3	5	
Education leads to better health facilities	To large extent	31	85.6	23	96	55	91.7	1.64
	To some extent	3	8.57	1	4	4	6.66	
	Not at all	1	2.85	1		1	1.66	

Note: None of the Chi-square value is significant at .05 level

A large majority of the respondents (84%) agreed that education improves life and culture of human beings, among them 80% are males and 88% females. 16% respondents are agree that to some extent education improves the life. Only 76% respondents think that education promotes equality in life to large extent. Large number of respondents (91%) viewed that education leads to better health facilities in which females shows more agreement than males.

Thus it may be concluded that education improves life greatly awareness about new facilities, social norms and uniformity for development. It creates awareness about rights and duties, laws and new techniques.

3 Views Regarding Literacy Programmes and Educability

In order to find out the views of the respondents regarding literacy programmes and educability, benefits of adult education, are described here under:

3(a). Willingness to Continuing Education

Respondents' views regarding willing to start education shows that 85% of male respondents and 92% of female students willing to get education if education is provided. Only 11% do not want to study due to personal reason like over work load, shyness and over aging. But females are more willing to continue education.

It is a good sign that women are willing to get education because it can be helpful in personal and social development of the society which increase the literacy rate of Ferozepur district.

Table 1.5

Benefits of Adult Education Programme

Responses	Male		Female		Total	
	No.	%	No.	%	No.	%
Can read	11	31.42	13	52	24	40
Can write	15	42.85	16	64	31	51.66
Can write letter	9	25.71	7	28	16	26.66
Help in every task	8	22.85	11	44	19	31.66
Can learn new method of agriculture	29	82.85	7	28	36	60
Can teach children	8	22.85	7	28	15	25

3(b) Benefits of Adult Education Programme

After getting adult education they can be able to develop skills, reading, writing and awareness which are prescribed in percentages in different groups in table 5.

The male respondents give importance to adult education with this they can learn new methods of agriculture and can read and write, while females think that education can be helpful for every task. Only 25% thinks that they can teach their children. They may become able for reading and writing their own letters, for making their accounts.

This education beings modification in one's way of life, attitudes, levels of functionality and develops various technical and professional skills. It means respondents wanted to improve their income and standard of living by learning new methods of agriculture while women want to improve their functioning in community.

Findings & Conclusions

1.ViewsRegarding Developmental issues(Socio-Economic and cultural)

- Majority of respondents were in the favour of first issue 'Hard Work Pays'. and viewed that success is impossible without pull.
- Almost all the respondents have reported that only the rich are becoming richer.
- More than fifty percent viewed that man does not have the power to change his life style. However large number of respondents is in the favour of statement that 'opportunities are never equal'.
- Adult respondents irrespective of gender views social aspects in a similar manner. However their perception with regard to statement 'education does not help one to come up in life' differ significantly as more male member do not realize the role of education in their life.
- Near about fifty percent respondents are in the view that education to some extent help one's to come up in life.

- Better nutrition and vaccination and family planning are the practices by female respondents.
- Improved agriculture loan for economic betterment are adopted by male respondents.
- Family planning is being availed by lesser number of respondents.

2. Role of Education in Community Life

a) Views Regarding Education

- All the respondents agreed that education enlightens human life and education is third eye which gives knowledge.
- Majority respondents view that man is animal without education. Large number of respondents are regretting due to illiteracy.

b) Views Regarding Role of Education in Life and Culture

- A large majority of the respondents agreed that education improves life and culture of human beings.
- Large majority of respondents think that education promotes equality in life to large extent.
- Large number of respondents viewed that education leads to better health facilities in which females shows more agreement than males.

3. Views Regarding Literacy Programmes and Educability

a)Benefits of Adult Education Programme:

- The male respondents give importance to adult education with this they can learn new methods of agriculture and can read and write, while females think that education can be helpful for every task.
- Only less number of respondents thinks that they can teach their children.
- They may become able for reading and writing their own letters, for making their accounts.
- This education brings modification in one's way of life, attitudes, levels of functionality and develops various technical and professional skills.

Educational Implecations

In the light of the conclusions pertaining to the views and perceptions of adult respondents regarding developmental issues, perceptions regarding role of education, adult education programmes and educability of adult respondents selected from Ferozepur district of Punjab, following recommendations may be made for strengthening the educational programmes vis-à-vis development programmes of the rural people.

- Education facilities should be provided in these boarder areas because mostly respondents are illiterates. New opportunities of jobs should be created to achieve sufficient level of income. Only education can save them from poverty, ignorance and illiteracy.

- Parents should be made aware about girls' education and it is the duty of government that during war threats they should provide proper schooling facilities.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

A Study of Mental Ability of Secondary School Teachers in relation to their General Awareness, Attitude and Teaching Aptitude

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Abstract

The authors have studied about the relationship among mental ability, general awareness, teaching attitude and teaching aptitude of secondary school teachers. The data was collected through Teacher's General Awareness Scale, Teacher's Mental Ability Scale, Teacher's Teaching Aptitude Scale and Teacher's Attitude Scale. These tools were administered on 613 secondary and senior secondary school teachers from 55 schools of Hanumangarh and Sri Ganganagar districts of Rajasthan. The study was conducted on the basis of type of the school, locality, sex and age of the secondary school teachers.

Introduction

"A poor teacher tells an average teacher explains, a good teacher demonstrates and a great teacher inspires."

The quality of the education depends upon several factors. India is in need of a large army of efficient and competent teachers for universal, compulsory and free education for its children. A teacher not only has to be competent in his subject, method of teaching and in understanding his students but also should have a favourable attitude towards teaching. A general observation of the trend of the society states the fact that teachers who are professionals, does not possess required attitude and aptitude towards teaching.

A number of studies have been conducted on teaching attitude, aptitude and intelligence separately in order to develop the interests of teachers in classroom and to improve the standard of teaching. Sharma S.N. (1969) developed the teaching aptitude test for elementary school whereas

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Samanta Roy, G.K. (1971) conducted a study on the teachers attitude and its relationship with teaching efficiency and found a positive relationship between the two found a positive relationship between the two. *Mehrotra, R.N.* (1971) studied the effect of teachers education programmes on the attitudes of teachers towards the teaching profession and concluded that the attitude of trained teachers was more favourable to the teaching profession. *Sood J.K* (1974) investigated the attitude of students and teachers towards science and scientists and found a significant difference in attitude.

Ahluwalia, S.P. (1974) developed a teacher attitude inventory and studied the change in professional attitude of student teachers. *Upadhyaya B.M.* (1976) also constructed and standardized the aptitude test for secondary school teachers.

Smriti, S. (1977) studied attitude values and levels of aspiration of teachers and their pupils and found that institutions were important variables in determining pupil-teachers relationship and concluded with the effect of social, emotional and academic climate of institution. *Kushwala, P.L.* (1979) investigated the attitude and role perceptions of secondary teachers and reported an inverse relationship between teacher's quality and reference and disciplinarian role. Whereas, *Jain B.A.* (1982) studied classroom behaviour patterns of teacher's in relation to their attitude towards profession, morale and values. *Goyal J.C.* (1980) studied the relationship among attitudes, job satisfaction, adjustment and professional interest of teacher educators of different categories based on sex, age, qualification and experience. *Bhogolowal, S.A.* (1982) studied the personality characteristics associated with teaching effectiveness as seen through research techniques and found that the more effective teaching were largely characterized by their superiority over the less effective teachers with respect to their overall intellectual functioning, differentiating and integrative functioning efficiency v/s capacity of intellectual function extent of interest.

Mishra,S.P. (1978) compared the high and low achieves in science, commerce and arts on creativity, intelligence and anxiety. Whereas *Narula, K.S.* (1979) studied the achievement motivation, personal preferences, perception anxiety, risk taking behaviour and other correlates in relation to intelligence, socio-economic status and performance of prospective secondary school teachers of Orissa state and *Mann, S.S.* (1980) also found some correlates of success on teaching of secondary school teachers.

Shivappa, D. (1980) studied the factors affecting the academic achievements of high school pupils. *Kumar A.* (1981) established the relationship between personality and mental ability variables and achievement through programmed instruction styles.Whereas *Bhandarkar, K.M.* (1983) studied the population educational knowledge and attitude of secondary school students and teachers

and *Srivastava, R.P.* investigated the relationship between the reading ability with general mental ability socio-cultural status and school achievement.

In this way most of the studies are related to development of teacher's interest in classroom, to improve standards and process of teaching but there is no study so far has been contended on mental ability on senior secondary school teachers in relation to their general awareness teaching attitude and teaching aptitude. Therefore the investigator felt a need to conduct the present research.

Objectives of the study:

1. To study the mental ability of various groups of senior secondary school teachers.
2. To know the teaching attitude and aptitude of senior secondary school teachers.
3. To study the effect of sex, urban and rural setting of the school, government and non-government, age and experience of senior secondary school teaches on mental ability, teaching attitude and aptitude.
4. To explore the relationship between teaching attitude and aptitude and general awareness of senior secondary school teachers.
5. To study the relationship of mental ability and general awareness.
6. To investigate the effect of mental ability on teaching attitude and aptitude.

Hypotheses:

1. There will be no significant difference in Mental Ability of senior secondary school teachers on the basis of their sex, type of school, locality and age.
2. There will be no significant difference in General Awareness of senior secondary school teachers on the basis of their sex, type of school, locality and age.
3. There will be no significant difference in Teaching Attitude of senior secondary school teachers on the basis of their sex, type of school, locality and age.
4. There will be no significant difference in Teaching Aptitude of senior secondary school teachers on the basis of their type of school, type of school, locality and age.
5. There will be no significant correlation between Mental Ability, and General Awareness; Mental Ability and Teaching Aptitude; Mental Ability and Teaching Attitude of senior secondary school teachers on the basis of sex, type of school and locality.

Tools used:

Self developed tools were used to measure General Awareness and Mental Ability of the teachers, whereas Teaching Aptitude Test Battery by R.P.Sharma and S.P.Sharma and Attitude scale by N.S. Chouhan and Saroj Arora were used.

Sample:

A random sampling technique was used for the selection of the sample. The sample consisted of 613 secondary and senior secondary school teachers from 55 schools of Hanumangarh and Sri Ganganager districts of Rajasthan. The sample is from government and non-government schools of urban and rural areas.

Statistical Techniques used:

For analysis and interpretation of data Mean and standard deviation, t-test and r-value were used.

Data Analysis and Interpretation:

The data for hypothesis 1-5 were analysed and the summary has been given in table no. 1, 2, 3, 4 and 5

Table No. 1

Mean, S.D., and t-values of scores of Mental Ability of Secondary School Teachers

Group	N	Sum (x)	Mean (M)	S.D.	t	Signi. Level
Male teachers	408	38160	98.64	9.05	1.65*	NS
Female teachers	205	19444	101.30	8.60		
Govt. Teacher	387	35816	2.61	5.59	0.575*	NS
Non Govt. Teacher	226	21788	4.30	1.813		
Urban teachers	407	38120	4.90	23.57	0.705*	NS
Rural teachers	206	19484	3.7	14.12		
T/above 40 years	202	18413	93.38	16.46	0.58*	NS
T/below 40 years	411	39191	94.14	17.34		

Table No. 2

Mean, S.D., and t-values of scores of G/Awareness of Secondary School Teachers

Group	N	Sum (x)	Mean (M)	S.D.	t	Signi. Level
Male teachers	408	40245	98.64	19.05	1.65*	NS
Female teachers	205	20766	101.30	18.60		
Govt. Teacher	387	43377	112.08	16.24	2.84	S, p<0.01
Non Govt. Teacher	226	26311	116.2	19.68		
Urban teachers	407	46207	113.53	15.91	0.705*	NS
Rural teachers	206	23481	113.98	20.83		
T/ above 40 years	202	22329	113.34	16.46	1.67	NS
T/ below 40 years	411	57369	113.84	16.27		

According to the table no. 1 it can be noticed that t-values for Mental Ability of secondary school teachers were not significant for sex, type of school, locality of the school and their age variants. Hence the hypothesis 1 was accepted and it can be concluded that -

'There is no significant difference in Mental Ability of senior secondary school teachers on the basis of their sex, type of school, locality and age.

In table no. 2, t-values for General Awareness of the secondary school teachers were given on the data based on the sex, type of school, locality of the school and their age. The t-values of the data for sex, locality of school and the age of teachers were not significant. The the t-value for the type of schools is significant. Non-school teachers signficantly more General Awareness than government school teachers.

Hence the hypothesis 2 was partially accepted and it can be concluded that - 'There is no significant difference in General Awareness of senior secondary school teachers on the basis of their sex, locality and age.

General Awareness of non- government senior secondary school teachers is significantly more than government school teachers.

Table no. 3, shows the data and t-values for Teaching Aptitude of secondary school teachers based on the variables of sex, type of school, locality of the school and their age. The t-values of the data for type and locality of school were not significant. The the t-value for the sex and age of the teachers were found significant at 0.05 level, df. 611 significant.

Hence the hypothesis 3 was partially accepted and it can be concluded that - 'There is no significant difference in Teaching Aptitude of senior secondary school teachers on the basis of their type of school and locality.

Table No. 3

Mean, S.D., and t-values of scores of T/Aptitude of Secondary School Teachers

Group	N	Sum (x)	Mean (M)	S.D.	t	Signi.Level
Male teachers	408	75855	185.91	57.2	2.0	S, p<0.05
Female teachers	205	39829	194.28	62.15		
Govt. Teacher	387	71957	184.89	62.15	0.68	NS
Non Govt. Teacher	226	43727	193.48	60.3		
Urban teachers	407	78455	192.76	58.62	1.96	NS
Rural teachers	206	37229	180.5	58.99		
T/ above 40 years	202	80209	192.81	55.16	2.47	S, p<0.05
T/ below 40 years	411	35475	180.07	60.32		

Table No. 4

Mean, S.D., and t-values of scores of T/Attitude of Secondary School Teachers

Group	N	Sum (x)	Mean (M)	S.D.	t	Signi.Level
Male teachers	408	1963.4	4.81	0.94	4	S, p<0.01
Female teachers	205	926.37	4.51	0.96		
Govt. Teacher	387	1806	4.66	0.949	1.6	NS
Non Govt. Teacher	226	1083.8	4.79	0.978		
Urban teachers	407	1912.8	4.69	0.96	0.5	NS
Rural teachers	206	976.94	4.74	0.95		
T/ above 40 years	202	948.98	4.81	0.92	4.2	S, p<0.01
T/below 40 years	411	1940.8	4.66	0.98		

Teaching Aptitude of female teachers is significantly more than that of male teachers.

Teaching Aptitude of teachers above 40 years is significantly more than that of teachers below 40 years of age.

Table no. 4, shows the data and t-values for Teaching Attitude of secondary school teachers based on the variables of sex, type of school, locality of the school and their age.

The t-values of the data for type and locality of school were not significant. The the t-value for the sex and age of the teachers were found significant at 0.01 level, df. 611 significant.

Table No. 5

Calculated r value and significant r value at 0.05 level for different groups and variables

Group	N	M.A. & G.A.		M.A. & T.Ap.		M.A. & T.At.	
		r	sig. r	r	sig.	r	sig.r
Male teachers	408	0.549	0.098	0.097	0.098	0.210	0.098
Female teachers	205	0.365	0.138	0.092	0.138	0.262	0.138
Govt.Teacher	387	0.332	0.113	0.142	0.113	0.234	0.113
Non Govt.Teach	226	0.670	0.138	0.162	0.138	0.215	0.138
Urban teachers	407	0.390	0.098	0.071	0.098	0.316	0.098
Rural teachers	206	0.604	0.138	0.042	0.138	0.149	0.138

Hence the hypothesis 4 was partially accepted and it can be concluded that -"There is no significant difference in Teaching A1titude of senior secondary school teachers on the basis of their type of school and locality.

Teaching Attitude of male teachers is significantly more than that of female teachers.

Teaching Attitude of teachers below 40 years is significantly more than that of teachers above 40 years of age.

Major Findings of the study:

The analysis and interpretation of the above data lead to the following conclusions:

1. There is no significant difference in mental ability on the basis of sex, type of institution area and age.

2. There is no significant difference in the general awareness on the basis of sex, area and age but non-government teachers have more general awareness than government teachers.

3. The teaching attitude and aptitude varies according to sex and age but types of institution and area have no effect on it. Male teachers have high teaching attitude but low aptitude than females. The teachers above 40 years have higher teaching aptitude and teachers below 40 years have higher teaching attitude than their couterparts respectively.

4. There is a positive and significant correlation between variables mental ability and general awareness and mental ability and teaching aptitude irrespective of age, sex and type of institution.

5. There is no significant correlation between teaching attitude and mental ability with reference to sex but there is positive and significant correlation with respect to age and type of institution.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

Moral Judgement of Student-Teachers of Guntur District

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Abstract

The present article reveals the study of moral judgement of student-teachers. Moral Judgments are judgments about the good and right action. Not all judgments of good or right are moral judgments; however many are judgments of aesthetic, prudential or technological goodness or rightness. Unlike judgments of prudence or aesthetics, moral judgments tend to be universal, inclusive and consistent and have objective, impersonal or ideal bases. A sample of 603 student-teachers from different colleges of education in Guntur District was selected. Moral judgement Scale was constructed. The statistical techniques used were mean, variance,'t', and 'f' test. The results showed that many of the student-teachers showed high level of morality.

Introduction

Ethics, or moral philosophy, is the study of human actions in respect to their being right or wrong. The actions of individuals and social groups supplement the subject matter of ethics. We distinguish between actions that are voluntary those done intentionally and actions that are involuntary. Ethics studies voluntary actions. Psychologists and Sociologists also examine such actions. The ethician, or student of ethics, has a particular interest in the moral character of voluntary actions. The ethician wants to know what makes them right or wrong and what gives them a moral quality. Blasi (1984) argues that, morality is more a characteristic of the agent than of either action or thinking; the ultimate source of goodness lies in good will, and good will is at the core of what a person is.

Judgement is a complex process influenced and shaped by cognitive and affective factors and components. According to Kohlberg (1971), an individual acquires and refines the

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sense of justice through a sequence of invariant developmental stages.

Moral judgments are judgments about the good and right action. Not all judgments of good or right are moral judgments; however many are judgments of aesthetic, prudential or technological goodness or rightness. Unlike judgments of prudence or aesthetics, moral judgments tend to be universal, inclusive and consistent and have objective, impersonal or ideal bases. According to Jean Piaget (1997), all morality consists in a system of rules and the essence of all morality is to be sought in the respect which the individual acquires for these rules.

According to Marwin W. Berkowitz (1995) the aspects of anatomy of moral person are (1) Moral behaviour; (2) Moral value; (3) Moral character; (4) Moral emotion; (5) Moral reason; (6) Moral identity and (7) Meta-moral characteristics of morally educated person are(i)Compassionate/caring; (ii) Consistent; (iii) Honesty; (iv) Self-sacrificing; (v)Open-minded; (vi) Thoughtful/rational; (vii) Socially active; (viii) Just; (ix) Courageous; (x) Virtuous; (xi) Autonomous; (xii)Empathic/sympathetic; (xiii) Balanced personality; (xiv) Faith on oneself; (xv) Optimism and (xvi) Humour.

The ability to make moral judgments is one portion of moral character. However, moral character also includes the ability to apply the judgmental capacities to the actual guidance and criticism of action. At present in our country, a crisis of character is manifested through the lack of morality, irresponsibility of students, the role of money, and the power in human affairs, etc. This is evident from the growing student unrest in our country. In every college and university we see strikes, rallies, raging, misuse of student power, etc. For example stealing, cheating behaviour, lying, deceitful, dishonest, untruthful, falseness and copying are found to be among students-teachers of colleges of education. So, in the light of all these, the researcher felt the need of assessing Moral Judgment of the student- teachers.

The researcher wanted to study whether the following variables viz. gender, location, type of family, study stream (art, commerce, and science), and methodology of study at B.Ed. level (mathematics, biological science and social studies) have an influence on the moral judgment of the student-teachers.

Early researches on moral judgment have been advanced with particular angles. *Prahallada, N. N.* (1982) conducted a study of the Moral Judgement of Junior College Students and their Relationship with Socio-Economic Status, Intelligence and Personality Adjustment. *Prabhawathi, Kumari* (1987)conducted a Correlational study on the Personality Needs, Moral judgement and Value Patterns of Secondary School Teachers. *Pradhan, G.C.* (1993) studied Values among Secondary School Students in relation

to Moral Judgement, Socio-Economic Status and Sex. There appears to be a lack of researches on student-teachers when compared to children, and that is why researchers have attempted this study.

