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CONTENTS

EDITOR'S NOTE	3
Attitude of Student-teachers towards the Humanistic Approach to Teaching and Learning in School ROMA KUMAR	5
School Internship Programme: An Analytical Review VIJAYAN K. AND PRASUN SHARMA	19
Leading Schools: Moving from Issues and Challenges to Potential Solutions in School Education SHIVANI BAKSHI AND KASHYAPI AWASTHI	29
Dealing with Disruptive Behaviour of Students through Cooperative Learning Technique in Classrooms VANDANA SINGH	44
How do Children Learn Mathematics? An Exploration into Mathematics Classroom Processes at Secondary Schools of Bhubaneswar DHANYA KRISHNAN AND SAURABH KAPOOR	56
Quality of Elementary Education in Himachal Pradesh: An Evaluative Study HEM RAJ AND MAMTA GARG	76
Elementary Education in Chhattisgarh: Status and Policy Perspectives SAMBIT KUMAR PADHI	99

Development of Achievement Test on Statistical Application and Interpretation for Assessing Learning of Educational Researchers through Module S. K. TYAGI	115
Community Participation in School: Prospects and Challenges KASHIF MATIN AND ARSHAD IKRAM AHMAD	127
Food Safety: Law and Education ANURAG BHARDWAJ	136
Comments on the Draft New Education Policy with Particular Reference to Teacher Education and National Research Foundation M. C. REDDEPPA REDDY	142

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EDITOR'S NOTE

The economic and social development of the nation and the process of schooling are interrelated. The high quality schooling provided to the child will have a determining role in improving the quality of child's life. Teachers, being an essential resource in the school system, their quality also will have to be improved and focused on for ensuring high quality schooling. The different theoretical and research papers in this issue of Journal of Indian Education focuses on themes such as teacher education, school leadership, teaching learning process, quality elementary education, etc.

The paper titled 'Attitude of Student-teachers towards the Humanistic Approach to Teaching and Learning in School' by Roma Kumar, is to study the outlook of the student-teachers towards the humanistic approach to teaching and learning in schools. It concludes that the humanistic teachers had a continuing constructive influence on their learners while the non-humanistic teachers had an unconstructive impression on the intelligence of their learners.

For enhancing the quality of teacher education system in the country and for ensuring more time for practical experiences to the student-teachers, National Council for Teacher Education Regulations, 2014, has enhanced the duration of school internship in all the Pre-Service Teacher Education Programmes. Vijayan K. and Prasun Sharma, through their analytical skills, review the findings of researches done in the areas of school internship and highlight the areas which are essentially crucial and need to be focused on during school internship.

The role of Head of an institution as an administrative as well as academic head, essentially requires more focus for improving the quality of school system. Shivani Bakshi and Kashyapi Awasthi, through their paper 'Leading Schools: Moving from Issues and Challenges to Potential Solutions in School Education', highlights the function of school heads in transforming schools from government institutions to self-evolving educational institutes.

The paper titled 'Dealing with Disruptive Behaviour of Students through Cooperative Learning Technique in Classrooms' by Vandana Singh, talks about how the system of cooperative learning can prove practical to defeat the cause of quarrel, hostility and bigotry that often build up among students.

The study by Dhanya Krishnan and Saurabh Kapoor titled 'How do Children Learn Mathematics? An Exploration into Mathematics Classroom Processes at Secondary Schools of Bhubaneswar' offers a thorough description of the nuances of mathematics classrooms in terms of execution of content, use of resources, formulation of academic courses, management of classroom and persuasion of evaluation strategy, etc.

Hem Raj and Mamta Garg explain the existing quality of elementary education in Himachal Pradesh and point out that the input indicators of quality associated with pupils, teachers and school infrastructure were of suitable level to a large extent in most of the schools whereas learners' outcome was not adequate.

The study done by Sambit Kumar Padhi highlights the diverse plans executed by the state of Chhattisgarh such as curriculum review, computer literacy mission, introduction of English language, appointment of teachers, training of in-service teachers, infrastructure amenities, allocation of complimentary school books and uniforms, Mid day meal scheme, insurance and scholarships for students so as to advance the elementary education.

The study titled 'Development of Achievement Test on Statistical Application and Interpretation for Assessing Learning of Educational Researchers through Module' by S. K. Tyagi, focuses on testing the teaching of statistical application and analysis to researchers in education through a module and the challenges involved in its implementation.

The paper titled 'Community Participation in School: Prospects and Challenges' by Kashif Matin and Arshad Ikram Ahmad, highlights the challenges of community participation in school through the experience of accomplishment of SSA, RMSA and RTE Act.

Anurag Bhardwaj's paper titled 'Food Safety: Law and Education' focuses on food safety laws in India and a range of schemes taken by governments, at countrywide, state and local levels to appropriate food safety and nutrition to education .

M. C. Reddeppa Reddy's paper titled 'Comments on the Draft New Education Policy with Particular Reference to Teacher Education and National Research Foundation' provides an insightful analysis of the fourteenth (National Education Funding) and fifteenth (Teacher Education) chapters of the draft policy.

This issue of JIE provides articles and research papers on a variety of themes and issues under School Education and Teacher Education. We hope that our readers will be able to relate their personal experiences with the issues and concerns discussed by the authors of these articles and research papers. We also look forward to suggestions and comments on the articles published. We invite our readers to contribute to the journal by sharing their knowledge in the form of articles, research papers, case studies and book reviews.

Academic Editor

Attitude of Student-teachers towards the Humanistic Approach to Teaching and Learning in School

ROMA KUMAR*

Abstract

The purpose of the present work was to study the attitude of the student-teachers of three Teacher Training Institutes of Delhi, towards the Humanistic Approach to teaching and learning in schools. The sample consisted of 200 respondents studying in these institutes. The questionnaire, which is a Likert five-point scale, developed by Kyriacou and Cheng (1993), was used as a research tool to collect quantitative data for the study and Structured Respondent Interviews of ten students-teachers were used as the qualitative component of methodology to supplement the data derived from the responses to questionnaires. Further, differences in the attitude of the respondents with respect to their institutes, gender and subject stream were also found. The t-test, at 0.10 level, was used to find the significance of the differences obtained from quantitative analysis. The major finding was that the attitude of the total sample was 'strongly humanistic towards teaching and learning in schools. It was found the female student teachers of the sample had more humanistic attitude towards teaching and learning than the male student teachers. The respondents' interviews reflected that most of the characteristics of the teachers, whom the sample interviewees liked in their school time, were in coherence with the characteristics of a humanist teacher, i.e., caring, approachable, sympathetic, and tolerant towards the interpretations of the students, and also, keeping relations beyond the classroom with the students. Further, the characteristics of the teachers, who were disliked by the interviewees, were mostly non-

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humanistic, i.e., prejudiced, biased, using sarcastic and discouraging words, indulging in corporal punishment frequently, and lacking moral character. It was, thus, concluded that the humanistic teachers had a long-lasting positive influence on their pupils while the non-humanistic teachers had a long-lasting negative impression on the minds of their students. Those student-teachers, who scored highest on the quantitative data collecting tool, did not give credit to their teacher training institutes for their strong humanistic approach.

INTRODUCTION

It does not require any superhuman powers to recognise that the schools are in deep crisis. The wide unrest and stress within the four walls of high schools and colleges are symptomatic of the underlying sickness. Socially too, the most significant problems of our time are related to how to live with each other in a world growing smaller and smaller. The education system, schools and teachers are blamed for this. The diagnosis of this educational system is being done for years through research, and attempts at improvements have also been done with the sincerest intentions, but the improvement attempted does not seem to have made any breakthrough. It is because the significant changes will only come about as teachers change their behaviour and attitude towards teaching and learning.

Institutions are made up of persons not equipment, and it is the behaviour of the teachers in the classroom that will ultimately determine whether our schools meet the demand and challenges of present times or fail to do so (Combs, 1989). Thus, the focus of scrutiny should be the behaviour of teacher in the classroom. An

observation made in the report of Education Commission (1964) states that, 'the destiny of India is being shaped in its classrooms'. Thus, it highlights the impact of behaviour of a teacher in the classroom on the future of our nation.

Among Indian educators, it has been widely accepted that teacher is not only a social person dealing with content but has many other roles to play simultaneously— of a facilitator of learning, an occasional therapist, and of a guide among other roles. 'Self-as-instrument' concept of Combs (1969) explains it better and is thus, the emerging face of an effective teacher. 'Self-as-instrument' implies that each teacher must discover effective ways to utilise their peculiar and unique talents to get maximum advantage, i.e., evolving in the process of teaching rather than having the mechanistic and structured approach towards teaching. This adds the practical or humanistic dimension to teaching. Maslow, the originator of Humanistic or Third-force psychology, sees the self-actualised person as the most effective teacher (Maslow, 1970). Rogers (1969) directs special attention

to the personal qualities and behaviour of the teachers in the accomplishment of students' freedom-to-learn. The Humanistic Approach can be summarised in terms of four main principles (Kyriacou and Cheng, 1993):

1. An emphasis on the whole person (mind, body and emotions).
2. An emphasis on personal growth (the tendency of moving towards a higher level of health creativity and fulfilment).
3. An emphasis on the person's awareness (the person's subjective view about themselves and the world).
4. An emphasis on the personal agency (the power of choice and responsibility).