Objectives of the Study

1. To construct a moral judgment questionnaire for student-teachers.
2). To compare the moral judgment of student-teachers on the basis of their personal variables like: gender, locality, and type of family.
3). To compare the moral judgment of student-teachers on the basis of their educational variables like stream at degree level and methodology at B.Ed. level.

Hypotheses of the Study

1. There exists no significant difference between the male and female student-teachers in their moral judgment.
2. There exists no significant difference between the rural and urban student-teachers in their moral judgment.
3. There exists no significant difference between the student-teachers belonging to joint and nuclear families in their moral judgment scores.
4. There exists no significant variance between the student-teachers of different study streams (i.e, arts, commerce and science) in their moral judgment.
5. There exists no significant variance between the student-teachers of different methodologies (i.e, mathematics, biological sciences, and social studies) in their moral judgment.

Method and Procedure

Sample:

A sample of 603 student-teachers of different Colleges of Education in Guntur District belonging to Acharya Nagarjuna University was selected by using random sampling technique.

Tool:

To measure the moral judgment performance of student-teachers' moral judgment scale was constructed with certain situations. The moral situations in the questionnaire are to be limited to only 15 and the subject of the alternatives under each moral situation is confined to the main categories of theories of morality viz., absolute, subjective and relative with 3,2,1 marks accordingly.

Data Collection:

The required data were collected by administering the tool on the representative sample.

Results and Discussion:

Table -1
Overall Moral Judgment

N	Mean	Vari.	Sk.	Kurtosis
603	39.98	88.84	-0.74	0.23

The moral judgment of the whole sample (N=603) mean is 39.98. The percentage of mean is 88.84. It means that the student-teachers are exhibiting

high Moral Judgment. The value of skewness obtained is -0.74 which indicates that the distribution is negatively skewed. The kurtosis value is found to be 0.23 which is less than 0.263 and hence distribution is Mesokurtic. Hence, the distribution is not normal and is Heterogeneous.

Hence it can be seen that male and female student-teachers do not differ significantly with respect to their moral judgment.

In the studies done by Prahallada, N.N. (1982), Prabhawathi Kumari (1987) and Pradhan, G.C. (1993), there exists significant difference between male and female teachers in their moral judgement.

Table -2

Influence of Variables on Moral Judgment

S.	Variable	Type	N	Mean	Variance	(t/F)
1	Gender	Male	251	39.75	20.63	$t=1.09^{NS}$
		Female	352	40.13	16.02	
2	Location	Rural	322	40.45	15.68	t=2.97*
		Urban	281	39.43	20.05	
3	Type of Family	Joint	154	39.57	19.25	$t=1.38^{NS}$
		Nuclear	449	40.12	17.46	
4	Stream of Study	Arts	196	40.84	15.51	F=8.57*
		Science	358	39.39	19.36	
		Commerce	49	40.77	11.80	
5	Methodology of Study	Mathematics	163	39.73	17.88	F=9.47*
		Biological Science	198	39.13	20.25	
		Social Studies	242	40.83	14.88	

(* significant)

Findings and Conclusion

1. The mean of male and female student- teachers are nearly equal. The 't' value which was calculated to find out the significance of mean difference between the male and female student-teachers is 1.09, which is not significant at 0.05 level.
2. Out of 332 rural student-teachers, the moral judgment mean is 40.45, percentage of mean is 89.88% and variance is 15.68. The 281 urban student-teachers' moral judgment

mean is 39.43, percentage of mean is 87.62% and variance is 20.05. The't' value calculated to find out significance of mean difference is 2.975, which is significant at 0.01 level, therefore it may be concluded that there is a significant difference in the moral judgment of rural and urban student-teachers. Rural student-teachers' moral judgment is better than the urban student-teachers' moral judgment.

In the studies done by Prabhawathi Kumari (1987) and Pradhan, G.C. (1992) also there exists a significant difference between the rural and urban teachers in their moral judgement.

3. The mean values of joint and nuclear family student-teachers are 154 and 449 with 39.57 and 40.12 percentages respectively which are nearly equal. The 't' value which was calculated to find out the significance of mean difference between the joint and nuclear family student teachers is 1.38, which is not significant at 0.05 level. Hence it can be seen that joint and nuclear family student-teachers do not differ significantly with respect to their moral judgment.

4. To find out, if the variance between the means of student teachers belonging to different streams of study is significant, ANOVA was done. But the variance is significant as evidenced by the obtained 'F' value 8.57, which is significant at 0.05 level. Hence, we can draw conclusions that student-teachers pursuing arts courses have slightly better moral judgment performance in comparison to the science and commerce students.

In the study done by Prahallada, N.N. (1982) there was a significant difference between Science and Arts students, Science and Commerce students, Arts and Commerce students.

5. To find out, if the variance between the means of student-teachers belonging to different methodologies of study is significant, ANOVA was done. But the variance is significant as evidenced by the obtained 'F' value 9.474, which is significant at 0.05 level. Hence, we can draw conclusions that student-teachers pursuing Social Studies courses have slightly better moral judgment performance in comparison to the Mathematics and Science methodology student-teachers.

Implications

Moral Judgements are critical to individuals of all ages. The moral ideal is unlimited. The moral ideal rises with the moral progress. There is a great need for moral progress because the individuals today have more opportunities to indulge in immoral activities. There is every need to pull out the students from such exploitations. Education is the most superior means of developing an individual from the animal level to the level of human being. Without education added with morality, self improvement would be difficult. So

attainment of mental and spiritual powers should be done through education.

Respect of character, respect of truth, respect of progress and respect of social order are moral deceits. Man has the social duty to respect all the above said things. A individual's rights can be protected only when the social order is maintained. The awareness could be brought through education.

Moral sense resides at the bottom of moral knowledge. This sense is not equally developed in all but it can be nurtured. Moral knowledge is the base. Good conducts include moral knowledge. Hence it could be fostered through education.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

A Study of Environmental Awareness Among the High School Students of Ambala

Deepak Sharma *

Abstract

The whole world is now in the grip of global warming. Environmental awareness among the students is the need of the hour. The present investigation is aimed at measuring the awareness level among the students of High Schools of Ambala towards Environmental pollution. A sample of 160 students were taken by multi stage stratified sampling procedure by selecting 40 students from each category i.e. boys and girls students of different schools affiliated to C.B.S.E & B.S.E.H for the study. The data was collected by using an awareness scale to measure awareness level among the students towards environment and its protection by the method of normative survey. It has been observed that Boys and Girls differ significantly in their environmental awareness.

Introduction

Environmental awareness is the prime need of the modern society. In this scientific age the quality of environment has been decreasing day by day due to various causes. The environmental crisis has aroused out of urban industrial revolution and exploitation of natural resources, increased rate of exchange of matter and energy and urban effluents. Man started handling of the environment and thus environmental conditions are varying rapidly. When it exceeds the critical limit, environmental pollution starts. We can enumerate various sources that make environment highly polluted. But the question is- whether we are aware of environmental education? can we eradicate the problem of environmental pollution?.

It is high time when we stopped spreading the problem of the environmental pollution. It is the need of hour to think about this problem otherwise this world will become a hell to live in. Environmental education can change the concept of environmental

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pollution. It provides the understanding and competence to recognize natural resources and interdependence between physical and biological components of environment for the growth and development. Environmental education can bring a revolution in the world.

Significance of the Study:-

Our body is made up of five basic elements; one of them is air which is directly related with our life. Even though we know that we can not survive without balanced air, we cause environmental pollution due to mad race of industrial development. Forests are diminishing at an alarming rate. Landmasses are getting eroded in different parts of the country. Awareness among students is very essential for the survival of the next generation and to solve this problem. Environmental education is a comprehensive and life-long education which can prepare the individuals and communities for safe life. This study may be useful for students as well as for teachers to learn about the future course of action.

Objectives of the study:-

There are various objectives of this study which are as below:

1. To study an awareness among the students of high schools of Ambala towards Environmental Education.

2. To study the differences in the levels of environmental awareness among the students of high schools of Ambala.

a. Boy and girl students of Central Board of School Education/Board of School Education Haryana.
b. Boy and girl students of high schools of schools affiliated to Board of School Education Haryana.
c. Boy and Girl students of high schools of affiliated to Central Board of School Education.

Hypothesis:

The following hypotheses were formulated for the present investigation:

1. There is no significant difference between the environmental awareness of boy and girl students of CBSE high schools of Ambala.
2. There is no significant difference between the environmental awareness of students of BSEH high schools of Ambala.
3. There is no significant difference between the environmental awareness of boy and girl students of Central Board of School Education/Board of School Education Haryana.

Sample:

The total sample of 160 students of high schools of different boards of Ambala were selected by following a stratified random sampling procedure on the basis of sex which consists of 40 students from each category.

Board	**Boys**	**Girls**	**Total**
CBSE	40	40	80
BSEH	40	40	80
Total	**80**	**80**	**160**

Design of the study:
The present study is based on survey method which was conducted on the area of Ambala.

Tools Used:
For the collection of data the investigator prepared a self made questionnaire consisting 30 items concerned with various factors causing environmental pollution.

Methodology:
The data was collected by following the normative survey method of investigation for study by utilizing the awareness scale to measure the awareness of boy and girl students of Central Board of School Education/ Board of School Education Haryana.

Findings
From the values of the above table the following findings can be attained at:

1. There exists a significant difference in environmental awareness among boys and girls of different high schools of Ambala affiliated to CBSE. Boys are more aware of environmental pollution than girls.

2. There exists a significant difference in environmental awareness among boys and girls of different high schools of Ambala affiliated to BSEH. Girls are more aware of environmental pollution than boys.

Table No. 1
Mean, S.D. and t-values of the various groups of students of Metic Class

S.No.	Group	Description	N	Mean	S.D.	S.E.	t-value	Sig.
1	CBSE	Boys	40	85.63	3.44	0.83	3.91	Signi-
		Girls	40	82.0	3.93			ficant
2	BSEH	Boys	40	79.4	4.83	1.12	3.03	Signi-
		Girls	40	76.0	5.16			ficant
3	CBSE	Students	80	83.63	3.68	0.77	7.63	Signi-
	BSEH	Students	80	77.75	5.85			ficant

3. There exists a significant difference in environmental awareness among students of CBSE and BSEH of high schools of Ambala. Students of CBSE are more aware of the environment pollution than that of BSEH students.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

Sounds of Silence : Perception of Youth on Female Foeticide.

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Abstract

India is growing dynamically in every field. Today, the boom in economy, innovative technologies & improved infrastructure has become nation's pride. The country has witnessed advancement in all the fields but bias against a girl child is still prevailing in the country. Against the present existing practices a study was conducted in Panjab University, Chandigarh. For the study 200 graduate & postgraduate students (102 boys& 98 girls) were taken and the study has confirmed awareness & knowledge about female foeticide amongst the youth of Chandigarh. Majority of the sample taken for study considered female foeticide as a heinous act. The perception regarding different aspects, reasons, consequences & possibility of change have also come across..

Introduction

Women are worshipped and revered in every form in India. A woman symbolizes courage & strength in the form of *"Shakti, Durga & Kali"*, who crushed demons, *asuras, raakshas* & all forms of evils in world to usher harmony in universe. Women have also been accorded a highly revered status in every relationship – that of the mother, sister & wife- in the Indian society, yet one cannot hide the worst impending "gender" crisis that India is facing i.e the rapid depletion of female population.

In an age where females have made progress in almost every field, there is a large population who still accord a lower status to women. In our Indian society, a childless woman is perceived as incomplete, the one who has given birth to daughter is partially complete. Only those women who have produced sons enjoy a status of all sorts.

Every year, as millions of women marry, they dream of starting a family, of

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having their homes filled with tiny cries and the happy laughter of gurgling babies. In India however, pregnancy is too often followed by the question of whether the unborn child is a girl or a boy. There is an old sentiment in the Indian state of Haryana "*Chhore Pe Baje Thali, Chhori Pe Thekere Phoren"* which means "announce the birth of a son by beating of brass plates but at the birth of a daughter break earthen pots."

The girl child in India has been the most vulnerable for centuries & is even today vulnerable to the insults of deprivations as well as discrimination. Whatever the natural biological laws had given mankind for balancing its natural sex ratio, it has now been taken away by man-made laws, customs, traditions, religious beliefs & sophisticated medical technology, resulting in a lower status in society for girls as well as women. For too long have been left on the black burner facing discrimination throughout their entire journey from cradle to the grave.

It is agonizing to know that the gender bias and deep rooted prejudice & discrimination against girl child, which have been there down the centuries are now found to begin in the womb itself. The girl child in the womb faces the peril of pre-birth elimination i.e. female foeticide. It is a disgrace for the Indian society, which considers the birth of a girl child as a bad investment in future. She is considered to be consumer rather than producer & this narrow view point of the Indian patriarchal society has led to the horrid practices like female foeticide.

According to Dagar (2001), the adverse sex ratio in Punjab is not recent, infact from the time census figures are available i.e. 1901. Punjab has had the dubious distinction of being the Indian state with the most negative sex ratio until1971 and continued to be among the states with a high imbalance in male & female numbers. The declining sex ratio especially in the 0-6 yrs age group from 875 in 1991 to 793 in 2001 shows that the female gender is perceived as a liability & the male gender as an asset.

Objectives of the Study

1. To study the perception of youth towards female foeticide.

2. To study the difference in viewpoints of male & female toward female foeticide.

Hypotheses of the Study

1. Youth will have a negative perception regarding female foeticide.

2. There exist significant differences in the perception of male & female students towards female foeticide.

Method

The present study was carried out on graduate & postgraduate students from various teaching departments of Panjab University, Chandigarh. The present study is essentially a descriptive exploratory research.

Tools Used A locally constructed questionnaire was used to collect the data.

Results and Discussion

Demographic data –

1. The sample comprises of 200 students, 102 male respondents & 98 female respondents of which 78% belong to the age group of 21-24yrs.

2. 57.5% of the total sample belongs to families whose father are graduate & 61.5% of the total sample belongs to families whose father belong to service class.

3. 40% of the total sample belonged to families whose income ranged between Rs 10,000 – 25,000 per month.

4. In 37.5% of the total sample mothers were also graduates.

5. In 76.5% of the total sample had their sisters.

6. In 78.9 % of the total sample had their brothers.

Item analysis -

On asking following questions, the respondents answered-

1. Should technology of determining the sex of unborn child be banned?

73% of the total sample responded positively towards this question.

2. Familiarity with the term 'Female Foeticide'

94.5% of the total sample are familiar with the terms 'Female Foeticide showing that they are aware of the fact that killing of female foetus is being practised in our society.

3. Punishment to those who practice female foeticide.

The result of the respondent varies from 42.5% for social boycott & 31% for the life imprisonment to those who practise female foeticide. So the sample considers female foeticide to be a social problem.

4. Responsibility of whom for killing the unborn female child

50% of the total sample considered family members responsible for killing of unborn female child, 39% of sample responded that society is responsible for the same.

5. Unfavourable conditions persisting for girl child will change.

A significant part i.e 74% of the sample felt that the unfavourable conditions persisting for the girl child over the decades can be changed by-

- Creating awareness for the importance of female in the society.
- By realizing that girls are no less than boys.
- More economic & decision making power should be given.
- By changing dowry & caste system.
- Putting a ban on sex determination.

6. Punishment to those who indulge in this crime.

A mixed reaction of youth is seen in this response. 51.5% consider punishment not appropriate & 43.5% consider it appropriate.

7. Perception regarding female foeticide

A significant 62% of the youths think that foeticide is a crime & 18.5% think that it is a social evil. Some comments:

- More sinful than murder.
- Unethical.
- Against Nature.
- Black spot on society.

8. Steps taken by the govt. sufficient enough to stop female foeticide.

• 46% of the sample reported that steps taken against female foeticide were not sufficient enough. Some comments were made by respondents who consider the govt. lacked following in their approach-

- Rich people are not caught by the govt.
- Steps are formulated only to take votes, nothing else.
- No fear of punishment.
- No strict law & order.
- No strict rules against dowry.

9. Future consequences if this is not stopped.

43% of the youths think that no girls will be left. 32.5% of the youths consider that imbalance in boy and girl ratio will be created. Some of the comments-

Land without girls
Men would be left unmarried
No one to give birth to boys.
End of world.
Dowry will be offered by males.

10. Attempts to check Female Foeticide

26% of the youths consider that education should be provided to check female foeticide. 24% consider that mass awareness is essential whereas 18% consider that there should be strictness in punishment to check it. Some comments are-

- Females should respect themselves.
- Job opportunities to girls.
- Boys should say 'no' to dowry.
- Ban on dowry.
- Regular invigilation in hospitals.

CONCLUSION

It can be concluded from the present study that majority of the respondents were against female foeticide and dowry was the main reason for female Foeticide.

The sample also reflected the changing perception regarding Female Foeticide.

The views regarding the cause of Female Foeticide also reflect the possibilities which can & will bring about change of the status of female in the society.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

Impact of Emotional Intelligence on Achievement of Class XII Students

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Abstract

*Emotional intelligence is relatively new concept in the field of psychology. The term Emotional Intelligence was coined by Salovey and Mayer(1990) and popularized by Goleman(1995). The present study was to investigate the impact of Emotional Intelligence in adjustment of XII-class students. Four hundred XII-class students, both male as well as female, studying in various schools affiliated to CBSE, New Delhi formed the sample for the present study. The tools used for collecting the data were, Emotional Intelligence Inventory developed and standardized by Mangal & Mangal and the percentage obtained by the students in XII- class C.B.S.E., Examination was treated as their achievement score. The data were analysed using Pearson's Product Moment correlation and 2*2*2 Factorial Design ANOVA. No significant relation was found between E.I. and Achievement for both, male as well as female XII class students.*

Introduction:

The concept of Emotional Intelligence is an umbrella term that captures a broad collection of individual skills and disposition usually referred to as soft skills or inter-personal skills, that are out side the traditional areas of specific knowledge, general intelligence and technical or professional skills.

The term EI was developed and introduced for the first time by salvey and mayer (1990) it was defined as the ability to monitor one's own and others feelings and emotions to discriminate among them and to use this information to guide one's thinking and actions. Although the concept of EI was initially proposed by *Salovey and Mayer* (1990) it was *Goleman* (1995) who popularized the concept with his famous and best selling book 'Emotional Intelligence' *Goleman* (1998) defined EI as "the capacity for recognizing our own feelings and these of others for motivating our selves and managing emotion with in ourselves and in our relationship" Further he suggested that EI is made up of five components self awareness, self

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regulation, Motivation, Empathy and Social Skills.

Emotional Intelligence :

Emotional intelligence has been operationally defined as: '*Emotional Intelligence consists of abilities such as being able to motivate one-self and persist in the phase of frustration. Its main areas are intra-personal awareness, inter-personal awareness, intra-personal management and inter-personal management*'

Objectives of the Study :

The present investigation was taken up to achieve the following objectives:

1. To find out the relationship between emotional intelligence and academic achievement of 12th graders.
2. To study the effect of the Emotional Intelligence Sex, Type of schools and their interaction on achievement.

Hypotheses :

For the study following hypotheses were formulated.

1. There will be no significant relationship between Emotional Intelligence and Achievement of 12th grade students.
2. There will be no significant relationship between Emotional Intelligence Sex, types of school and their interaction on Achievement.

Sample:

For the present study, sample was drawn from various schools situated in Bhilai, affiliated to CBSE.

The sample schools were divided into two strata, of which the first comprised of schools managed by Bhilai Steel Plant, while the second comprised of Non-BSP schools.

From the first strata i.e. of BSP schools, three schools were chosen randomly, these were BSP Senior Secondary School Sector IV, BSP Senior Secondary School Sector VII and BSP Senior Secondary School Sector X. From these three schools, hundred male and hundred female i.e. total of two hundred twelfth class students were selected in the sample.

Like-wise from the second strata also, i.e. from the three Non-BSP schools namely, MGM Senior Secondary School, Vishwadeep Senior Secondary School and Shri Shankaracharya Senior Secondary School. From these three schools also, hundred male and hundred female i.e. total of two hundred twelfth class students were selected in the sample.

In this way, a total of four hundred twelfth class students were selected in the sample. The selection scheme of the sample has been presented in nutshell in table.

Table No. 1
Strata-wise, Sex-wise and Discipline-wise distribution of sample.

Category	BSP School	Non-BSP School	Total
Boys	100	100	200
Girls	100	100	200
Total	200	200	400

Tools Used :

Emotional Intelligence :

To collect the data for the variable Emotional Intelligence, Mangal Emotional Intelligence Inventory (MEII) was applied. This inventory has been developed and standardized by Dr. S. K. Mangal and Mrs. Shubhra Mangal. The test-retest reliability is 0.92, while the reliability of the test for use in Chattisgarh state was estimated by Test-Retest Method and it has Factorial Validity.

The Emotional Intelligence inventory has been designed for use with Hindi and English knowing 16+ years age of school, college and university students for the measurement of their emotional intelligence (total as well as separately). It covers four areas or aspects of emotional intelligence namely, Intra-Personal Awareness (knowing about one's own emotions), Inter-Personal Awareness (knowing about other's emotions), Intra-Personal Management (managing one's own emotions), Inter-Personal Management (managing other's emotions) respectively.

The distribution of items area - wise have been provided in Table No. 2.

Achievement

The percentage obtained by the students in XII- class C.B.S.E., Examination was treated as their achievement score.

Research Method :

The survey method was adopted for the study. Students were provided with questionnaire after breifing them how to respond the questions.

Table No. 2
Areas /Aspects of MEII

Sr.	Areas / Aspects	Items
1	Intra-Personal Awareness (own emotions)	25
2	Inter-Personal Awareness (other's emotions)	25
3	Intra-Personal Management (own emotions)	25
4	Inter-Personal Management (other's emotions)	25
	Total No. of Items	100

Data Collection and Analysis :

After administering of the MEII tool on the sample, the scoring has been done as per the description given in the tool and segregated the data on the basis of strata, sex and discipline of sample.

Pearson's Product Moment Correlation Technique was employed to analyze the data collected to study the correlation between adjustment and emotional intelligence (E.I.) of male and female students separately.

Table No. 3
Pearson Product Moment Correlation for Emotional Intelligence and Achievement

Between	N	r	Result
Boys E.I. and Achievement	200	0.127	NS
Girls E.I. and Achievement	200	0.014	NS

Table No. 1
The Effect of Overall Emotional Intelligence of with respect to Sex, Type of School, and their Interaction on Achievement of tghe Students.
Summary of 2*2*2 Factorial Design ANOVA for Achievement

Source	Sum of Squares	df	Mean Sum of Square	F
Overall E.I.(A)	152.778	1	152.778	1.089
Sex (B)	172.272	1	172.272	1.228
Type of Sch.(C)	193.259	1	193.259	1.378
A*B	38.976	1	38.976	0.278
A*C	90.356	1	90.356	0.644
B*C	277.170	1	277.170	1.976
A*B*C	127.301	1	127.301	0.908
Error	54834.258	392	140.241	
Total	**1839103.795**	**399**		

Major Findings

The findings obtained from the present investigation were:

1. No significant relation was found between Emotional Iintelligence and Achievement for both, male as well as female XII class students.
2. Overall Emotional Iintelligence was not found to have a significant impact on achievement of XII class students.
3. Sex, type of schools and their interaction also did not have significant impact on achievement of 12th class students.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

A Study of Attitude towards Science and Interest in Science of School Going Adolescents of Gurgaon District

Shilpy *

Abstract

The study was conducted to judge the attitude towards and interest in science of one thousand school going adolescents of Gurgaon district of Haryana. Anuradha Agnihotri's attitude towards science scale and LN Dubey's science interest test were used to collect the data. The results showed that number of students having positive attitude towards science and interest in science subjects in declining. The reason for this seems to be that the adolescents find the subject boring and difficult to understand.

Introduction

The role of science and technology in the rapid progress of a country like ours is bound to be of utmost significance. Scientific knowledge is doubling itself in some fifteen years and this means that a normal individual will soon get out of date in relation to his awareness of the fast changing world around him. We cannot help this but what we must ensure is that the new generation studying in the schools, colleges and the universities is taught what is reasonably modern and not fed on what is obsolete. The scientific environment and its application are influencing modern society. Science has become an integral part of our daily life. This is very much felt not only by the scientists, economists, and administrators but also by the educationists. A citizen of modern India sees the countless manifestations of science all around him. There is no aspect of man's life today, which has not been influenced by science in one way or the other. Science is no longer confined to a few seriously devoted persons since the life in present world invariably warrants to variable degrees of scientific degrees and laws. Science has now become a part of general education. Science takes its place side by side with other subjects as an essential element of one's education.

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However the inclusion of any subject in the curriculum should satisfy the intellectual, utilitarian, vocational, cultural, moral and aesthetic values. Besides these, the teaching of science imparts training in the scientific method and develops positive attitude towards science subject, interest in science and scientific aptitude, which are very valuable and at the same time are transferable to other situations in the life of the learners.

As Galileo has rightly said, "The authority of a thousand is not worth the humble reasoning of a single individual".

Objectives of the Study

The objectives of the study were-

- To study the level of scientific attitude among adolescents.
- To study the effect of gender on scientific attitude of adolescents.
- To study the effect of locality on scientific attitude of adolescents.
- To study the level of interest in science among adolescents.
- To study the effects of sex on interest in science among adolescents.
- To study the effects of locality on interest in sciene among adoloscents.

Hypotheses

The hypotheses of the study were-

- There will be no effect of gender on scientific attitude of adolescents.
- There will be no effect of locality on scientific attitude of adolescents.
- There will be no effect of sex on interest in science among adolescents.
- There will be no effect of locality on interest in science among adolescents.

Methodology

For the following study descriptive survey method of research was used.

Sample

The sample consists of 1000 students (250 urban male students, 250 urban female students, 250 rural male students & 250 rural female students) of the schools of Gurgaon district.

Tools of the research

These include the following:

a) For measuring Attitude towards Science the scale constructed and standardized by Dr. Anuradha Agnihotri was used.

Table 1

Mean, S.D. and t- values of Gender wise scores of Scientific Attitude and Interest in Science

Variables	Total Group		Mean		SD		t-value
	Mean	SD	Male	Female	Male	Female	
Attitude towards science	82.57	13.54	82.73	82.44	13.65	18.60	0.13
Interest in science	34.27	10.45	33.24	35.31	8.88	11.74	3.13

Table 2
Mean, S.D. and t- values of Locality wise scores of Scientific Attitude and Interest in Science

Variables	Mean		S.D.		t-value
	Urban	Rural	Urban	Rural	
Attitude towards science	86.01	79.14	15.86	11.15	3.25
Interest in science	36.20	32.34	11.67	8.66	4.7

b) For measuring Science interest the scale constructed and standardized by Sh. L.N Dubey and Km. Archana Dubey was used.

Data Analysis

The data was analyzed by statistical techniques such as Mean, S.D. and t value.

From the table 1 it can be stated that, adolescents have shown moderate attitude towards science. And their interest in science is very low.

Attitude towards science of both males & females is almost same i.e. both have moderate means. Although males have a slightly higher value of mean depicting that as compared to females.

The mean of Interest in Science of males is low as compared with females. The calculated t-value of Attitude of male and female groups towards science is 0.13 which is not significant. There is no significant difference between attitude towards Science of male and female adolescent students. The calculated t-value of Interest in Science is 3.13 which is significant at 0.01 level. Therefore, there is a significant difference between Interest in science of male and female adolescent students.

Urban adolescents have more positive attitude towards science as compared to rural adolescents because urban adolescents have more interest in science than rural adolescents.

The calculated t-value of Attitude towards Science is 3.25 which is significant at 0.01 level of significance. Therefore, it can be said that there exists a significant difference between attitude towards science of Urban and Rural adolescent students.

The calculated t-value Interest in Science is 4.7. This value is significant at 0.01 level. Therefore, there exists a significant difference between interest in science of urban and rural adolescent students.

Findings

1. Adolescents have shown moderate attitude towards science and their interest in science is very low.
2. There is no significant difference between attitude towards Science of male and female adolescent students.
3. Female adolescents have shown significantly more interest than male.
4. Urban adolescents have shown significantly more Scientific Attitude and Interest in Science than their counterparts.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

Diagnostic Study of Failures in National Eligibility Test (NET) and State Level Eligibility Test (SLET) in Nagpur Region.

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Abstract

The present study was aimed to find out the causes of failures in competitive examinations such as NET and SLET in Nagpur region. It was noticed that the results of these examinations were remarkably low in this region. The researcher collected data of a sample of two hundred students belonging to different faculties for the study. The data collection was made by a self made questionnaire consisting of factors like educational, social, economical, and mental aspects of the sample students, which can affect the result. The data obtained was tabulated and statistically analyzed and appropriate interpretations were made.

Introduction:-

Now a day's more and more people are interested in taking education/teaching as their profession. The word "Profession" implies professed attainment in special knowledge as distinguished from mere skill. A person who acquires expertise in a particular profession is called as professional. Those who are seeking to have teaching/education as their profession such as lecturer, professor etc. have to acquire master degree in the subject concerned. In addition to that they have to pass National/State level Eligibility Tests.

Concept of NET:-

The University Grants Commission (UGC) conducts National Eligibility Test (NET) to determine eligibility for lecturership and to award of Junior Research Fellowship (JRF) for Indian Nationals. The objective behind this test is to establish and maintain minimum standards for the entrants in the teaching profession and research. The examination is conducted in

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Humanities (including languages), Social Sciences, Forensic Sciences, Environmental Sciences, Computer Science and Applications and Electronics Science.

The Council of Scientific and Industrial Research (CSIR) conducts NET for other science subjects, namely Life Sciences, Physical and Chemical Sciences, Mathematics, Planetary Science jointly with UGC. The tests are conducted twice in year generally in the months of June and December.

Concept of SLET:-

It was felt that an eligibility test at the national level may not be completely able to represent the subjects which are regional in their character. Moreover, the demand for enabling the candidates to appear for the test in their own mother tongue was also being made. The State Govt. and Union Territories were therefore, given the option of conducting their tests for eligibility for lectureship at the state level. Thus the concept of State Level Eligibility Test (SLET) was born.

Importance and Scope of the study

By passing NET and SLET examinations we get professed knowledge of the respective subject and qualify for the lecturership in senior colleges to teach various subjects in at graduation level. It is an essential qualification as per the rules and regulations of UGC.There is an imperative need in this regard, as the candidates passing these examinations in Nagpur and nearby area is very low.

Objectives of the study

1. To study the nature and problems of NET & SLET examinations.
2. To study the pattern of professional examination. i.e. NET & SLET
3. To study the pattern difficulties faced by failure students.
4. To study the reason why students fail in professional examination.
5. To study the importance and scope of NET and SLET examinations.

Sample:

The study was conducted on 200 students by using purposive sampling method, who appeared in professional NET/ SLET on the basis of their category and type of examination.

Examination	**NET**	**SLET**	**Total**
Reserve Category	50	50	100
Unreserved	50	50	100
Total	100	100	200

Tools Used

1. Questionnaire for students to diagnose the different problems facing NET and SET examinations.

The questionnaire was prepared on educational, economical, social, mental aspects of the students.

2. The interview schedules were prepared on different aspects of failures in professional examination i.e. educational, economical, social & mental aspects to diagnose the failures in professional NET and SET examinations.

Interviews were conducted by the faculty members of coaching classes and institutes.

Data Collection Procedures

The investigator approached the students personally and administered the questionnaires to them and collected the data.

Data Analysis & Interpretation

The percentage obtained on each response of question is taken into consideration for analyzing and interpreting the data. The data is analyzed and tested for each objective.

Objective No 1. To diagnose the educational aspect of the failure in SLET and NET Examination to test them, the following table deals with different questions related to Educational Aspects of the students.

Table No. 1

Educational Aspects

Q.No.	Yes	%	No	%
2	178	89	22	11
4	167	83.5	23	16.5
6	131	65.5	69	39.5
8	155	77.5	45	22.5

Objective No.2. To diagnose the economical aspect of the failures in the SLET and NET Examination.

The following table deals with different questions related to economical aspects of the students.

Table No. 2

Economic Aspects

Q.No.	Yes	%	No.	%
3	190	95	10	5
5	191	95.5	9	4.5
7	145	72.5	55	27.5
10	59	29.5	141	70.5
11	80	40	120	60
16	100	50	100	50
17	132	66	68	34
18	164	82	36	18

Objective No. 3. To diagnose the Social aspect of the failures in the NET and SLET Examination. The following table shows different questions related to Social Aspects of the students.

Table No. 3

Social Aspects

Q.No.	Yes	%	No	%
9	174	87	26	13
12	34	17	166	83
14	35	17.5	165	82.5

Objective No.4. To diagnose the Mental aspect of the failures in the NET and SLET Examination. The following table shows different questions related to Mental Aspects of the students.

Table No. 4

Mental Aspects

Q.No.	Yes	%	No	%
13	156	78	44	22
15	96	48	104	52
19	102	51	98	49

Students Appeared

Table No. 5
Results of NET and Pass Percentage at Nagpur Centre

Sr.	Year	No of Stude. Apprd.	No. of Stu. Passed	Pass %
1	Jan-91	167	15	8.98
2	Dec-91	215	7	3.26
3	Dec-92	227	11	4.85
4	Jun-93	337	14	4.15
5	Dec-93	223	7	3.14
6	Jun-94	2820	26	0.92
7	Dec-94	870	6	0.69
8	Jun-95	780	6	0.77
9	Dec-95	916	11	1.20
10	Jun-96	849	17	2.00
11	Dec-96	1037	24	2.31
12	Jun-97	815	35	4.29
13	Dec-97	1078	15	1.39
14	Jun-98	1130	33	2.92
15	Dec-98	882	74	8.39
16	Jun-99	1343	94	7.00
17	Dec-99	1334	131	9.82
18	Jun-00	1915	83	4.33
19	Dec-00	2766	143	5.17
20	Jun-01	2788	35	1.26
21	Dec-01	3444	53	1.54
22	Jun-02	2946	34	1.15
23	Dec-02	1886	32	1.70
24	Jun-03	2445	47	1.92
25	Dec-03	2583	78	3.02
26	Jun-04	2613	63	2.41
27	Dec-04	3478	85	2.44
28	Jun -05	3071	132	4.30
29	Dec-05	4188	78	1.86
30	Jun-06	3882	162	4.17
31	Dec-06	2463	87	3.53
32	Jun-07	3100	54	1.74
33	Dec-07	3753	96	2.56
34	Jun-08	2918	97	3.32
35	Dec-08	3195	83	2.60
36	Jun-09	3581	125	3.49

Table No. 6
Results of SLET and Pass Percentage at Nagpur Centre

Sr.	Year	No of Stude. Apprd.	No. of Stu. Passed	Pass
1	Jan-95	918	6	0.65
2	Jun-95	667	12	1.80
3	Nov-95	436	11	2.52
4	Jul-96	420	12	2.86
5	Mar-97	427	15	3.51
6	Jan-98	398	22	5.53
7	Dec-98	471	33	7.01
8	Jul-99	615	26	4.23
9	Jan-00	769	29	3.77
10	Jul-00	816	23	2.82
11	Feb-01	1029	35	3.40
12	Feb-02	1431	23	1.61
13	Aug-02	1447	14	1.22
14	Feb-03	1096	12	1.09
15	Mar-03	1411	21	1.49
16	Mar-04	1086	24	2.21
17	Aug-04	1058	27	2.55
18	Feb-05	1281	11	0.86
19	Jan-06	1556	35	2.25
20	Aug-06	1064	25	2.35
21	Feb-07	779	14	1.80
22	Feb-08	1273	19	1.49
23	Jan-09	1738	24	1.38

Conclusions:-

1. The percentage of failures of the students in competitive examinations such as NET and SET is remarkably high.

2. The causes of failures are divided into four suggestions from the above conclusions or result achieved.

Suggestions

1.The aspects of education must be considered as prime importance. Students have be aware before entering the professional course. They must be given proper training, study material timely evaluation of the students in the form of monthly examination or test must be conducted. Students must be encouraged to participate actively in such tests by overcoming their weaknesses.

2.The economical and social aspects of the students have be addressed properly. Students belonging to socio-economically poor class have to be provided with success oriented measures.

3.Various scholarships and stipends must be awarded to developed healthier competition among them.

4.The hostel facilities and 18 hours library facility must be provided for the students so that they can study according to the time table they have set considering their daily routine.

If the pass percentage increses in these professional examinations, it will be beneficial for the country as well as for the society.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

Attainment Level of X-Class Students in Commerce with respect to MLL Programme

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Abstract

The National Policy on Education, 1986 (NPE 1986) recommended that Minimum Level of Learning be laid down for each stage of school education and that steps be undertaken to ensure that students achieve these minimum level of learning. Following the National policy on education 1986, NCERT prepared another document titled "Minimum levels of learning at primary stage". Weak students at primary level further reaches up to high school so, MLL at this stage is also necessary as felt by The POA-1992, NCF-2000 & 2005 stressed upon "Ensuring Quality Education for All" which is possible by obtaining MLL at all level of education. Commerce subject is itself a vocational education therefore, at this ground it is very important to study or know MLL in commerce subject. The researcher have found that the MLL achieved in only 6 skills out of 74 skills by the 80% students of the sample and 59 skills or more (80% of 74 skills) achieved/ mastered by only 2 students out of 100 students. The study reveals that MLL in Commerce subject of class X students is not achieved because it could not touch the graph of MLL (80 percent or more of the students mastering at least 80 percent of the prescribed learning level).

Introduction

There has always been a gap between what our majority of learners achieve and what is expected of them to achieve. These levels of achievement and achievement gaps, which vary from school to school, made it crystal, clear that educational opportunity alone is not enough important is the laying down of standards of learning (quality) which must be ensured to be achieved by all the learners (equity). This brings in the idea of **'quality coupled with equity'**, which means that each and every child should have access to education of a satisfactory quality.

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However, certain efforts have been made at the national level to raise the standard of achievement. Education Commission (1966) had emphasised the need for setting some standard for achievement and to ensure that no school remained below that standard. The NCERT in collaboration with the States undertook a UNICEF-assisted project in the year 1978 with focus on Primary Education Curriculum Renewal (PECR). Under this project Minimum Learning Continuum (MLC) was developed. Subsequently, the NCERT came out with Minimum Level of Learning at the primary stage.

Minimum Level of Learning is the idea of 'quality coupled with equit**y'** in education system. Minimum Level of Learning emerges from the basic concern that irrespective of cast, creed, colour, location or sex, all children must be given access to education of a comparable standard.

The Minimum Level of Learning (MLLs) are being specified in terms of five class wise stages (I^{st}-V^{th} class), the underlying concept of 'learning continuum' makes this division only indicative and not rigid. In practice, the pace of learning of the child will decide how long it should take to reach the prescribed Minimum Level of Learning, and age, earlier teaming experience, learning time within and outside school are some of the factor that will decide the pace. It is conceivable, therefore, to prescribe the same level of learning for the secondary or higher education system.

In the present age of globalization quality education is very vital component of social, economic and political development in this regard, the Government of India adopted time to time many policies related to education like; NPE-1986, POA-1992, SSA, RMSA & NCF-2000,2005 for the improvement of quality education. As per these policies, in Jan-1990 department of education Ministry of HRD organize a committee for deciding MLL at class III – V on three subjects namely, Language(mother tongue), mathematics and environmental studies (science and social science). In this context **,** the National Policy on Education, 1986 (NPE1986)recommended that Minimum Level of Learning be laid down for each stage of school education and that steps be undertaken to ensure that students achieve these minimum level of learning. The urgency for ensuring minimum levels of learning of all students has again been re-emphasised in the Revised Policy Formulation and Programme of Action 1992. The POA-1992, NCF-2000 & 2005 stressed upon "Ensuring Quality Education for All" which is possible by obtaining MLL at all level of education.

The POA-1992 & NCF-2005 stressed upon determining MLL at secondary level also under examination reforms, but no suitable action is taken in this regard. Students are of any class or of any mental level, never learn whole content of the textbook and seen difference in their achievement level. In this sequence, there is also a category, who does not achieve minimum standard, this scenario easily seen in all schools and at every level of education. It is found in education system that students promotes to next

class without having minimum standard, which will contribute as foundation for further studies. Weak students at primary level further gives high school examination, so at this level also it is very important to know the MLL of students because after secondary education level students select their vocational stream and learning of this level becomes foundation of higher education. Commerce subject is itself a vocational education therefore, at this ground it is very important to study or know MLL in commerce subject.