Combs (1964) also lists some of the purposes of a good and effective teacher as:

1. helping rather than dominating;
2. understanding rather than condemning;
3. accepting rather than rejecting;
4. valuing integrity rather than violating integrity;
5. being positive rather than negative;
6. being open rather than close to experience and
7. being tolerant of ambiguity rather than intolerant.

Thus, their principles of teachers with a humanistic approach to teaching and learning are common with the purposes of a good and effective teacher.

Teachers, with this added dimension to their subject mastery, can cure the present crisis of the education system. Even the National Policy of Education (NPE) 1986, has pointed out that, 'in the Indian way of thinking, a human being is a positive asset and a precious national resource which needs to be cherished, nurtured and developed with tenderness and care coupled with dynamism.'

However, the reality is miles away from these cherished goals. The Committee to review the NPE 1986 (Ramamurti in 'Towards an Enlightened and Humane Society-National Policy Of Education 1986-A Review', 1990) points out that the teachers' preparation programme by and large is:

- not catering to all types of students during practice teaching.
- having little or no scope for the development of affective domain of the teacher especially of the quality of essential features such as empathy, and respect for an individual student.
- laying minimum emphasis on learning to be an educator for human development rather than for nearly meeting examination needs.

EXPECTATIONS FROM TEACHER EDUCATING PROGRAMME

Given the contemporary scene of an Indian classroom and observation of committee to review the NPE, our

teacher-preparation programme needs to review and update its curriculum and educational experiences which is provided to the student-teachers. Our teacher-preparation programme must aim at assisting the student-teachers in 'developing a personal psychology-accurate and close to real life situations' (Ducharme and Nash, 1975). They should be generalists in human relations skills, more concerned with assisting their students in the mental, physical, personal and social development rather than on mere mastery of subjects. Thus, to save Indian society from the present crisis, there is a need to have teachers who are committed to humanistic and related ideas and being a prominent source of supply for prospective teachers, our teacher preparation programmes shoulder the responsibility.

PURPOSE OF THE STUDY

Combs(1972) points out that much research on the Teaching Act has been disappointing and ineffective in providing the guidelines for teacher-education because of its exclusive concern with the behaviour of the teacher. He suggests that behaviour is only a symptom; the causes of behaviour lie in perceptions and beliefs. This suggests that the researches must be concerned with the perceptions and beliefs or attitude of the teacher rather than their behaviour. Attitude influences the behaviour of the teacher in various areas— for example, in interaction

with students, in selecting methods for teaching and in deciding various educational experiences to be given to the students. Thus, the present study is being conducted to know how favourable the attitude of the student-teachers towards a humanistic approach to teaching and learning is. This study also attempts to throw light on some of the differences between those who favour the humanistic approach highly and those who do not. Experiences of more humanistic student-teachers can be utilised to create similar educational experiences for the future student-teachers. The knowledge of the possible reasons for having a less humanistic attitude can be utilised to modify less humanistic attitude to a more humanistic attitude. Also, the influence of factors like gender, subject-stream and institute, on the attitude of student-teacher has been studied. These results can help the experts to modify the curriculum of a teacher-education programme to make it more effective in producing prospective teachers with a highly favourable humanistic attitude towards teaching and learning.

METHOD OF THE STUDY

(A) Objectives

The objectives of the present study are:

1. to find out the attitude of student-teachers towards the humanistic approach to teaching and learning in schools.

2. to find out the difference in the attitude of student-teachers belonging to the threeteacher training institutes of Delhi, namely Central Institute of Education, Jamila Millia Islamia and Lady Irwin College.
3. to find out the difference in the attitude of student-teachers belonging to various subject streams, namely Science, Commerce, Humanities and Home Science.
4. to find out the difference in the attitude of male student teachers and female student teachers of the sample.

(B) Sample

For Questionnaire

The sample for the questionnaire consisted of 200 student-teachers drawn from the three institutes of Delhi, namely,

1. Teacher's college, Jamia Millia Islamia (JMI)
2. Department of Education (DOE), Delhi University
3. Lady Irwin College (LIC), New Delhi

The sample constitutes male as well as female student-teachers. The student-teachers belong to the following subject streams— Science, Commerce, and Humanities and Home Science.