Objectives:

1. To determine the minimum level of learning of class X students in commerce subject based on class IX textbook.
2. To find out the attainment level of class X students in commerce subject based on minimum level of learning determine through workshop.

Research Questions:

1. What is the minimum level of learning of class X students in commerce subject based on class IX textbook?
2. What is the attainment level of class X students in commerce subject based on minimum level of learning determine through workshop?

Sample:

In this study, the investigator used purposive sampling technique. The sample were consists overall the 100 commerce students of class X belonging to three secondary schools of Agra district.

Tools Used

1. Commerce textbook of class IX U.P. Board for deciding MLL
2. In the present investigation, the investigator used MLL achievement test constructed and validated through subject experts. This test consisted of three parts – part one had 40 items of multiple choice, part two had 10 items of sort answer type, and part three had 5 numerical types questions. The time- period for the test was not bounded because the main objective of the study was to test the MLL of the students. The items were based on MLL skills decided by the subject expert's committee in workshop from the Commerce textbook of class IX U.P. Board.
3. Interview schedule for subject teachers and students.

Methodology & Statistical Techniques

Researcher for this study had conducted a descriptive survey type of research. Researcher gathered information from the commerce teacher's interview and students through achievement test and interview regarding not achieving Minimum Level of Learning. Percentage Statistical Technique used for data analysis.

Procedures

The present study was completed into ten phases-

1. Study of different books to determine the MLL and construction of the tool.

2. Study of the first seven chapter of class IX commerce textbook to collect the content.

3. Construction and distribution of content booklet and request letter to 20 subject experts for taking their views related to MLL of subject content.
4. After collecting, the personal views of subject teacher on MLL of subject content a general views booklet was prepared.
5. Conducting a subject expert's workshop on general views booklet and 74 skills finalized for MLL.
6. Prepared MLL achievement test with the help of subject experts based on finalized skills.
7. Pilot study of achievement test on 25 students.
8. After making minor changes in the test, it administered on the sample.
9. Analysis and interpretation of the data.
10. To know the reasons behind low achievement of MLL**,** Interview taken from students and teachers.

Scoring & Tabulation of Data

In the achievement test, each question/ item is related to one of the finalized skills/competencies.

For every right answer or successfully completed skill investigator score (√) and for every wrong answer or failure in completing skill the investigator score (×) like this investigator calculate the number of students who successfully completed skill or giving right answer and then number of students converted into percentage. This process was applied on each skill.

NCRET's Criterion for MLL assessment: If 80 percent or more of the students mastering at least 80 percent of the prescribed learning level it means Minimum Level of Learning was achieved and less than 80 percent of the prescribed learning level, it means Minimum Level of Learning is not achieved.

Objective -1

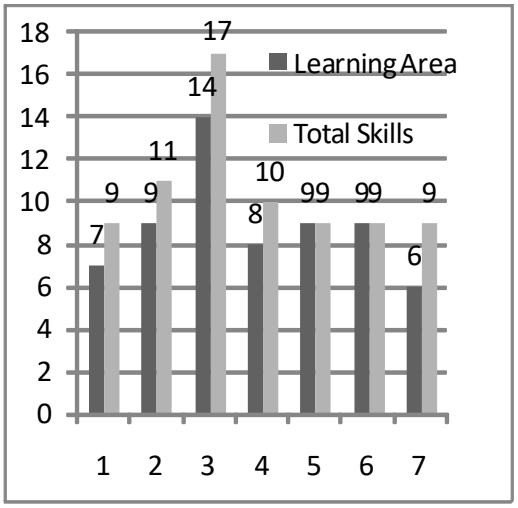
To determine the minimum level of learning of class X students in commerce subject based on class IX textbook.

This objective was fulfilled by organizing a twelve teachers workshop in which MLL was decided from seven chapters of class 9th U.P. Board textbook (2008) . Total 74 skills decided by workshop as Minimum Level of Learning for finding the achievement level of class X students in commerce subject on the bases of which an achievement test was prepared.

Table No. 1.

Sr.	Content	Learning Area	Total Skills
1.	Introduction	7	9
2.	Double Entry System	9	11
3.	Journal	14	17
4.	Ledger	8	10
5.	Trial Balance	9	9
6.	Prelimi. A/C Book: C/ Book	9	9
7.	Other Prelimi. A/C-Book	6	9

Graphical Representation of Table 1



Objective -2

To find out the attainment level of class X students in commerce subject based on minimum level of learning determine through workshop.

To fulfil this objective of the study the tool (Achievement Test) was administered on 100 Commerce students of three U.P. Board schools on the bases of which achievement percentage were found. The interpretation of the test was undertaken as:

If 80 percent or more of the students mastering at least 80 percent of the prescribed learning level it means Minimum Level of Learning (MLL) is achieved and less than 80 percent of the prescribed learning level, it means Minimum Level of Learning (MLL) is not achieved.

Only Six Skills achieved by 80 % or more then 80% students and In 59 skills or more (80% of 74 skills) achieved/ mastered by only two students out of 100 students

Table No. 2

Skill	Particular	%
1.1.1	Origin of the Accounting	83%
2.5.1	Main Principle of Double Entry System	91%
3.2.1	Meaning and definition of Journal	89%
4.2.1	Need and Importance of Ledger	80%
4.7.1	Advantages of Keeping Ledger	80%
6.2.1	Advantages of Division of Journal	80%

Therefore, it is clear from above analysis that Minimum Level of Learning was not achieved in Commerce subject by class X students.

Findings through interview schedule

The following facts were found regarding not achievement of MLL in students with the help of interview schedule;

1. Lack of examples and exercises related to MLL in commerce textbook.
2. According to the teachers, Attendance of the students in class is very low therefore; they are unable to achieve MLL.
3. Teachers used lecture method to deliver lesson and does not use teaching aids so that students learning become boring.
4. Lack of continuous and comprehensive evaluation.

5. According to the students, teachers are not come regularly to take their classes and their syllabus does not completed on time.
6. At high school level, commerce is an optional subject and mostly its period comes after lunch-break so that students unable to made concentration due to fatigue.
7. Concept knowledge of students is very weak therefore students given preference to rote-memorisation.
8. Students do not share his/her subject problem to their teachers.
9. Students stress over solving practical questions rather than forming theoretical knowledge.
10. It was also found that maximum student of commerce group comes due to shortage in science stream seats and low percentage, commerce group is better option than art group etc.

Conclusion-

The focus study was to access the MLL of class X students in commerce subject on the bases of class IX commerce textbook**.** Using the textbooks as a tool for deciding MLL skills/competencies with the help of these skills achievement test was constructed to test the achievement level of students in MLL.

It was assessed that MLL achieved in only 6 skills out of 74 skills by the 80% or more students of the sample and 59 skills or more (80% of 74 skills) achieved/ mastered by only two students out of 100 students.

This shows that MLL was not achieved because it could not touch the graph of MLL recommended by the NCERT.

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

कक्षा आठवीं के विद्यार्थियों की ज्यामितीय अवबोध पर उनकी पृष्ठभूमि विशेषताओं के प्रभाव का अध्ययन

*डॉ. एस. के. त्यागी * नीरज जोशी ***

सारांश

वर्तमान में यह कहा जाता है कि अधिकांश विद्यार्थियों की गणित में अरूचि होती है, इसलिए वे गणित में अनुत्तीर्ण हो जाते हैं। इस असफलता का कारण प्रायः मात्र गणित के प्रति अरूचि नहीं अपितु संकल्पना के ज्ञान का अभाव भी होता है। यदि विद्यार्थियों की गणित में उपलब्धि भी होती है तो भी उनमें संकल्पनाओं का पर्याप्त ज्ञान नहीं होता है। इस कारण विद्यार्थियों के मन में गणित के प्रति आतंक बना रहता है। विद्यार्थियों के भय को दूर करने के लिए आवश्यक है कि इस भय और रहस्य का निदान किया जाए और उसे दूर किया जाए।

भूमिका

ज्यामिति के सवालों का सम्बंध प्रयोगों और कल्पनाशक्ति से होता है। अतः विद्यार्थियों को इस तरह के प्रश्न दिए जाने चाहिए जिससे कि उनकी कल्पना शक्ति का विकास हो और उनकी त्रुटियों का निदान हो सके। वर्तमान शिक्षा प्रणाली स्मृति आधारित है। इसमें संकल्पनाओं को स्थान नहीं दिया गया है। स्मृति आधारित मूल्यांकन प्रणाली होने से सतही ज्ञान की परीक्षा में रटन्तु विद्यार्थियों की उपलब्धि अच्छी होती है किन्तु जहाँ पर संकल्पनाओं का परीक्षण होता है वहाँ पर इन विद्यार्थियों की उपलब्धि अपेक्षकृत कम होती है क्योंकि उन्हें संकल्पनाओं का ज्ञान नहीं होता है।

शोधकर्ता द्वारा कुछ पूर्व शोधों का अध्ययन किया गया जिनमें *दास और बरुआ* (1968) ने अंकगणित में उपचारात्मक शिक्षण की प्रभाविता का अध्ययन किया और पाया कि उपचारात्मक शिक्षण के प्रभाव से बहुत कम समय में अंकगणित में उपलब्धि में सुधार हुआ है। *सिन्हा* (1971) ने अंकगणित के शब्दकोश पर अध्ययन किया और पाया कि गणित का शब्दकोश परिपक्वता के साथ–साथ बढ़ता जाता है जिसका कि पाठ्यक्रम में ध्यान नहीं रखा जाता है, जिससे विद्यार्थियों को गणित समझने में कठिनाई आती है। *केतकर* (1983) ने विद्यार्थियों की गणित में त्रुटियों का पता लगाने हेतु कक्षा आठवीं के विद्यार्थियों हेतु इकाई परीक्षण का निर्माण किया और पाया कि गाँवों में रहने वाले विद्यार्थियों की अपेक्षा शहरों में रहने वाले विद्यार्थी कम त्रुटियाँ करते हैं। *चौहान* (1984) ने पाया कि अनुसूचित जाति और जनजाति के विद्यार्थियों की उपलब्धि अभिप्रेरणा में अंतर नहीं है एवं अनुसूचित जाति के लड़कों और लड़कियों का उपलब्धि अभिप्रेरण अनुसूचित जनजाति के लड़कों और और लड़कियों

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की तुलना में ज्यादा होता है, एवं लड़कों और लड़कियों कि उपलब्धि अभिप्रेरण में अंतर नहीं है।

अहलूवालिया (1985) ने पाया कि लिंग, माता या पिता के व्यवसाय, पालकों की आर्थिक स्थिति, परिवार के सदस्यों की संख्या एवं माता की शैक्षणिक योग्यता का उपलब्धि अभिप्रेरणा पर सार्थक प्रभाव नहीं है, किन्तु उपलब्धि अभिप्रेरणा पर पिता की शैक्षणिक योग्यता का प्रभाव पड़ता है। *खातून* (1988) ने पाया कि लड़के और लड़कियों की गणितीय क्षमता में सार्थक अंतर नहीं है।

यादव (1990) ने विद्यालय के बच्चों में ज्यामितीय संकल्पनाओं के निर्माण का अध्ययन किया और पाया कि उम्र, सामाजार्थिक स्थिति और विद्यालय पर्यावरण का संकल्पना निर्माण में सार्थक प्रभाव था एवं विद्यालय तथा उम्र की अन्तःक्रिया तथा उम्र और सामाजिक–आर्थिक स्थिति की अन्तर्क्रिया का ज्यामिति संकल्पना निर्माण में सार्थक प्रभाव था। साथ ही पाया कि पिता के व्यवसाय और ज्यामिति के प्राप्तांकों तथा पिता की आय और ज्यामिति के प्राप्तांकों के मध्य सार्थक सहसंबंध नहीं था।

अध्ययन के उद्देश्य

प्रस्तुत अध्ययन के निम्न उद्देश्य थे :–

- कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर लिंग, जाति एवं इनकी अन्तःक्रिया के प्रभाव का अध्ययन करना।
- कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर लिंग, पिता के व्यवसाय एवं इनकी अन्तःक्रिया के प्रभाव का अध्ययन करना।
- कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर पिता के व्यवसाय, माता की कार्य स्थिति एवं इनकी अन्तःक्रिया के प्रभाव का अध्ययन करना।

परिकल्पना

प्रस्तुत अध्ययन हेतु निम्नलिखित परिकल्पनाएँ की गयीं :–

1. कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर लिंग, जाति एवं इनकी अन्तःक्रिया का सार्थक प्रभाव नहीं है।
2. कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर लिंग, पिता के व्यवसाय एवं इनकी अन्तःक्रिया का सार्थक प्रभाव नहीं है।
3. कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर पिता के व्यवसाय, माता की कार्य स्थिति एवं इनकी अन्तःक्रिया का सार्थक प्रभाव नहीं है ।

सीमांकन

1. यह शोध कार्य केन्द्रीय माध्यमिक शिक्षा बोर्ड के अंग्रेजी माध्यम के विद्यार्थियों तक सीमित रखा गया।
2. इस शोध कार्य में पृष्ठभूमि विशेषताओं के अंतर्गत लिंग, जाति, पिता के व्यवसाय एवं माता की कार्य स्थिति के प्रभाव का अध्ययन किया गया।

प्रयुक्त चर–

जाति–जाति हेतु विद्यार्थियों को दो समूहों में विभाजित किया गया– अनारक्षित समूह एवं आरक्षित समूह। अनारक्षित समूह में सामान्य वर्ग के विद्यार्थी थे जबकि आरक्षित समूह में अन्य पिछडा वर्ग, अनुसूचित जाति एवं जनजाति के विद्यार्थी सम्मिलित थे।

पिता का व्यवसाय– विद्यार्थियों के पिता के व्यवसाय चर को दो समूहों में विभाजन किया गया। स्वयं का व्यवसाय और सेवारत। स्वयं का व्यवसाय स्तर में ऐसे विद्यार्थियों को लिया गया जिनके पिता किसी शासकीय अथवा निजी व्यवसाय में संलग्न नहीं थे अपितु वे स्वयं का कोई व्यवसाय जैसे कृषि, दुकान आदि आजीविका कार्यों में संलग्न थे जबकि सेवारत स्तर में ऐसे विद्यार्थियों को लिया गया था जिनके पिताजी

शासकीय अथवा निजी संस्थान में कार्यरत थे।

माता की कार्य स्थिति– विद्यार्थियों की माता की कार्य स्थिति को दो समूहों में विभाजित किया गया था गृहिणी और सेवारत।

ज्यामितीय अवबोध– ज्यामितीय अवबोध के अंतर्गत ज्यामिति की विभिन्न संकल्पनाओं की पहचान तुलना, व्याख्या एवं अंतर सम्मिलित है।

न्यादर्श

प्रस्तुत शोध कार्य केन्द्रीय माध्यमिक शिक्षा बोर्ड से सम्बद्धित इन्दौर शहर के विद्यालयों में अध्ययनरत् एवं यादृच्छिक न्यादर्ष विधि से चयनित अंग्रेजी माध्यम के कक्षा आठवीं के विद्यार्थियों पर किया गया। जिसका विवरण सारणी क्र. 1 में दिया गया है –

सारणी क्र. 1

विद्यालय लिंग के आधार पर न्यादर्श

क्र.	विद्यालय का नाम	छात्र	छात्राएँ	योग
1.	एडवांस एकेडमी, इन्दौर	23	16	39
2.	कोलंबिया कान्वेंट स्कूल, इन्दौर	24	17	41
	योग	47	33	80

इस प्रकार सारणी क्र. 1 में दिए गए विवरण के अनुसार न्यादर्श का आकार 80 था। न्यादर्श में चयनित विद्यार्थी अंग्रेजी माध्यम एवं शहरी पृष्ठभूमि के थे जिनका उम्र समूह 13 से 14 वर्ष था।

उपकरण

कक्षा आठवीं के विद्यार्थियों की ज्यामितीय संकल्पनाओं के अवबोध के मापन हेतु उपकरण के रुप में *डॉ. एस. के. त्यागी* एवं शोधकर्ता द्वारा अंग्रेजी भाषा में निर्मित ज्यामितीय अवबोध परीक्षण का उपयोग किया गया। इस हेतु एक परीक्षण–पत्रों की श्रृंखला का विकास किया गया, जिसमें ज्यामितीय संकल्पनाओं पर आधारित चार अलग–अलग प्रश्न–पत्र थे। इन चारों परीक्षण–पत्रों में कुल 90 वस्तुनिष्ठ प्रश्न थे। प्रत्येक वस्तुनिष्ठ प्रश्न हेतु चार विकल्प दिए गए जिनमें से एक सही विकल्प को चुनकर उत्तर–पत्र में लिखना था।

सारणी क्र. 2 में ज्यामितीय अवबोध परीक्षण का विवरण दिया गया है –

सारणी क्र. 2

ज्यामितीय अवबोध परीक्षण का विवरण

क्र.	विषयवस्तु	प्रश्नों की संख्या	निर्धारित समय
1.	समांतर रेखाएँ एवं उनके गुणधर्म	30	60 मिनट
2.	विशिष्ट चतुर्भुज	15	30 मिनट
3.	चतुर्भुजों की रचना	15	30 मिनट
4.	वृत्त एवं बेलन का अध्ययन	30	60 मिनट

प्रदत्तों का एकत्रीकरण

प्रदत्त एकत्रीकरण के लिए शोधकर्ता द्वारा सर्वप्रथम न्यादर्श हेतु चयनित विद्यालयों के प्राचार्यों से अनुमति ली गई। अनुमति प्राप्त होने के पश्चात् शोधकर्ता द्वारा पृथक–पृथक दिनों में सम्बंधित विद्यालयों में जाकर विद्यार्थियों को आवश्यक निर्देश देते हुए परीक्षण–पत्र एवं उत्तर–पत्र प्रदान किए गए। इस अवधि में शोधकर्ता द्वारा विद्यार्थियों की शंकाओं का समाधान भी किया गया। निर्धारित समय के पश्चात् विद्यार्थियों से परीक्षण–पत्र एवं उत्तर–पत्र वापस लिए गए।

प्रदत्तों का विश्लेषण

1. कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर लिंग, जाति एवं इनकी अन्तःक्रिया के प्रभाव का अध्ययन करने के लिए द्विमार्गीय एनोवा का उपयोग किया गया।

2. कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर लिंग, पिता के व्यवसाय एवं इनकी अन्तःक्रिया के प्रभाव का अध्ययन करने के लिए द्विमार्गीय एनोवा का उपयोग किया गया।

3. कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर पिता के व्यवसाय, माता की कार्य स्थिति एवं इनकी अन्तःक्रिया के प्रभाव का अध्ययन करने के लिए द्विमार्गीय एनोवा का उपयोग किया गया।

परिणाम

कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर लिंग, जाति तथा इनकी अन्तःक्रिया का प्रभाव – इस अध्ययन का प्रथम उद्देश्य कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर लिंग, जाति एवं इनकी अन्तःक्रिया के प्रभाव का अध्ययन करना था। इस हेतु प्रदत्तों का विश्लेषण द्विमार्गीय एनोवा के द्वारा किया गया जिसका विवरण सारणी क्र. 3 में दिया गया है– **सारणी 3**

कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध प्राप्तांक लिंग/जाति आधार पर 2 x 2 एनोवा का सारांश

विचरण के स्त्रोत	SS	df	MSS	F
लिंग	3.82	1	3.82	0.17
जाति	2.92	1	2.92	0.13
लिंग x जाति	0.40	1	0.40	0.01
त्रुटि	1690.17	76	22.39	

(i) लिंग के लिए 'F' मूल्य 0.17 है जो कि df (1, 76) पर सार्थकता के .05 स्तर पर सार्थक नहीं है। अतः शून्य परिकल्पना कि–कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर लिंग का सार्थक प्रभाव नहीं है स्वीकृत की जाती है। इस प्रकार, लिंग के दो स्तरों से सम्बंधित कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध प्राप्तांकों के माध्यों में सार्थक अंतर नहीं है। अतः यह कहा जा सकता है कि कक्षा आठवीं के विद्यार्थियों का ज्यामितीय अवबोध लिंग से स्वतंत्र है।

(ii) जाति के लिए 'F' मूल्य 0.13 है जो कि df (1, 76) पर सार्थकता के .05 स्तर पर सार्थक नहीं है। अतः शून्य परिकल्पना कि–कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर जाति का सार्थक प्रभाव नहीं है–स्वीकृत की जाती है। इस प्रकार जाति के दो स्तरों से सम्बंधित कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध प्राप्तांकों के माध्यों में सार्थक अंतर नहीं है। अतः यह कहा जा सकता है कि कक्षा आठवीं के विद्यार्थियों का ज्यामितीय अवबोध जाति से स्वतंत्र है।

(iii) लिंग एवं जाति की अंतर्क्रिया के लिए 'F' मूल्य .01 है जो कि df (1, 76) पर सार्थकता के .05 स्तर पर सार्थक नहीं है। अतः शून्य परिकल्पना कि– कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर लिंग व जाति की अन्तःक्रिया का सार्थक प्रभाव नहीं है स्वीकृत की जाती है। इस प्रकार, लिंग व जाति की अन्तःक्रिया कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर सार्थक प्रभाव नहीं डालती है। अतः यह कहा जा सकता है कि कक्षा आठवीं के विद्यार्थियों का ज्यामितीय अवबोध लिंग व जाति की अन्तःक्रिया से स्वतंत्र है।

कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर लिंग, पिता के व्यवसाय तथा इनकी अन्तःक्रिया का प्रभाव –

इस अध्ययन का द्वितीय उद्देश्य कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर लिंग, पिता के व्यवसाय तथा इनकी अन्तःक्रिया के प्रभाव का अध्ययन करना था। इस हेतु प्रदत्तों का विश्लेषण द्विमार्गीय एनोवा के द्वारा किया गया जिसका विवरण सारणी : 4 में दिया गया है –

सारणी 4

कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध प्राप्तांक लिंग व पिता के व्यव. के लिए 2 x 2 एनोवा का सारांश

विचरण के स्त्रोत	SS	df	MSS	F
लिंग	5.72	1	5.72	0.27
पिता का व्यवसाय	46.38	1	46.38	2.17
लिंग x पि. व्य.	35.00	1	35.00	1.64
त्रुटि	1623.88	76	21.37	

सारणी 4 से स्पष्ट होता है कि –

(i) लिंग के लिए 'F' मूल्य 0.27 है जो कि df (1, 76) पर सार्थकता के 0.05 स्तर पर सार्थक नहीं है। अतः शून्य परिकल्पना कि–कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर लिंग का सार्थक प्रभाव नहीं है स्वीकृत की जाती है। इस प्रकार लिंग के दो स्तरों से सम्बंधित कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध प्राप्तांकों के माध्यों में सार्थक अंतर नहीं है। अतः यह कहा जा सकता है कि कक्षा आठवीं के विद्यार्थियों का ज्यामितीय अवबोध लिंग से स्वतंत्र है।

(ii) पिता के व्यवसाय के लिए 'F' मूल्य 2.17 है जो कि df (1, 76) पर सार्थकता के 0.05 स्तर पर सार्थक नहीं है। अतः शून्य परिकल्पना कि–कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर पिता के व्यवसाय का सार्थक प्रभाव नहीं है स्वीकृत की जाती है। इस प्रकार पिता के व्यवसाय के दो स्तरों से सम्बंधित कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध प्राप्तांकों के माध्यों में सार्थक अंतर नहीं है। अतः यह कहा जा सकता है कि कक्षा आठवीं के विद्यार्थियों का ज्यामितीय अवबोध पिता के व्यवसाय से स्वतंत्र है।

(iii) लिंग व पिता के व्यवसाय की अन्तःक्रिया के लिए 'F' मूल्य 1.64 है जो कि df (1, 76) पर सार्थकता के 0.05 स्तर पर सार्थक नहीं है। अतः शून्य परिकल्पना कि–कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर लिंग व पिता के व्यवसाय की अन्तःक्रिया का सार्थक प्रभाव नहीं है स्वीकृत की जाती है। इस प्रकार, लिंग व पिता के व्यवसाय के बीच की अन्तःक्रिया कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर सार्थक प्रभाव नहीं डालती है। अतः यह कहा जा सकता है कि कक्षा आठवीं के विद्यार्थियों का ज्यामितीय अवबोध लिंग एवं पिता के व्यवसाय की अन्तःक्रिया से स्वतंत्र है।

कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध प्राप्तांकों के माध्य पर पिता के व्यवसाय, माता की कार्य स्थिति तथा इनकी अन्तःक्रिया का प्रभाव –

इस अध्ययन का तीसरा उद्देश्य कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर पिता के व्यवसाय, माता की कार्य स्थिति तथा इनकी अन्तःक्रिया का प्रभाव का अध्ययन करना था। इस हेतु प्रदत्तों का विश्लेषण द्विमार्गीय एनोवा के द्वारा किया गया जिसका विवरण सारणी क्र 5 में दिया गया है –

सारणी 5

कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध प्राप्तांक पिता का व्यव. एवं माता की कार्यस्थिति के लिए 2 x 2 एनोवा का सारांश

विचरण के स्त्रोत	SS	df	MSS	F
पिता का व्यवसाय	45.28	1	45.28	2.14
माता की कार्यस्थिति	31.09	1	31.09	1.47
पि. व्य x मा. कार्य	19.53	1	19.53	0.92
त्रुटि	1605.87	76	21.13	

सारणी 5 से स्पष्ट होता है कि –

(i) पिता के व्यवसाय के लिए 'F' मूल्य 2.14 है जो कि df (1, 76) पर सार्थकता के 0.05 स्तर पर सार्थक नहीं है। अतः शून्य परिकल्पना कि–

कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर पिता के व्यवसाय का सार्थक प्रभाव नहीं है'' स्वीकृत की जाती है। इस प्रकार पिता के व्यवसाय के दो स्तरों से सम्बंधित कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध प्राप्तांकों के माध्यों में सार्थक अंतर नहीं है। अतः यह कहा जा सकता है कि कक्षा आठवीं के विद्यार्थियों का ज्यामितीय अवबोध पिता के व्यवसाय से स्वतंत्र है।

(ii) माता की कार्य स्थिति के लिए F' मूल्य 1.47 है जो कि df (1, 76) पर सार्थकता के 0.05 स्तर पर सार्थक नहीं है। अतः शून्य परिकल्पना कि–कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर माता की कार्य स्थिति का सार्थक प्रभाव नहीं है स्वीकृत की जाती है। इस प्रकार माता की कार्य स्थिति के दो स्तरों से सम्बंधित कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध प्राप्तांकों के माध्यों में सार्थक अंतर नहीं है। अतः यह कहा जा सकता है कि कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध माता की कार्य स्थिति से स्वतंत्र है।

(iii) पिता के व्यवसाय एवं माता की कार्य स्थिति की अन्तःक्रिया के लिए F' मूल्य 0.92 है जो कि df (1, 76) पर सार्थकता के 0.05 स्तर पर सार्थक नहीं है। अतः शून्य परिकल्पना कि–कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर पिता के व्यवसाय व माता की कार्य स्थिति की अन्तःक्रिया का सार्थक प्रभाव नहीं है स्वीकृत की जाती है। इस प्रकार, पिता के व्यवसाय व माता की कार्य स्थिति के बीच की अन्तःक्रिया कक्षा आठवीं के विद्यार्थियों के ज्यामितीय अवबोध पर सार्थक प्रभाव नहीं डालती है। अतः यह कहा जा सकता है कि कक्षा आठवीं के विद्यार्थियों का ज्यामितीय अवबोध पिता के व्यवसाय एवं माता की कार्य स्थिति की अन्तःक्रिया से स्वतंत्र है।

निष्कर्ष

इस शोध अध्ययन से निम्न निष्कर्ष प्राप्त किए गए –

1. कक्षा आठ के विद्यार्थियों के ज्यामितीय अवबोध पर उनके लिंग का सार्थक प्रभाव नहीं पड़ता है।
2. कक्षा आठ के विद्यार्थियों के ज्यामितीय अवबोध उनकी जाति से स्वतंत्र है।
3. कक्षा आठ के विद्यार्थियों के ज्यामितीय अवबोध पर पिता के व्यवसाय का सार्थक प्रभाव नहीं है।
4. कक्षा आठ के विद्यार्थियों का ज्यामितीय अवबोध पर माता की कार्य स्थिति का सार्थक प्रभाव नहीं पड़ता है।

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

इण्टरमीडिएट स्तर के विद्यार्थियों की पर्यावरणीय संचेतना की स्थिति का अध्ययन

डॉ. राजेश कुमार सिंह *

सारांश

जब जब विश्व स्तर पर किसी समस्या के समाधान की बात सोची गई तब तक एकमत होकर विचारकों ने उसे शिक्षा के माध्यम से पूरा करने का सुझाव दिया, क्योंकि आज भी लोग इस बात से सहमत है कि किसी भी परिवर्तन को केवल शिक्षा के माध्यम से ही स्वीकार किया अथवा कराया जा सकता है। इसी सन्दर्भ में आज पर्यावरण के असन्तुलन की समस्या है, जिसका हल पर्यावरण शिक्षा से ही किये जाने हेतु सभी प्रयत्नशील हैं। शिक्षा के किसी भी पक्ष को ठीक से विद्यार्थियों तक पहूचाने का दुरूह कार्य शिक्षक द्वारा ही सम्भव है। अतः अब शिक्षक के हर स्तर के प्रशिक्षण में ' पर्यावरण शिक्षा ' को विशेष स्थान दिया गया है। प्रस्तुत शोघ कार्य में इण्टरमीडिएट स्तर के कला तथा विज्ञान वर्ग के छात्र–छात्राओं की पर्यावरणी संचेतना का तुलनात्मक अध्ययन किया गया है।

प्रस्तावना

पर्यावरण पृथ्वी पर जीवन का आधार है। मानव अथवा किसी जीवधारी के चारों ओर पाये जाने वाला वह आवरण जिसमें रहकर वह जीव विशेष अपना जीवन–यापन करता है और अपनी स्वाभाविक प्रवृत्तियों का विकास करता है, पर्यावरण कहलाता है। पर्यावरण मानव को प्रत्यक्ष और परोक्ष रूप से घेरे हुए है। पर्यावरण जैविक और भौतिक दोनों प्रकार का होता है। जैविक पर्यावरण में पेड़–पौघे, जीव–जन्तु सम्मिलित होते हैं तथा भौतिक पर्यावरण में मृदा, वायु, जल, ताप प्रकाश आदि आते हैं। चूँकि मनुष्य एक सामाजिक प्राणी है अतः मानव का पर्यावरण प्राकृतिक और सामाजिक दोनों प्रकार का होता है। सामाजिक पर्यावरण का निर्माण मनुष्य स्वयं करता है। समाज, समूह, संस्थाएँ, परम्पराएँ लोकरीतियाँ, धर्म, नैतिकता, सामाजिक मूल्य और संस्कृति से मानव बंधा होता है। इस प्रकार के परिवेश में रहते हुए सामाजिक पर्यावरण का निर्माण होता है।

वर्तमान समय में विश्व के समक्ष उदित होने वाली प्रमुख समस्याओं में पर्यावरण के असंतुलन की समस्या बहुत ही ज्वलन्त है। सभी राष्ट्र, पर्यावरण असन्तुलन की विभत्स विभीषिका को देखते हुए मानव जगत, प्राणि–जगत के अस्तित्व के प्रति अत्यन्त चिन्तित है। प्रत्येक प्राणी एवं मनुष्य, पर्यावरण का ही एक अंश है। उसके निर्माण में पाँच भौतिक तत्वों– क्षिति, जल, पावक, गगन और समीर का महत्वपूर्ण स्थान होता है। इनके अतिरिक्त वन–वनस्पति, पेड–पौधे भी मानव अस्तित्व के लिए विशेष सहायक होते हैं। इन सबके सामूहिक सम्मेलन से ही पर्यावरण का सृजन होता है।

* *उप प्राचार्य, शिक्षा संकाय, दीनदयाल उपाध्याय गोरखपुर विश्वविद्यालय, गोरखपुर (उ. प्र.)*

पर्यावरण के उपरोक्त कारकों में कुछ इस तरह का आपसी सन्तुलन और तालमेल होता है कि प्रत्येक प्राणी को शुद्ध जल, हवा एवं अन्य आवश्यक खनिजों की प्राति होती रहती है और उनका जीवन संतुलनमय होकर चलता रहता है। किन्तु वर्तमान समय में पर्यावरण का निर्माण करने वाले कारकों में स्थापित सन्तुलन छिन्न–भिन्न हो जाने के कारण पर्यावरण सम्बन्धी चिन्ताजनक संस्थिति उत्पन्न हो गयी है। पर्यावरण असन्तुलन की संस्थिति के प्रकटन में मनुष्य की अदूरदर्शिता, अविवेक, अज्ञानता, अशिक्षा एवं भौतिकवादी प्रवृत्ति बहुत हद – तक जिम्मेदार है। यदि उसे समय रहते पर्यावरण के प्रति सचेत न किया गया तो पर्यावरण से उत्पन्न होन वाली समस्या में इतनी भयावह, दुर्भिक्ष एवं असमाधानित हो जायेगी कि कदाचित, प्राणीजगत एवं मानव–जगत का अस्तित्व ही समाप्त न हो जाये। ऐसी ही विचारधारा को दृष्टि में रखकर पर्यावरण के प्रतिचेतना, एवं जन जागृति लाने हेतु पर्यावरण शिक्षा नामक एक अभिनव प्रवृत्ति का अभ्युदय शिक्षाविदों द्वारा किया गया।

पर्यावरण शिक्षा –

'' पर्यावरण शिक्षा '' वस्तुत; विश्व समुदाय को पर्यावरण सम्बन्धी दी जाने वाली वह शिक्षा है। जिससे वे पर्यावरणीय समस्याओं से अवगत होकर उसका हल खोज सकें और साथ ही भविष्य में आने वाली पर्यावरणीय समस्याओं को रोक सकें। इस प्रकार पर्यावरण शिक्षा पर्यावरण सुरक्षा के उद्देश्यों को प्राप्त करने का साधन है।

शोध समस्या का कथन –

प्रस्तुत शोध कार्य गोरखपुर जनपद के इण्टरमीडिएट स्तर के कला तथा विज्ञान वर्ग के छात्रों तथा छात्राओं को लिया गया है। कला तथा विज्ञान वर्ग के छात्र–छात्राओं की पर्यावरण संचेतना में क्या कोई सार्थक अन्तर है ? अथवा नहीं तथा उनकी संचेतना का स्तर क्या है ? इसका तुलनात्मक अध्ययन करने के लिए निम्नांकित प्रकरण का चयन किया गया है– ''इण्टरमीडिएट स्तर के विद्यार्थियों की पर्यावरणीय संचेतना की स्थिति का अध्ययन''

अध्ययन के उद्देश्य –

अध्ययन कार्य निम्नांकित उद्देश्यों को ध्यान में रखकर सम्पन्न किया गया है।

1. इण्टरमीडिएट स्तर के विद्यार्थियों की पर्यावरण संचेतना के स्तर का अध्ययन करना।
2. इण्टरमीडिएट स्तर के कला तथा विज्ञान वर्ग के विद्यार्थियों की पर्यावरण संचेतना के माध्य स्तरों का तुलनात्मक अध्ययन करना।
3. इण्टरमीडिएट स्तर के कला तथा विज्ञान वर्ग के छात्रों तथा छात्राओं की पर्यावरणीय संचेतना के माध्य स्तरों का परस्पर तुलनात्मक अध्ययन करना।
4. पर्यावरण संचेतना हेतु पर्यावरण शिक्षा के स्वरूप का निर्धारण करना।

परिकल्पना –

उद्देश्यों के अनुरूप अध्ययन कार्य को सुव्यवस्थित रूप से सम्पादित करने के लिए निम्नांकित शोध परिकल्पनाओं की संरचना की गई है ।

1. इण्टरमीडिएट स्तर के कला वर्ग को छात्रों तथा छात्राओं की पर्यावरणीय संचेतना में सार्थक अन्तर है।
2. इण्टरमीडिएट स्तर के विज्ञान वर्ग के छात्रों तथा छात्राओं की पर्यावरणीय संचेतना में सार्थक अन्तर है।
3. इण्टरमीडिएट स्तर के कला तथा विज्ञान वर्ग के छात्रों की पर्यावरणीय संचेतना में सार्थक अन्तर है।
4. इण्टरमीडिएट स्तर के कला तथा विज्ञान वर्ग की छात्राओं की पर्यावरणीय संचेतना में सार्थक अन्तर है।
5. इण्टरमीडिएट स्तर के कला वर्ग के छात्रों तथा विज्ञान वर्ग की छात्राओं की पर्यावरणीय संचेतना में सार्थक अन्तर है।

6. इण्टरमीडिएट स्तर के विज्ञान वर्ग के छात्रों तथा कलावर्ग की छात्राओं की पर्यारवणीय संचेतना में सार्थक अन्तर है।

शोध विधि –

प्रस्तुत शोध कार्य विवरणात्मक, अनुसंधान के अन्तर्गत सर्वेक्षण प्रकार का अनुसंधान है।

जनसंख्या –

जनसंख्या के रूप में माध्यमिक शिक्षा परिषद, उत्तर प्रदेश, द्वारा संचालित इण्टरमीडिएट स्तर के कला तथा विज्ञान के विद्यार्थियों को लिया गया है तथा जनसंख्या के आकार को सीमित करते हुए केवल गोरखपुर जनपद को लिया गया है।

प्रतिदर्श –

प्रतिदर्श के चयन हेतु यादृच्छिक विधि द्वारा विद्यालयों का चयन किया गया है तथा विद्यार्थियों का चयन यादृच्छिक–गुच्छ प्रतिचयन विधि द्वारा किया गया है। इस प्रकार कुल 250 छात्र तथा 250 छात्राओं का चयन किया गया ।

सांख्यिकी विधियाँ –

परीक्षण से प्राप्त आकडों के विश्लेषण हेतु मध्यमान, प्रमाणिक विचलन, तथा मध्यमानों के अन्तर की सार्थकता ज्ञात करने के लिए क्रान्तिक अनुपात का प्रयोग किया गया है ।

प्रयुक्त परीक्षण –

पर्यावरणीय संचेतना प्रश्नावली की संरचना करते समय जल, स्थल, वायु, वनस्पति विज्ञान, जन्तु विज्ञान, भौतिकी, रसायन तथा भूगोल आदि से सम्बन्धित ऐसे सामान्य तथ्यों पर आधारित प्रश्नों की संरचना की गई जिनका सम्बन्ध पर्यावरण से है। प्रश्नावली संरचना में विषय विशेषज्ञों तथा उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड, गोरखपुर से सम्पर्क कर जानकारी और सुझाव लिए गये। प्रश्नावली के अन्तिम प्रारूप में 50 पदों को बहु– विकल्पीय प्रश्नों के रूप में रखा गया है।

आंकडों का विश्लेषण तथा व्याख्या –

आंकडों का संकलन 'पर्यावरणीय संचेतना प्रश्नावली' के आधार पर किया गया है। ये आंकड़े कला तथा विज्ञान वर्ग के छात्र–छात्राओं पर आधारित है। आकड़ों के विश्लेषण में विभिन्न वर्गों के छात्र–छात्राओं द्वारा प्राप्त अंकों का मध्यमान, प्रमाणिक विचलन तथा क्रान्तिक अनुपात की गणना करके पूर्व संरचित परिकल्पनाओं की जांच की गई।

परिकल्पना 1. इण्टरमीडिएट स्तर के कला वर्ग को छात्रों तथा छात्राओं की पर्यावरणीय संचेतना में सार्थक अन्तर है।

परिकल्पना 1 के लिए क्रान्तिक अनुपात का मान 2.04 प्राप्त हुआ है जो .05 स्तर पर सार्थक है। परन्तु .01 स्तर पर सार्थक नहीं है। इस प्रकार यह कहा जा सकता है कि 95% स्थितियों में इण्टरमीडिएट स्तर के कला वर्ग की छात्राओं की पर्यावरणीय संचेतना कला वर्ग के छात्रों से बेहतर है।

सारणी – 1

समूह	N	Mean	S.D	σm	σd	CR	सार्थकता स्तर	
कला छात्र	125	30	3.8	0.34	0.49	2.04	0.05	0.01
कला छात्रायें	125	31	3.71	0.33			है	नहीं है