In the sample, the students who had studied B.Sc. Mathematics (Hons) were considered in Science stream while those who had studied B.A Mathematics (Hons) were considered in Humanities.

Table 1
Number of respondents in various categories of the sample

S.No.	Category/Type	No. of students
1	Male students	18
2	Female students	182
3	DoE, DU students	102
4	JMI students	38
5	LIC students	60
6	Science	66
7	Humanities	64
8	Homescience	60
9	Commerce	10

The age of the student-teachers in the sample varied from twenty to twenty-five years. In all the institutes, student-teachers of English medium section were included in the sample.

Since every student-teacher of English medium sections of the three institutes of Delhi had an equal chance of being selected and the selection of a student-teacher did not influence the selection of others, therefore, the sample for administering the questionnaire was a random sample.

For Interview

The sample for the interview consisted of ten respondents:

1. five of those respondents who have scored highest on the questionnaire;
2. five of those respondents who have scored lowest on the questionnaire.

Thus, the method of non-probability was adopted while selecting the sample for the interview.

(*The questionnaire is a five point Likert scale so the responses of each student teacher were converted into a score)

(C) Measuring Instruments and Tools Used

Humanistic Teaching Attitude Questionnaire (Kyriacou and Cheng, 1993)

It is a five-point Likert scale, with twenty statements, characterising the Humanistic Approach to Teaching and Learning in schools. Statements numbered 2,3,8,10 and 20 deal with the whole person and personal growth. Statements numbered 1,7,9,13 and 19 deal with facilitative teaching, including teacher-pupil relationship. Statements numbered 4,5,6,11,12, 14, 15 and 16 deal with pupil-centred learning. Statements numbered 17 and 18 deal with the self-esteem of the pupil and respect for others. It is developed based on an analysis of writings of Maslow and Rogers.

Respondent Interviews

The interviewer asked the following set of questions:

- a. How did you decide to teach?
- b. Which school teacher of yours you liked and disliked the most? Why?
- c. Was your choice the same with everyone?
- d. Did the teacher whom you liked the most during your school time, possessed the characteristics

dealt in the questionnaire? Which one did they lack?

- e. Is your humanistic attitude towards your students due to the influence of your training?
- f. Could you practise your humanistic beliefs during your teaching practice?
- g. Will you be able to practise these beliefs during your regular school-teaching?

The purpose of the interview was to find out about the possible reasons and incidences that would have shaped their attitude.

(D) Procedure

The questionnaires were administered to the groups of student-teachers in the three institutes on three different days. Though there was no time limit, respondents took approximately 15–20 minutes each to attempt it. The scores were calculated for each respondent based on their responses in the following manner:

Table 2
Scores corresponding to the various responses to a statement of the questionnaire

Response	Score
Strongly agree	5
Mildly agree	4
Neutral	3
Mildly disagree	2
Strongly disagree	1

Thus, each respondent had a score which denoted their attitude towards teaching and learning in schools, as categorised in the following table:

Table 3
Relation between the scores of the respondents and their attitude

Range of the score	Attitude of the respondent
100–80	Strongly humanistic
80–60	Fairly humanistic
60–40	Neutral w.r.t. the humanistic approach
40–20	Fairly non-humanistic
20–00	Strongly non-humanistic

After the administration and scoring of the responses, means of the scores of various groups were calculated, for example mean of the scores of female student-teachers of the sample, etc. The difference between the means of various groups were analysed, for example difference between the means of male and female student-teachers, difference between the means of JMI and DOE student-teachers, and difference between the means of LIC and JMI student-teachers. After this, t-test at 0.10 level was administered to find the significance of difference between the means of various samples, statistically.

Then ten respondents were selected for the respondent interviews. The ten respondents were the highest five scorers and the lowest five scorers of the total sample. They were informed about the interview and were requested to give time of their choice for the same.

Each interview was conducted in isolation and an informal atmosphere, with the assurance of anonymity.

A maximum of two interviews was conducted in a day. Notes were made with the permission of the respondent. For this, the investigator made use of 'an aide-memoire as a relatively informal way of organising the interview', to make the recording procedure easier.