परिकल्पना 2. इण्टरमीडिएट स्तर के विज्ञान वर्ग के छात्रों तथा छात्राओं की पर्यावरणीय संचेतना में सार्थक अन्तर है। सारणी क्र. 2 में उक्त परिकल्पना के लिए क्रान्तिक अनुपात का मान 2.13 प्राप्त हुआ है जो कि .05 स्तर पर सार्थक है अर्थात 95% स्थितियों में विज्ञान वर्ग के छात्रों की पर्यावरणीय संचेतना, विज्ञान वर्ग की छात्राओं से बेहतर है।

सारणी – 2

समूह	N	Mean	S.D	σm	σd	CR	सार्थकता स्तर	
विज्ञान छात्र	125	34	3.55	0.32	0.47	2.13	0.05	0.01
विज्ञान छात्रायें	125	33	3.92	0.35			है	नहीं है

परिकल्पना 3. इण्टरमीडिएट स्तर के कला तथा विज्ञान वर्ग के छात्रों की पर्यावरणीय संचेतना में सार्थक अन्तर है।

परिकल्पना 3 के लिए सारणी क्र. 3 में क्रान्तिक अनुपात का मान 18.2 प्राप्त हुआ है जो कि .01 स्तर पर सार्थक है अर्थात – विज्ञान वर्ग के छात्रों की पर्यावरणीय संचेतना कला वर्ग के छात्रों की तुलना में बेहतर है क्योंकि विज्ञान वर्ग के छात्रों का मध्यमान अधिक है।

परिकल्पना 4. इण्टरमीडिएट स्तर के कला तथा विज्ञान वर्ग की छात्राओं की पर्यावरणीय संचेतना में सार्थक अन्तर है।

परिकल्पना 4 के लिए सारणी क्र. 4 में क्रान्तिक अनुपात का मान 4.17 प्राप्त हुआ है जोकि .01 स्तर पर सार्थक है अर्थात विज्ञान वर्ग के छात्राओं की पर्यावरणीय संचेतना कला वर्ग की छात्राओं से बेहतर है। क्योकि विज्ञान वर्ग की छात्राओं का पर्यावरणीय संचेतना का मध्यमान अंक कला वर्ग की छात्राओं से अधिक है ।

सारणी – 3

समूह	N	Mean	S.D	σm	σd	CR	सार्थकता स्तर	
कला छात्र	125	30	3.8	0.34	0.22	18.2	0.05	0.01
विज्ञान छात्र	125	34	3.55	0.35			है	है

सारणी – 4

समूह	N	Mean	S.D	σm	σd	CR	सार्थकता स्तर	
कला छात्रायें	125	31	3.71	0.33	0.48	4.17	0.05	0.01
विज्ञान छात्रायें	125	33	3.92	0.35			है	है

सारणी – 5

समूह	N	Mean	S.D	σm	σd	CR	सार्थकता स्तर	
कला छात्र	125	30	3.8	0.34	0.49	6.12	0.05	0.01
विज्ञान छात्रायें	125	33	3.92	0.35			है	है

5. इण्टरमीडिएट स्तर के कला वर्ग के छात्रों तथा विज्ञान वर्ग की छात्राओं की पर्यावरणीय संचेतना में सार्थक अन्तर है।

परिकल्पना 5 के लिए सारणी क्र. 5 में क्रान्तिक अनुपात का मान 6.12 प्राप्त हुआ है जो कि 0.01 स्तर पर सार्थक है, अर्थात विज्ञान वर्ग के छात्राओं की पर्यावरणीय संचेतना कला वर्ग के छात्रों से बेहतर है। क्योंकि विज्ञान वर्ग की छात्राओं का पर्यावरणीय संचेतना का माध्यमान अंक कला वर्ग के छात्रों से अधिक है

2. इण्टरमीडिएट स्तर के विज्ञान वर्ग के छात्रों की पर्यावरणीय संचेतना, विज्ञान वर्ग की छात्राओं से सार्थक रूप से अधिक होती है।

3. इण्टरमीडिएट स्तर पर विज्ञान वर्ग के छात्रों की पर्यावरणीय संचेतना कला वर्ग के छात्रों से सार्थक रूप से अधिक होती है।

4. इण्टरमीडिएट स्तर के विज्ञान वर्ग के छात्राओं की पर्यावरणीय संचेतना कला वर्ग की छात्राओं से सार्थक रूप से अधिक होती है।

सारणी – 6

समूह	N	Mean	S.D	σm	σd	CR	सार्थकता स्तर	
विज्ञान छात्र	125	34	3.55	0.32	0.46	6.52	0.05	0.01
कला छात्रायें	125	31	3.71	0.33			है	है

6. इण्टरमीडिएट स्तर के विज्ञान वर्ग के छात्रों तथा कलावर्ग की छात्राओं की पर्यारवणीय संचेतना में सार्थक अन्तर है।

परिकल्पना 6 के संदर्भ में सारणी क्र. 6 में क्रान्तिक अनुपात का मान 6.52 प्राप्त हुआ है जो कि 0.01 सार्थकता स्तर पर सार्थक है, अर्थात विज्ञान वर्ग के छात्रों की पर्यावरणीय संचेतना कला वर्ग की छात्राओं से बेहतर है क्योंकि विज्ञान वर्ग के छात्रों का माध्यमान अंक कला वर्ग की छात्राओं से अधिक है।

निष्कर्ष –

1. इण्टरमीडिएट स्तर के कला वर्ग की छात्राओं की पर्यावरणीय संचेतना कला वर्ग के छात्रों से सार्थक रूप से अधिक होती है।

5. इण्टरमीडिएट स्तर के विज्ञान वर्ग के छात्राओं की पर्यावरणीय संचेतना कला वर्ग के छात्रों से सार्थक रूप से अधिक होती है।

6. इण्टरमीडिएट स्तर के विज्ञान वर्ग के छात्रों की पर्यावरणीय संचेतना कला वर्ग की छात्राओं से सार्थक रूप से अधिक होती है।

शोध कार्य का शैक्षिक महत्व –

इस शोध कार्य में माध्यमिक स्तर के विद्यार्थियों का चयन किया गया है क्योंकि किशोरावस्था के विद्यार्थी ही भविष्य में युग नागरिक होंगे जो पर्यावरण की नाजुकता को समझते हुए इसके संरक्षण में अपना योगदान देंगे

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

उच्चतर माध्यमिक विद्यालयों में नैतिक एवं आध्यात्मिक शिक्षा की आवश्यकता का अध्ययन

अनुप्रिया शर्मा *

सारांश

अभिभावकों की यही इच्छा रहती है, कि उनके बच्चे शैक्षिक उपलब्धि की ऊँचाईयों पर जाकर समाज में एक आदर्श स्थापित करें। वर्तमान शिक्षा प्रणाली सैद्धांतिक ज्ञान पर अधिक बल प्रदान कर रही है, किन्तु व्यावहारिक ज्ञान पर जोर कम ही दिया जा रहा है, परिणामतः विद्यार्थियों में नैतिक एवं आध्यात्मिक मूल्यों का आभाव हो रहा है। वर्तमान शोध पत्र में विद्यालयों में नैतिक एवं आध्यात्मिक शिक्षा की अनिवार्यता का अध्ययन किया गया है। जिसमें सौ विद्यार्थियों एवं पचास शिक्षकों का चयन कर स्वनिर्मित प्रश्नावली के माध्यम से वर्णनात्मक अध्ययन किया गया है। जिसमें विद्यार्थियों एवं शिक्षकों ने नैतिक एवं आध्यात्मिक शिक्षा को अनिवार्य माना तथा विद्यार्थियों के सर्वागींण विकास हेतु अनिवार्य बताया है।

भूमिका

शिक्षा का अर्थ ज्ञानार्जन के द्वारा संस्कारों तथा व्यवहारों का निर्माण करना है। शिक्षा का वास्तविक उद्देश्य बालक में मानवीय गुणों का विकास करके इसे उस योग्य बनाना कि वह मानव संस्कृति व समाज को और अधिक सुंदर व सुदृढ़ बनाने में अपना बहुमूल्य योगदान दे सके। मनुष्य एक सामाजिक प्राणी है। प्राचीन काल में मानव समाज, शिक्षा, मूल्य जैसे शब्दों से अनजान थे, जैसे–जैसे मानवीकरण की भावना का विकास हुआ इसी आदि मानव ने समाज की आवश्यकता महसूस की तथा शिक्षा एवं मूल्यों को महत्वपूर्ण स्थान दिया। सामाजिक व्यवस्था के अनुसार शिक्षा के पाठ्यक्रम का निर्माण किया गया तथा उस समय के जीवन के आवश्यक मूल्यों को ध्यान में रखकर पाठ्यक्रम में सर्वोच्च स्थान दिया जाने लगा। शिक्षा और उसमें निहित उद्देश्य मानव को समाज में प्रतिष्ठित स्थान प्रदान करती है। शिक्षा व समाज दोनों अविछन्न रूप से परस्पर गुँथे रहते हैं। शिक्षा समाज में ही फलती–फूलती है तथा समाज भी, शिक्षा और उसमें समाहित उद्देश्य (मूल्यों) की छाया में अपने को प्राणवान, गतिशील, सजग व सुसंस्कृत बनाता है। एक की प्रगति पर दूसरे की प्रगति निर्भर करती है। वर्तमान शिक्षा प्रणाली में सैद्धांतिक ज्ञान के साथ–साथ व्यवहारिक ज्ञान पर बल प्रदान करती है। किन्तु वर्तमान शिक्षा प्रणाली में व्यावहारिक ज्ञान पर ध्यान कम दिया जाता है। जिसके परिणाम स्वरूप, बालकों को किताबी ज्ञान अर्थात सैद्धांतिक ज्ञान तो प्राप्त हो जाता है किंतु वे इस ज्ञान को जीवन में उपयोग करने

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में पूर्णतः सक्षम नहीं हो पाते हैं। वर्तमान शिक्षा प्रणाली में इन सभी मूल्यों का अभाव है जैसे अनुशासन, कर्तव्य बोध का ज्ञान आदि। न उन्हें समाज और राष्ट्र के दायित्वों का ज्ञान है और न ही किसी परिस्थिति का सामना वे कर सकते हैं। राष्ट्रीय शिक्षा नीति (1967) के अनुसार शिक्षा द्वारा आर्थिक, सामाजिक स्थिति का विकास करना है जिससे बालकों के अंदर नैतिक, सामाजिक व आध्यात्मिक मूल्य का विकास किया जा सके।

विज्ञान और तकनीकी के विस्तार के साथ विवेक और बुद्धि का संकुचन होता जा रहा है। ज्ञान बढ़ रहा है और व्यक्तित्व का पतन हो रहा है। इस प्रकार ज्ञान और विवेक के बीच असंतुलन की स्थिति निर्मित हो गयी है। जनसंख्या विस्फोट, हिंसा का ताण्डव, पारस्परिक शत्रुता, घृणा, मारकाट आदि में निरंतर वृद्धि हो रही है। शिक्षा ही इन सबको सही दिशा दे सकती है। संयमित मानव जीवन व्यतीत करने के लिए नैतिक एवं आध्यात्मिक शिक्षा का बहुत महत्व है। विद्यालयों में संयम तथा आध्यात्मिक व नैतिक मूल्यों का सृजन आवश्यक है। वर्तमान समय में विभिन्न उच्चत्तर माध्यमिक विद्यालयों में नैतिक एवं आध्यात्मिक शिक्षा की आवश्यकता का अध्ययन करना ही हमारी शोध का उद्देश्य है।

प्रस्तुत शोध पत्र के उद्देश्य निम्नलिखित हैं –

1. एक सभ्य, उन्नत और कर्मनिष्ठ समाज के लिए नैतिक और आध्यात्मिक शिक्षा की अनिवार्यता का अध्ययन करना।
2. विद्यार्थियों के सर्वांगीण विकास हेतु नैतिक एवं आध्यात्मिक शिक्षा के आधार का अध्ययन करना।

परिकल्पना का निर्माण

शोध की प्रकृति एवं उद्देश्य के आधार पर प्रश्न रूपी परिकल्पना का निर्माण किया गया है।

1. क्या विद्यार्थी, विद्यालयों में नैतिक एवं आध्यात्मिक शिक्षा को अनिवार्य मानते हैं ?
2. क्या शिक्षक, विद्यालयों में नैतिक एवं आध्यात्मिक शिक्षा को अनिवार्य मानते हैं ?
3. क्या विद्यालयों में नैतिक एवं आध्यात्मिक शिक्षा के आधार पर विद्यार्थियों का सर्वांगीण विकास किया जा सकता है ?

न्यादर्श का चयन

1. इस लघुशोध में दो प्रकार के विद्यालयों को ही सम्मिलित किया गया है – शासकीय एवं निजी उच्चतर माध्यमिक विद्यालय।
2. इस लघुशोध में रायपुर शहर के निजी एवं शासकीय उच्चतर माध्यमिक विद्यालयों के शिक्षकों एवं छात्रों को समग्र के रूप में लिया गया है।
3. प्रतिदर्श के रूप में 100 छात्रों एवं 50 शिक्षकों का चयन किया गया है। कुल 50 शिक्षकों का चयन उद्देश्यानुसार किया गया जिसमें से 25 शासकीय विद्यालय से एवं 25 निजी विद्यालय से है। कुल 100 विद्यार्थियों का चयन किया गया जिसमें से 50 शासकीय विद्यालय से एवं 50 निजी विद्यालय से हैं।

शोध उपकरण

प्रस्तुत शोध अध्ययन हेतु विद्यार्थी तथा शिक्षक के लिये अलग–अलग स्वनिर्मित प्रश्नावली का निर्माण किया गया है। प्रत्येक प्रश्नावली का विश्लेषण पृथक–पृथक कर निष्कर्ष प्राप्त किया गया है तथा परिकल्पनाओं की पुष्टि प्रतिशत के आधार पर की गयी है।

शोध का क्षेत्र एवं विधि

प्रस्तुत शोध में शोध का क्षेत्र रायपुर शहर के उच्चतर माध्यमिक विद्यालय के शिक्षक एवं विद्यार्थी हैं। शोध हेतु शिक्षकों एवं विद्यार्थियों का चयन प्रतिदर्श विधि से किया गया है तथा अध्ययन की प्रकृति के अनुसार वर्णात्मक विधि का प्रयोग किया गया है।

प्रदत्तों का विश्लेषण एवं व्याख्या

1 – क्या विद्यार्थी, विद्यालयों में नैतिक एवं आध्यात्मिक शिक्षा को अनिवार्य मानते हैं ?

यह स्पष्ट हो जाता है, शासकीय एवं निजी विद्यालय के 92 प्रतिशत शिक्षक ने हाँ मे अपनी सहमति दी है एवं 8 प्रतिशत ने नहीं में सहमति दी है। अतः विश्लेषण के आधार पर यह कह सकते हैं कि उपर्युक्त विद्यालय

तालिका क्रमांक 1

विद्यालय	हाँ में उत्तर	प्रतिशत	नहीं में उत्तर	प्रतिशत	विद्यार्थियों की कुलसंख्या
शासकीय	48	96	2	4	50
निजी	50	100	0	0	50
योग	**98**	**98**	**2**	**2**	**100**

तालिका क्रमांक 2

विद्यालय	शिक्षकों की कुल संख्या	हाँ में उत्तर	प्रतिशत	नहीं में उत्तर	प्रतिशत
शासकीय	25	23	92	2	8
निजी	25	23	92	2	8
योग	**50**	**46**	**92**	**4**	**8**

व्याख्या :– उपर्युक्त तालिका 1 में प्रदर्शित आकड़ों से यह स्पष्ट है कि शासकीय विद्यालय के 96 प्रतिशत एवं निजी विद्यालय के 100 प्रतिशत विद्यार्थियों ने हाँ उत्तर दिया एवं शासकीय विद्यालय 4 प्रतिशत एवं निजी विद्यालय के शून्य प्रतिशत विद्यार्थियों ने नहीं में उत्तर दिया एवं कुल विद्यार्थियों में से 98 प्रतिशत विद्यार्थियों ने हाँ में उत्तर दिया एवं 2 प्रतिशत विद्यार्थियों ने नहीं में उत्तर दिया। अतः विश्लेषण से यह स्पष्ट होता है कि शासकीय एवं निजी विद्यालयों में अधिकांश विद्यार्थी, नैतिक एवं आध्यात्मिक शिक्षा को अनिवार्य समझते हैं।

2 – क्या शिक्षक, विद्यालयों में नैतिक एवं आध्यात्मिक शिक्षा को अनिवार्य मानते हैं ?

व्याख्या :– उपर्युक्त तालिका 2 में प्रदर्शित आकड़ों से के शिक्षक नैतिक एवं आध्यात्मिक शिक्षा को अनिवार्य समझते हैं।

3 – क्या विद्यालयों में नैतिक एवं आध्यात्मिक शिक्षा के आधार पर विद्यार्थियों का सर्वांगीण विकास किया जा सकता है ?

तालिका क्रमांक 3 से स्पष्ट है कि शासकीय एवं निजी विद्यालय 58 प्रतिशत शिक्षकों ने विद्यार्थियों को अच्छा नागरिक बनाने नैतिक एवं आध्यात्मिक शिक्षा का उद्देश्य कहा है। शासकीय एवं निजी विद्यालय के 8 प्रतिशत शिक्षकों ने चारित्रिक एवं नैतिक विकास करना, नैतिक एवं आध्यात्मिक शिक्षा का उद्देश्य कहा एवं 6 प्रतिशत शिक्षकों ने विद्यार्थियों में अनुशासन की भावना का विकास करना कहा एवं शासकीय एवं निजी विद्यालय के 86 प्रतिशत शिक्षकों ने नैतिक एवं

तालिका क्रमांक 3

स. क्र	उद्देश्य	विद्यालय	शिक्षकों की कुल संख्या	सहमत	प्रतिशत	असहमत	प्रतिशत
1	अच्छा नागरिक बनाना	शासकीय	25	19	76	06	24
		निजी	25	10	40	15	60
		योग	**50**	**29**	**58**	**21**	**42**
2	चारित्रिक एवं नैतिक विकास करना	शासकीय	25	4	16	21	84
		निजी	25	0	6	25	100
		योग	**50**	**4**	**8**	**46**	**92**
3	अनुशासन की भावना	शासकीय	25	0	0	25	100
		निजी	25	3	12	22	88
		योग	**50**	**3**	**6**	**47**	**94**
4	विद्यार्थियों का सर्वांगीण विकास करना	शासकीय	25	21	84	4	16
		निजी	25	22	88	3	12
		योग	**50**	**43**	**86**	**7**	**14**

आध्यात्मिक शिक्षा का उद्देश्य विद्यार्थियों का सर्वांगीण विकास करना कहा। अतः स्पष्ट होता है कि शासकीय एवं निजी विद्यालय शिक्षक, विद्यार्थियों का सर्वांगीण विकास करने को ही नैतिक एवं आध्यात्मिक शिक्षा का प्रमुख उद्देश्य मानते हैं।

निष्कर्ष

1. शासकीय एवं निजी विद्यालय के अधिकांश विद्यार्थी, विद्यालय में नैतिक एवं आध्यात्मिक शिक्षा को अनिवार्य समझते हैं।

2. शासकीय एवं निजी विद्यालय के अधिकांश शिक्षक विद्यालय में नैतिक एवं आध्यात्मिक शिक्षा को अनिवार्य समझते हैं।

3. विद्यालयों में नैतिक एवं आध्यात्मिक शिक्षा का उद्देश्य विद्यार्थियों का सर्वांगीण विकास करना है।

सुझाव –

1. शासन नैतिक एवं आध्यात्मिक शिक्षा को पाठ्यक्रम में स्थान देने हेतु योजना बनाएँ।
2. विद्यालयों में समय–समय पर नैतिक एवं आध्यात्मिक शिक्षा की विशेष कक्षाओं का आयोजन किया जाय।
3. विद्यालयों में नैतिक एवं आध्यात्मिक शिक्षा हेतु कार्यक्रमों का अयोजन किया जाय।

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

बी.एड. महाविद्यालय के विद्यार्थियों की व्यावसायिक रूचि– एक अध्ययन

डॉ. शेखराम परसराम येळेकर *

सारांश

इस अध्ययन का प्रमुख उद्देश्य, बी.एड. महाविद्यालय के विद्यार्थियों की व्यावसायिक रूचि का लिंग के अधार पर महिला एवं पुरूष तथा संकाय के आधार पर विज्ञान, कला और वाणिज्य शाखा के अनुक्रम में तुलनात्मक अध्ययन करना है। प्रस्तुत अनुसंधान में सर्वेक्षण पद्धति का उपयोग किया गया है। न्यादर्श पर डॉ. एस. पी. कुलश्रेष्ठ द्वारा विकसित व्यावसायिक रूचि मापनी प्रशासित किया गया और प्राप्त जानकारी का गुणांकन करके मध्यमान, प्रमाणिक विचलन और क्रांतिक अंक (CR) निकालकर परिकल्पनाओं की जाँच की गयी। प्रस्तुत अनुसंधान के अनुसार बी.एड. महाविद्यालय के छात्रों से छात्राओं की व्यावसायिक रूचि अधिक है तथा विज्ञान शाखा के विद्यार्थियों से कला शाखा के विद्यार्थियों की व्यावसायिक रूचि अधिक है तथा कला शाखा के विद्यार्थियों और वाणिज्य शाखा के विद्यार्थियों की व्यावसायिक रूचि में अंतर सार्थक नहीं है।

प्रस्तावना:

विद्यार्थी, शिक्षकीय व्यवसाय में पदार्पण करने के उद्देश्य से बी.एड. महाविद्यालय में प्रवेश लेकर अध्ययन करते हैं। इनमें कुछ विद्यार्थी अपनी रूचि से आते हैं लेकिन अधिकतर अपनी आर्थिक मजबूरी साथ रोजगार प्राप्ति के उद्देश्य से भी आ जाते हैं। रूचि के आधार पर व्यावसाय करने पर स्वयं का, समाज एवं राष्ट्र का विकास तेजी से होगा।

समस्या का महत्व

रूचि एक मानवीय प्रवृत्ति है जिससे हम किसी व्यक्ति, वस्तु या क्रिया की ओर ध्यान देते हैं, उससे आकर्षित होते हैं तथा संतुष्टि प्राप्त कर सकते हैं।

समाज में जीने के लिए और अपनी मूलभूत जरूरतें पूरी करने के लिए धनार्जन बहुत महत्वपूर्ण है। धनार्जन के लिए किसी व्यवसाय को अपनाना जरूरी है। यदि विद्यार्थी को उसके रूचि वाले क्षेत्र में प्रशिक्षण मिले और लगन के साथ मेहनत करे, तो सफलता उसके पैर चूमती है।

बहुत से विद्यार्थी रूचि न होने पर भी शिक्षा के क्षेत्र में प्रवेश कर जाते हैं, और खुद को न पहचानते हुए बहुत बडे–बडे सपने देखते हैं और सपना पूरा न होने पर निराश हो जाते हैं। इसलिए अपनी क्षमता, काबिलियत और रूचि इन सभी का मिलाप देखकर अपने व्यवसाय का चयन करना बहुत जरूरी होता है। व्यक्ति की रूचि उसकी प्रेरणा का प्रतिबिंब है, रूचि

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से प्राविण्य और योग्यता की झलक दिखती है। कोई व्यक्ति की किसी क्षेत्र में योग्यता और क्षमता है और रूचि नहीं है तो वह व्यक्ति उस व्यवसाय में सफल नहीं हो सकता, इसलिए छात्रों की व्यवसायिक रूचि का अध्ययन करना महत्वपूर्ण है।

बी.एड. पाठ्यक्रम अध्ययन करने वाले विद्यार्थी शिक्षकीय व्यवसाय में आते हैं, और बच्चों का भविष्य बनाते हैं। अगर भविष्य बनाने वालों की रूचि उस क्षेत्र में नहीं है, तो वह बच्चों का भविष्य कैसे बनाएंगे यह एक गम्भीर चिंता का विषय है। शिक्षकीय व्यवसाय में रूचि न होने वाले शिक्षक बच्चों के भविष्य से खिलवाड़ करने जैसा ही है। इसलिए भी बी.एड. विद्यार्थियों की व्यवसायिक रूचि का अध्ययन करना जरूरी है। विद्यार्थी में अगर रूचि है तो वह सृजनशील होगा। नयी–नयी शिक्षण विधियों और तकनीकी का उपयोग करेगा और अपने क्रियाशीलता का परिचय देकर बच्चों के उज्वल भविष्य से अपना नाता जोड़ेगा। इसलिए बी.एड. के छात्रों की व्यावसायिक रूचि का अध्ययन करना जरूरी है।

अध्ययन के उद्देश्य

1. बी.एड. महाविद्यालय के विद्यार्थियों की व्यावसायिक रूचि का अध्ययन करना।
2. बी.एड. महाविद्यालय के छात्र और छात्राओं की व्यावसायिक रूचि का तुलनात्मक अध्ययन करना।
3. बी.एड. महाविद्यालय के विद्यार्थियों की विज्ञान, कला और वाणिज्य शाखा के अनुसार व्यावसायिक रूचि का तुलनात्मक अध्ययन करना।

परिकल्पना

1. बी.एड.महाविद्यालय के छात्र और छात्राओं की व्यावसायिक रूचि में अंतर होता है।
2. बी.एड. महाविद्यालय के विज्ञान शाखा के छात्र और कला शाखा के छात्रों की व्यावसायिक रूचि में अंतर होता है।
3. बी.एड. महाविद्यालय के विज्ञान शाखा के छात्र और वाणिज्य शाखा के विद्यार्थियों की व्यावसायिक रूचि में अंतर होता है।
4. बी.एड. महाविद्यालय के कला शाखा के विद्यार्थी और वाणिज्य शाखा के विद्यार्थी की व्यावसायिक रूचि में अंतर होता है।

जनसंख्या और न्यादर्शः

राष्ट्रसंत तुकडोजी महाराज नागपूर विश्वविद्यालय के अंतर्गत नागपुर शहर में 22 बी.एड. महाविद्यालय हैं। यहाँ के सभी छात्र जनसंख्या दर्शाते हैं। इन बी.एड.

सारणी क्रमांक 1

न्यादर्श

अक्र	चयनित बी.एड. महाविद्यालय नागपुर	विज्ञान शाखा		कला शाखा		वाणिज्य शाखा	
		छात्र	छात्रा	छात्र	छात्रा	छात्र	छात्रा
1	बॅरि. एस. के. वानखेडे शिक्षण महाविद्यालय	10	10	10	10	10	10
2	अरूण जोशी शिक्षण महाविद्यालय	8	8	8	8	3	3
3	जोतिबा फुले शिक्षण महाविद्यालय	8	8	8	8	3	3
4	राधिका अध्यापक महाविद्यालय	8	8	8	8	3	3
5	जनरल आवारी अध्यापक महाविद्यालय	8	8	8	8	3	3
6	वसंत बी.एड. कॉलेज	8	8	8	8	3	3
	कुल संख्या (125 छात्र + 125 छात्राएँ)	**50**	**50**	**50**	**50**	**25**	**25**

महाविद्यालयों में से 6 बी.एड. महाविद्यालयों का चयन लॉटरी पद्धति से किया गया है। सारणी क्रमांक 1 न्यादर्श दिखाती है।

शोध उपकरण

प्रस्तुत शोध हेतु डॉ. एस. पी. कुलश्रेष्ठ द्वारा विकसित व्यावसायिक रूचि मापनी का उपयोग किया गया है।

प्रदत्त विश्लेषण

मापनी के प्रशासन उपरांत, इस हेतु निर्धारित रीति से आंकडों का एकत्रीकरण किया गया तथा आंकडों का मध्यमान, प्रमाणिक विचलन और क्रांतिक अंक (CR) निकालकर परिकल्पनाओं की जाँच की गयी।

परिकल्पनाः 1.

बी.एड.महाविद्यालय के छात्र और छात्राओं की व्यावसायिक रूचि में अंतर होता है।

सारणी क्रमांक 2

बी.एड. महाविद्यालय के छात्र और छात्राओं की व्यावसायिक रूचि का मध्यमान, प्रमाणिक विचलन और क्रांतिक अंक दर्शाने वाली सारणी

समूह	संख्या	मध्यमान	प्रा.विच.	क्रांति.अंक
छात्र	125	87.74	5.28	5.62
छात्राएँ	125	91.90	6.32	

प्रस्तुत सारणी क्रमांक 2 में बी.एड. महाविद्यालय के छात्रों से छात्राओं की व्यावसायिक रूचि अधिक है। प्राप्त जानकारी से क्रांतिक अंक 5.62 है। छात्र और छात्राओं की व्यावसायिक रूचि के मध्यमान में आने वाला अंतर 0.01 स्तर पर सार्थक है।

परिकल्पनाः 2.

बी.एड. महाविद्यालय के विज्ञान शाखा के छात्र और कला शाखा के छात्रों की व्यावसायिक रूचि में अंतर होता है।

प्रस्तुत सारणी क्रमांक 3 में बी.एड. महाविद्यालय के विज्ञान शाखा के विद्यार्थियों से कला शाखा के विद्यार्थियों

सारणी क्रमांक 3

बी.एड. महाविद्यालय के विज्ञान शाखा एवं कला शाखा के विद्यार्थियों की व्यावसायिक रूचि मध्यमान प्रमाणिक विचलन और क्रांतिक अंक

समूह	संख्या	मध्यमान	प्रा.विचलन	क्रांति.अंक
विज्ञान	100	86.05	8.4	3.91
कला	100	91.41	8.2	

की व्यावसायिक रूचि अधिक है। प्राप्त जानकारी से क्रांतिक अंक 3.91 है। विज्ञान और कला शाखा के विद्यार्थियों की व्यावसायिक रूचि के मध्यमान में आने वाला अंतर 0.01 स्तर पर सार्थक है।

परिकल्पनाः 3.

3. बी.एड. महाविद्यालय के विज्ञान शाखा के छात्र और वाणिज्य शाखा के विद्यार्थियों की व्यावसायिक रूचि में अंतर होता है।

सारणी क्रमांक 4

बी.एड. महाविद्यालय के विज्ञान और वाणिज्य शाखा के विद्यार्थियों की व्यावसायिक रूचि मध्यमान, प्रमाणिक विचलन और क्रांतिक अंक

समूह	संख्या	मध्यमान	प्रा.विचलन	क्रांति.अंक
विज्ञान	100	86.05	8.4	5.06
वाणिज्य	50	92.68	7.2	

प्रस्तुत सारणी क्रमांक 4 में बी.एड. महाविद्यालय के विज्ञान शाखा के विद्यार्थियों से वाणिज्य शाखा के विद्यार्थियों की व्यावसायिक रूचि अधिक है। प्राप्त जानकारी से क्रांतिक अंक 5.06 है। विज्ञान एवं वाणिज्य शाखा के विद्यार्थियों की व्यावसायिक रूचि के मध्यमान में आने वाला अंतर 0.01 स्तर पर सार्थक है।

परिकल्पनाः 4.

बी.एड. महाविद्यालय के कला शाखा के विद्यार्थी और वाणिज्य शाखा के विद्यार्थी की व्यावसायिक रूचि में अंतर होता है।

सारणी क्रमांक 5
बी.एड. महाविद्यालय के कला और वाणिज्य शाखा के विद्यार्थियों की व्यावसायिक रूचि मध्यमान, प्रमाणिक विचलन और क्रांतिक अंक

समूह	संख्या	मध्यमान	प्रा.विचलन	क्रा. अंक
कला	100	91.41	8.2	0.972
वाणिज्य	50	92.68	7.2	

प्रस्तुत सारणी क्रमांक 5 में बी.एड. महाविद्यालय के कला और वाणिज्य शाखा के विद्यार्थयों की व्यावसायिक रूचि में अंतर नहीं है। प्राप्त जानकारी से क्रांतिक अंक 0.972 है। कला और वाणिज्य शाखा के विद्यार्थियों की व्यावसायिक रूचि के मध्यमान में आने वाला अंतर 0.05 स्तर पर सार्थक नहीं है।

निष्कर्ष:

1. बी.एड. महाविद्यालय के छात्रों से छात्राओं की व्यावसायिक रूचि सार्थक रूप में अधिक है।
2. बी.एड. महाविद्यालय के विज्ञान शाखा के विद्यार्थियों से कला शाखा के विद्यार्थियों की व्यावसायिक रूचि सार्थक रूप में अधिक है।
3. बी.एड. महाविद्यालय के विज्ञान शाखा के विद्यार्थियों से वाणिज्य शाखा के विद्यार्थियों की व्यावसायिक रूचि सार्थक रूप में अधिक है।
4. बी.एड. महाविद्यालय के कला शाखा के छात्र और वाणिज्य शाखा के विद्यार्थियों की व्यावसायिक रूचि में अंतर सार्थक नहीं है।

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EDUSEARCH
ISSN : 0976 - 1160
Vol 1. No. 2. October 2010

मध्यप्रदेश में प्रारंभिक शिक्षा का लोकव्यापीकरण

अरूण प्रकाश पाण्डेय *

सारांश

संविधान के अनुच्छेद 45 के संकल्प को राज्य स्तर पर पूर्ण करने हेतु मध्यप्रदेश में सर्वसम्बंधित सदैव प्रयासरत रहे। कभी संसाधनों का अभाव तो कभी साधनों की कमी राह के रोडों के रूप में सामने आती रही। सन् 2001 में मध्यप्रदेश में ''सर्व शिक्षा अभियान' का शुभारम्भ राज्य के समस्त जिलों में किया गया। इसके तहत् इस हेतु दृढ़ता से विनिश्चय किया गया कि राज्य के सभी 6–11 तक की आयु समूह के बच्चे अपनी पाँच वर्ष की विद्यालयीन शिक्षा 2007 तक एवं 11–14 तक के सभी बच्चे अपनी आठ वर्ष की विद्यालयीन शिक्षा वर्ष 2010 तक पूर्ण कर लेंगे। इस अभियान के तहत प्राथमिक स्तर पर प्रत्येक वर्ग के लिये शिक्षा प्राप्त करने की व्यवस्था की गई है। यह समस्त प्रयास प्रारंभिक शिक्षा के लोकव्यापीकरण को सार्थक स्वरूप प्रदान करते हुए एवं इसकी दशा में उल्लेखनीय परिवर्तन लाते हुए शिक्षा की दिशा को सकारात्मक स्वरूप प्रदान कर रहे हैं।

पृष्ठभूमि

स्वतन्त्रता प्राप्ति के नौ वर्षों के उपरान्त् मध्यप्रदेश राज्य का गठन दिनांक 01 नवम्बर 1956 को किया गया। संविधान के अनुच्छेद 45 के संकल्प को राज्य स्तर पर पूर्ण करने हेतु सर्वसम्बंधित सदैव प्रयासरत रहे। कभी संसाधनों का अभाव तो कभी साधनों की कमी राह के रोडों के रूप में सामने आती रही। इस दिशा में एक सकारात्मक मोड़ तब आया जब 2001 में सम्पूर्ण राष्ट्र के साथ मध्यप्रदेश में भी ''सर्व शिक्षा अभियान' का शुभारम्भ राज्य के समस्त जिलों में किया गया। इसके तहत् इस हेतु दृढ़ता से विनिश्चय किया गया कि राज्य के सभी 6–11 तक की आयु समूह के बच्चे अपनी पाँच वर्ष की विद्यालयीन शिक्षा 2007 तक एवं 11–14 तक के सभी बच्चे अपनी आठ वर्ष की विद्यालयीन शिक्षा वर्ष 2010 तक पूर्ण कर लेंगे।

इस परियोजना से जुड़े सभी कार्यक्रमों के क्रियान्वयन एवं समन्वय हेतु स्कूल शिक्षा मन्त्रालय के अधीन कार्यरत राज्य शिक्षा केन्द्र को दायित्वबद्ध किया गया। राज्य के समस्त जिलों में आवश्यकतानुसार कुशल, योग्य एवं कर्मठ लोगों को कार्यभार सौंपा गया। राज्य के सम्पूर्ण जिलों में एक साथ कार्यक्रम प्रारम्भ किया गया। 'सर्व शिक्षा अभियान– के उद्देश्यों को दृष्टिगत रखते हुए तद्नुरूप विभिन्न योजनाएँ प्रारम्भ की गईं। सर्व शिक्षा अभियान हेतु स्वीकृत राशि को दर्शाने वाली तालिका निम्नानुसार है।

* *समन्वयक, विस्तार सेवाएँ, शासकीय शिक्षा महाविद्यालय, उज्जैन (म.प्र.)*

तालिका 01

Schemewise Approved AWP&B 2009-10 Budget details of Madhya Pradesh.

Schemes	Approved AWP&B 2008-09	Expenditure 2008-09	% Uti.	Approved AWP&B 2009-10	GOI Share (60%)	GOMP (40%)
SSA	102024.11	133814.67	83%	207189.36	124313.61	82875.74
NEGEL	13634.46	12690.98	93%	6929.95	4157.97	2771.98
KGBV	8669.78	5797.32	60%	8162.93	4897.76	3265.17
Total	184328.34	151702.97	82%	222282.24	133369.34	88912.90
State Budget Provision in Lakh						72400.00
Excess State Share released by State						33592.14
Total State Govt. Share						150992.14

(स्त्रोत : सर्व शिक्षा अभियान)

शिक्षा की सार्वभौमिक सुलभता लक्ष्य को प्राप्त करने हेतु विद्यालयों की सार्वभौमिक उपलब्धता को सुनिश्चित करना एक बड़ा, व्यापक और चुनौतीपूर्ण कदम था। इस लक्ष्य को प्राप्त किया जा चुका है और वर्तमान में राज्य में प्रत्येक 01 किलोमीटर के दायरे में प्राथमिक विद्यालय एवं प्रत्येक 03 किलोमीटर की परिधि में उच्च प्राथमिक विद्यालय उपलब्ध है। वर्तमान में राज्य शासन द्वारा प्रत्येक पाँच किलोमीटर की परिधि में उच्च माध्यमिक विद्यालयों एवं 08 किलोमीटर की परिधि में उच्चतर माध्यमिक विद्यालयों की स्थापना भी की जा रही है। स्त्रोत : www.mp.gov.in

तालिका 02

प्राथमिक शालाओं के प्रकार एवं उनकी संख्या

Sr.	School Facilities	No.
1	Govt. Primary School	81529
2	Aided Primary School (Private)	906
3	Unaided Primary School (Priv.)	16028
4	Govt. Upper Primary School	25884
5	Aided Up. Primary Sch. (Private)	325
6	Unaided Up. Pri. School (Private)	11898

तालिका 03

Alternative Eduational Facilities in Madhya Pradesh (2007-08)

Sr.	School Facilities	No.	Total benefi.
1	Non Residential Bridge Course	1244	25158
2	Residential Bridge Course	337	24865
3	Madarasa under 'Modernization Madarasa' Scheme	2603	167488
4	Sanskrit School	595	10609
5	Human Development Centres for Urban Deprived Children	162	5841
6	Transitional Educa tion Centres (TEC) under INDUS Project	200	10000

स्त्रोत : www.mp.gov.in

तालिका 04

मध्य प्रदेश में प्राथमिक स्तर पर नामांकन की दर

आयु	जनसंख्या (लाख में)			नामांकन (लाख में)			जीईआर प्रतिशत में		
	बालक	बालिका	योग	बालक	बालिका	योग	बालक	बालिका	योग
5–11 वर्ष	60.25	55.22	115.47	62.79	57.66	120.45	104.23	104.41	104.3
11–14 वर्ष	25.95	22.03	47.98	25.36	21.44	46.80	97.73	97.32	97.5
5–14 वर्ष	86.20	77.25	163.45	88.15	79.10	167.25	102.27	102.39	102.3

स्त्रोत : www.mp.gov.in

उच्च प्राथमिक विद्यालयों की स्थापना पर दृष्टिपात करने से स्पष्ट है कि इनकी संख्या में पर्याप्त वृद्धि हुई है। इस बात के पक्ष में यह कहना पर्याप्त होगा कि स्वतन्त्रता के उपरान्त एवं 'सर्व शिक्षा अभियान' प्रारम्भ होने के पूर्व मध्यप्रदेश के उज्जैन जिले में उच्च प्राथमिक विद्यालयों की संख्या सिर्फ 249 थी जबकि वर्तमान में यह संख्या लगभग 570 है। अर्थात् दो गुने से भी ज्यादा। इसे ऐसे भी कहा जा सकता है कि 55 वर्षों में 249 उच्च प्राथमिक विद्यालय और मात्र 05 वर्षों में लगभग 321 उच्च प्राथमिक विद्यालय।

1. सार्वभौमिक नामांकन –

विद्यालयों की संख्या में वृद्धि ने नामांकन को भी सकारात्मक रूप से प्रभावित किया है। राज्य में विद्यालयों के पहुंच में नहीं होने से अनामांकित विद्यार्थियों की संख्या में कमी आई है और नामांकन की दर में वृद्धि परिलक्षित हुई है। नामांकन की दर में वृद्धि तालिका क्र. 4 से स्पष्ट है।

2. मदरसों का आधुनिकीकरण –

मध्यप्रदेश मदरसा बोर्ड में पंजीकृत 2696 मदरसों का आधुनिकीकरण किया जाकर इसके शिक्षकों को 20 दिवसीय प्रशिक्षण, प्रत्येक मदरसे को शाला आकस्मिक निधि के रूप में रूपये 5000.00 प्रति मदरसा तथा शिक्षक निधि के रूप में प्रति शिक्षक रूपये 500.00 की दर से दो शिक्षकों हेतु राशि उपलब्ध कराने की व्यवस्था की गई है। इन मदरसों में कक्षा 01 से 08 तक दर्ज बच्चों का निःशुल्क पाठ्यपुस्तकें तथा बालिकाओं को गणवेश उपलब्ध कराए गए हैं।

3. शासकीय संस्कृत शालाएँ –

मध्यप्रदेश संस्कृत बोर्ड के अंतर्गत पंजीकृत कुल 595 शासकीय संस्कृत शालायें प्रदेश में संचालित है। इन शालाओं के शिक्षकों को 20 दिवसीय प्रशिक्षण, प्रत्येक शाला को आकस्मिक निधि के रूप में रूपये 5000.00 प्रति शाला तथा शिक्षक निधि के रूप में प्रति शिक्षक रूपये 500.00 की दर से राशि उपलब्ध कराने की व्यवस्था की गई है। इन शालाओं में नामांकित बच्चों को निःशुल्क पाठ्यपुस्तकें तथा बालिकाओं को गणवेश उपलब्ध कराए गए हैं।

नामांकन में इस वृद्धि का कारण सिर्फ विद्यालयों की स्थापना मात्र ही नहीं रहा है वरन् प्रारंभिक शिक्षा की राह के रोड़ों को भी हटाया गया है।

4. मध्यान्ह भोजन –

प्रारम्भिक शिक्षा के स्तर पर प्रारम्भ की इस योजना ने विद्यार्थियों के नामांकन को सर्वाधिक एवं धनात्मक रूप से प्रभावित किया है। इस योजना से जहाँ विद्यार्थी को पौष्टिक आहार की प्राप्ति हुई है, वहीं सामाजिक समरसता में भी वृद्धि हुई है। योजना का सतत् अनुवीक्षण राज्य स्तर, संभाग स्तर एवं जिला स्तर पर किया जाता है। स्थानीय स्तर पर पालक शिक्षक संघ की देखरेख में स्व–सहायता समूहों द्वारा यह कार्य किया जा रहा है।

आंकड़ों के प्रकाश में यह स्पष्ट है कि प्रत्येक वर्ष इस योजना के हितग्राहियों की संख्या बन रही है जो

प्रत्यक्ष रूप से प्रारंभिक शिक्षा के लोकव्यपीकरण नामांकन की वृद्धि को इंगित करता है।

5. बालिका की शिक्षा में प्रगति –

स्वतन्त्रता के उपरान्त् आज तक बने सभी आयोगों द्वारा बालिका शिक्षा की समस्याओं से संबंधित सुझाव बहुत दिये गए, परन्तु इन सभी पर विधिवत एवं व्यवस्थित क्रियान्वयन की बात NPEGEL(बालिकाओं की प्रारंभिक शिक्षा के लिये राष्ट्रीय कार्यक्रम) के अंतर्गत स्थापित की गई। बालिका शिक्षा की समस्याओं का समाधान (यथा मजदूरी, छोटे, भाई बहिनों की देखभाल, शाला त्यागी होना, अधिक उम्र हो जाना आदि) इसमें प्रमुखता से किया गया है।

इसी के अंतर्गत कस्तूरबा गाँधी बालिका विद्यालय भी बनाये गये हैं। यह सब न केवल भली प्रकार संचालित हो रहे हैं, वरन् इनके कारण बालिका शिक्षा के नामांकन में वृद्धि हुई है। बालिकाओं हेतु पृथक शौचालयों के निर्माण एवं महिला शिक्षिकाओं की नियुक्ति होने से बालिकाओं के शाला त्यागी होने की दर में भी गिरावट आई है। बालिका शिक्षा हेतु किये जाने वाले व्यय में न केवल वृद्धि की गई है, वरन् राज्य द्वारा उन मदों हेतु पूर्ण राशि जारी की जा रही है जिन पर केन्द्र शासन व्यय नहीं देता है।

तालिका 05

Status of Residential Facilities in Madhya Pradesh 2007-08

Sr.	Residential Facilities	No.	Total benefi.
1	Kasturba Gandhi Balika Vidyalaya	185	9335
2	Girls Hostel	254	12566

स्त्रोतः सर्व शिक्षा अभियान

6. विशिष्ट आवश्यकता वाले बच्चों की शिक्षा –

प्रारंभिक शिक्षा के लोकव्यापीकरण का लक्ष्य पूरी तरह प्राप्त करने हेतु विशेश आवश्यकता वाले उन विद्यार्थियों को ध्यान में रखना होगा जो वर्तमान में अपनी कठिनाईयों के कारण शाला से बाहर हैं। ऐसे विद्यार्थियों के लिये मध्यप्रदेश में निम्नांकित प्रावधानों के समावेश किये गये हैं :–

- विशिष्ट आवश्यकता वाले विद्यार्थियों का समावेशन नियमित विद्यार्थियों के साथ कर इनको शिक्षा प्रदान करना।
- विद्यालय में इनके आगमन के सरलीकरण हेतु ''रैम्प'' का निर्माण करना।
- विद्यार्थियों हेतु ब्रेल पुस्तकों, केलीपेड, श्रवण यंत्रों एवं बैसाखी आदि की व्यवस्था करना।

इसके अतिरिक्त दी जाने वाली अन्य सहायताएँ निम्नानुसार हैं –

- रूपये 4000.00 स्टेशनरी हेतु प्रतिवर्ष प्रति विद्यार्थी हेतु।
- रूपये 200.00 गणवेश हेतु प्रतिवर्ष प्रति विद्यार्थी हेतु।
- रूपये 50.00 प्रतिमाह वाहन भत्ता (10 माह हेतु)।
- दृष्टिबाधित बच्चों को कक्षा 05 से वाचक भत्ता।
- अस्थि बाधिक विद्यार्थी (कमर से नीचे का भाग अत्यधिक विकलांग होने पर) रूपये 75.00 प्रतिमाह मार्गरक्षण भत्ता (10 माह के लिये)
- पांच वर्ष में एक बार अधिकतम रूपये 200.00 अंग उपकरण भत्ता दिया जाता है।
- इन विद्यार्थियों की परीक्षा हेतु मण्डल द्वारा कोई शुल्क नहीं लिया जाता है।
- इन्हें परीक्षा हेतु निर्धारित समय से 1/2 घंटा अधिक समय दिया जाता है।
- श्रवण बाधित विद्यार्थियों को तीन के स्थान पर दो भाषाओं का अध्ययन करना होता है जबकि दृष्टि बाधित विद्यार्थियों के लिये गणित के स्थान पर संगीत के अध्ययन की व्यवस्था की गई है।

मध्यप्रदेश में उक्त योजना से लाभ प्राप्त करने वाले विद्यार्थियों की संख्या निम्न तालिका में दर्शाई गई है।

तालिका 06

विकलांगता के अधार पर लाभन्वित विद्यार्थी

क्र.	विकलांगता	बालक	बालिका	योग
1	दृष्टि बाधित	9156	7202	16358
2	श्रवण बाधित	7602	5827	13429
3	मंद बुद्धि	5602	4549	10151
4	अस्थि बाधित	40824	26590	6741
	योग	63184	44168	107352

स्त्रोत : प्रशासकीय प्रतिवेदन 2008–09

7.शाला अप्रवेशी एवं शाला त्यागी हेतु विशेषरणनीति

प्रत्येक वर्ष सत्र प्रारंभ होने पर संपूर्ण राज्य में प्रवेशोत्सव मनाया जाता है। यह कार्यक्रम राज्य की समस्त प्राथमिक शालाओं में एक साथ अभियान के रूप में चलाया जाता है। कार्यक्रम के प्रथम दिवस पर सम्बंधित विद्यालय द्वारा जनचेतना रैली, पालकों से सम्पर्क आदि का आयोजन किया जाता है। ग्राम शिक्षा पंजी से पात्र विद्यार्थियों का विद्यालय में प्रवेश सुनिश्चित करना इस अभियान का प्रमख उद्देश्य है। इस कार्य में शिक्षकों के अतिरिक्त पालक शिक्षक संघ के सदस्यों का प्रमुख योगदान रहता है। कार्यक्रम में अधिकारियों के अतिरिक्त जनप्रतिनिधियों की सहभागिता भी रहती है।

राज्य में शिक्षा की सर्वव्यापी पहुंच स्थापित करने में वर्तमान में संचालित विद्यालयों के अतिरिक्त सैटेलाईट विद्यालयों ईजीएस केन्द्रों की प्रमुख भूमिका है। शाला अप्रवशी एवं शाला त्यागी विद्यार्थियों को शिक्षा की मुख्यधारा में शामिल करने हेतु निम्नलिखित उपक्रम हैं।

तालिका 07

Details of Out of School Children

Sr.	Type	Level/ Age Group	No. of Children
1	Drop Out	Primary	27293
2	Drop Out	Upper Primary	32603
3	Never enrolled	05-11 Years	98815
4	Never enrolled	11-14 Years	22713

तालिका 09

शिक्षा केन्द्र एवं लाभान्वित समूह

स.	शिक्षा केन्द्र	लाभान्वित समूह
1.	मानव विकास केन्द्र	शाला प्रवेशी एवं शाला त्यागी विद्यार्थियों हेतु.
2.	बाल श्रम विद्यालय	कामकाजी विद्यार्थियों हेतु.
3.	कस्तूरबा गाँधी बालिका विद्यालय	निर्धन वर्ग की अप्रवेशी एवं शाला त्यागी बालिकाओं हेतु विशेष तौर पर अनुसूचित जाति/जनजाति एवं अन्य पिछड़ावर्ग हेतु।
4.	विकत शाला पद्धति	अप्रवशी एवं शाला त्यागी विद्यार्थियों को शिक्षा की मुख्यधारा में शामिल करने के लिये

तालिका 08

Status of Attendance, Retention Rate, Completion Rate

Sr.	Education Indicators	Primary			Upper Primary		
		Boys	Girls	Total	Boys	Girls	Total
1	Average Attendance	73.4	71.6	72.6	73.7	71.7	72.8
2	Dropout Rate	14.1	17.0	15.6	12.9	17.0	14.7
3	Retention Rate	85.9	83.0	84.4	87.1	83.0	85.3
4	Overall Repetition Rate	16.5	18.8	16.7	16.9	16.9	16.9
5	Completion Rate	66.2	62.3	64.3	62.7	60.4	61.5

8. गुणवत्ता में सुधार –

शिक्षा के क्षेत्र में गुणवत्ता का अभाव उसकी आत्मा माना जाता है। विद्यार्थी की शिक्षा में गुणवत्ता के नहीं होने से आज समस्याओं की बाढ़ सी आ गई है। विद्यालयों की स्थापना द्वारा इसलिये की गई थी कि उसे प्रज्ञावान नागरिक मिलें, जो समाज एवं राष्ट्र के उत्थान में सहायक सिद्ध हो सकें।

राज्य शासन द्वारा शैक्षिक गुणवत्ता में सुधार लाने हेतु सतत् किये जा रहे प्रमुख प्रयास निम्नलिखितानुसार है–

1. ए.एल.एम. समस्त विषयों हेतु संचालित यह विधि विद्यार्थियों में संबंधित विषय को समझाने की योग्यता का विकास करती है। इसमें विद्यार्थी से मानसिक मानचित्रण (Mind Maping) करवाया जाता है, जो विषय को समझने की योग्यता को विकसित करता है।
2. ए.बी.एल. गतिविधि आधारित षिक्षण का मुख्य आधार गतिविधियाँ हैं, जिनके द्वारा विषय को विद्यार्थी सुगमता से समझ सकता है।

   गतिविधियों के आधार पर कठिन विषयों की अवधारणाओं को आसानी से विद्यार्थी को समझाया जा सकता है। इस प्रकार समझी गई अवधारणाएं विद्यार्थी में स्थाई रूप से रहती है।
3. एल.ई.पी. गुणवत्ता में सुधार हेतु राज्य शासन द्वारा दक्षता संवर्द्धन कार्यक्रम प्रारंभ किया गया है। इसका उद्देश्य शत–प्रतिशत विद्यार्थियों में न्यूनतम दक्षताओं का विकास सुनिश्चित करना है।

इन सभी कार्यक्रमों का उद्देश्य विद्यार्थियों को गुणवत्तापूर्ण शिक्षा प्राप्त हो सके।

9. शिक्षक–प्रशिक्षण कार्यक्रम –

गुणवत्तापूर्ण शिक्षा की उत्पत्ति गुणवत्तापूर्ण शिक्षण से ही सम्भव है। गुणवत्तायुक्त शिक्षण एक अच्छा शिक्षक ही कर सकता है। इसी तारतम्य में यह कथन अत्यन्त प्रासंगिक है कि अच्छा शिक्षक अच्छे प्रशिक्षण से तैयार होता है। प्रशिक्षण के इस महत्व को दृष्टिगत रखते हुए प्रत्येक स्तर पर शिक्षकों के प्रशिक्षण की व्यवस्था को सुनिश्चित बनाया गया है।

राज्य के सभी जिला शिक्षा एवं प्रशिक्षण केन्द्रों द्वारा प्रतिवर्श अवकाश अवधि में प्रारंभिक शिक्षा से जुड़े विषयों के शिक्षकों को उनकी कठिनाईयों पर आधारित एवं विषयवस्तु आधारित प्रशिक्षण दिया जाता है। इन प्रशिक्षणों में नवनियुक्त शिक्षक भी होते हैं। माध्यमिक स्तर के शिक्षकों का प्रशिक्षण राज्य के शिक्षा महाविद्यालयों एवं प्रगत शिक्षा अध्ययन संस्थानों द्वारा आयोजित किया जाता है। इन प्रशिक्षणों में भी नवीनयुक्त शिक्षकों को शामिल किया जाता है। यह प्रशिक्षण विषयवस्तु एवं कठिन बिन्दुओं पर आधारित होते हैं। राज्य में पाठ्य–पुस्तकों में परिवर्तन होने पर नवीन पाठ्य–पुस्तकों पर आधारित प्रशिक्षण का आयोजन भी किया जाता है।

राज्य के अप्रशिक्षित शिक्षकों को डीएड एवं बीएड का प्रशिक्षण स्तरानुसार जिला शिक्षा एवं प्रशिक्षण संस्थानों तथा शिक्षा महाविद्यालयों/प्रगत शिक्षा अध्ययन संस्थानों द्वारा दिया जाता है।

इनके अतिरिक्त विकासखण्ड स्तर पर एवं जनशिक्षा केन्द्र स्तर पर भी प्रशिक्षणों का आयोजन नियमित रूप से आवश्यकतानुसार किया जाता है।

10. जिलों एवं विद्यालयों का श्रेणीकरण –

दक्षता संवर्धन की प्रगति परीक्षाओं के परिणामों, विशिष्ट शिक्षण व्यवस्थाओं एवं अन्य निर्धारित शैक्षिक सूचकांकों को आधार मानकर राज्य के जिलों का श्रेणीकरण किया जाता है। यह श्रेणीकरण जिलों में स्वस्थ प्रतिस्पर्धा को प्रोत्साहित करने हेतु किया जाता है और इसका उद्देश्य सभी जिलों के शैक्षिक सूचकांकों में प्रगति सुनिश्चित करना है।

इसी प्रकार विद्यालयों का श्रेणीकरण किया जाता है, जिसका मुख्य आधार विद्यार्थियों का उपलब्धि स्तर

होता है। इस प्रक्रिया का उद्देश्य विद्यार्थियों के उपलब्धि स्तर में वृद्धि करना भी है –

11. अन्य रणनीतियाँ –

- विद्यार्थियों को कक्षा प्रथम से ही अंग्रेजी की शिक्षा प्रदान करना।
- विद्यार्थियों को कक्षा प्रथम से चतुर्थ तक, गुणवत्ता सुनिश्चित करते हुए, कक्षावार प्रगति सुनिश्चित करना।
- गुणवत्तायुक्त शिक्षा के पृष्ठपोषण हेतु उपचारात्मक शिक्षण की सतत् व्यवस्था करना जिससे विद्यार्थी संबंधित कक्षा की दक्षताएँ अर्जित कर सके।
- विद्यालयीन परिवेश का आकर्षक बनाना एवं उसमें आवश्यक सुधार करने हेतु प्रति विद्यालय, प्रतिवर्ष, विद्यालय अनुदान के रूप में रूपये पाँच हजार प्रदान करना।
- प्रारंभिक स्तर पर प्रत्येक विद्यार्थी हेतु न केवल निःशुल्क शिक्षा, वरन् निःशुल्क पाठ्यपुस्तकों की व्यवस्था करना।
- विद्यालयों के रख रखाव एवं मरम्मतों हेतु रूपये पांच हजार अथवा रूपये सात हजार पात्रतानुसार की राशि रख रखाव अनुदान के रूप में प्रदान करना।
- नवाचारों के प्रोत्साहन, शिक्षकों द्वारा विचारित गति विधियों के विकास हेतु एवं गुणवत्तापूर्ण शिक्षण को प्रोत्साहित करने के लिये शिक्षण अधिगम अनुदान के रूप में पांच सौ प्रति विद्यालय, प्रतिवर्ष, प्रति शिक्षक प्रदान करना।
- शालाओं के शैक्षिक वातावरण में सुधार के लिये बीएलबीए के माध्यम से शाला भवन को सीखने के संसाधन के रूप में विकसित किया जा रहा है।

बालिका शिक्षा के प्रोत्साहन हेतु निम्न सुविधाएं सुनिश्चित की गई हैः–

- बालिकाओं हेतु पृथक सुविधाघरों की व्यवस्था सुनिश्चित करना।
- प्रत्येक विद्यालय में महिला शिक्षिका का पदांकन/नियुक्ति करना।
- कक्षा 6 और आगे की कक्षा में पढ़ने वाली बालिकाओं को निःशुल्क साईकलें प्रदान करना, जिससे वह अपना अध्ययन निरंतर रख सकें।

निष्कर्ष –

उपर्युक्त पृष्ठों का विवेचन करने पर यह सुस्पष्ट है कि वर्तमान में ''सर्व षिक्षा अभियान'' के अंतर्गत प्रारंभिक शिक्षा के लोकव्यापीकरण हेतु वृहद प्रयास किए जा रहे हैं। इन प्रयासों की व्यापकता में हम देखते हैं कि प्रत्येक वर्ग के लिये शिक्षा प्राप्त करने की व्यवस्था की गई है।

यह समस्त प्रयास प्रारंभिक शिक्षा के लोकव्यापीकरण को सार्थक स्वरूप प्रदान करते हुए एवं इसकी दशा में उल्लेखनीय परिवर्तन लाते हुए शिक्षा की दिशा को सकारात्मक स्वरूप प्रदान कर रहे हैं।

संदर्भ ग्रंथ सूची :–

म. प्र. शासन प्रशासकीय प्रतिवेदन 2008–09
म. प्र. सर्वशिक्षा अभियान वार्षिक प्रतिवेदन 2008–09
वेब साइट
www.mp.gov.in

ISSN : 0976 - 1160

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Published by Reseachers Organization, Bilaspur, (C.G.), Printed at Ankur Offset Printing Press, Brihaspati Bazar, Bilaspur. (C.G.)

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