Results

1. The score indicating the attitude of a student-teacher towards humanistic approach to teaching and learning were found to vary from 68 to 100. Only 19 students had scores between 68 to 79, i.e., fairly humanistic attitude category and 181 out of 200 student-teachers scored between 80 to 100, i.e., strongly humanistic attitude category.
2. The mean of the scores for the total sample was 88.78, indicating strongly humanistic approach.

Table 4
Mean and variance of samples

Category	Mean	Variance
Male	82.56	74.03
Female	89.40	35.32
DoE, DU	88.70	43.17
JMI	86.97	48.63
LIC	90.07	33.33
Science	87.83	46.54
Humanities	88.38	48.66
HomeScience	90.07	33.33
Commerce	89.90	10.89

Table 5
Table of t-test value at 0.10 level
and related degree of freedom

Categories	Calculated/ table value of t-test at 0.10 level	Degree of freedom
DoE vs JMI	1.33 / 1.66	138
DoE vs LIC	1.39 / 1.66	160
LIC vs JMI	2.28 / 1.66	96
Science vs Humanities	0.455/1.66	128
Science vs Home Science	1.98/1.66	124
HomeScience vs Humanities	1.47 / 1.66	122

Note: When the calculated value of t-test is more than the table value of t-test, then the difference is significant.

MAJOR FINDINGS

The analysis of the data collected had two components— quantitative and qualitative.

Quantitative Analysis

1. The attitude of the student-teachers in total sample and the three teacher training institutes, separately, was strongly humanistic towards the teaching and learning in schools.
2. No significant difference was found between the attitude of student-teachers from the three institutes; except between the attitude of student-teachers from LIC and JMI. In case of LIC and JMI, it was found using t-test at 0.10 level, that the attitude of

student-teachers from LIC was significantly more humanistic than the attitude of the student-teachers from JMI.

3. The attitude of the student-teachers from each of the four subject streams under consideration, was found to be strongly humanistic towards teaching and learning in schools.
4. Among the subject streams, a significant difference between the attitude of students from Home Science and Science was found, using t-test at 0.1 level. The student-teachers from Home Science was found to have a more humanistic attitude, than the student-teachers from Science sample, towards teaching and learning inschools.
5. The t-test was not administered to compare the attitude of students from Commerce stream with that of the students from Science, Humanities and Home Science streams because the sample size of Commerce students was very small as compared to the sample size of other streams (refer Table 1).
6. The attitude of female, as well as male student-teachers, was strongly humanistic towards teaching and learning in schools.
7. The attitude of female student-teachers was concluded to be more humanistic than the attitude of male student-teachers. The t-test was not conducted to

compare the two samples as the difference in the size of samples was large (refer Table 1). The conclusion was drawn on the basis of the comparison between the algebraic mean (refer Table 4) of the two samples as well as on the basis of the ratio of female and male respondents in the highest scorers group and lowest scorers group, selected for the interview. The algebraic mean of female respondents is higher than the algebraic mean of the male respondents. Also, among the five highest scorers, four were females and among the five lowest scorers, four were males.

Qualitative Analysis

1. The reasons which the high scorers; representative of strongly humanistic attitude gave for joining the teaching profession, were love of kids, aptitude for teaching, challenge of the job, nobility of the profession, chance to serve society, the positive influence of some family member in teaching profession and influence of noble characters like Rabindranath Tagore.
2. The reasons given by the low scorers, representing a mildly favourable humanistic approach, for joining the teaching profession, were inability to get into their cherished career, practical suitability, financial security and respectability of the profession.
3. Most of the characteristics of the teachers, whom the sample interviewees liked most in their school-time, were in coherence with the characteristics of humanist teachers, i.e., very good human beings, motherly, punctual, friendly, caring, soft, approachable, sympathetic, tolerant towards the interpretations of students, having good sense of humor, having devotion towards their subjects and keeping relations beyond the classroom with the pupils. It was thus concluded that the humanistic teachers had a long-lasting positive influence on their pupils.
4. The interviewees told that the teachers, whom they liked, had most of the qualities mentioned in the questionnaire. The quality that was found lacking most frequently was 'use of different standards to judge their pupil's academic achievement so that different levels of abilities are taken into account'.
5. The characteristics of the teachers, who were disliked by the sample interviewees, were mostly non-humanistic characteristics, i.e., prejudiced, biased, using sarcastic, insulting and discouraging words, lacking moral character, proud of their knowledge, lacking dedication towards their subject and indulging in corporal punishment

frequently. It was thus concluded that the non-humanistic teachers made a long-lasting negative impression on the minds of their students.

6. The sample high-scorers did not give credit for their strong humanistic approach to their teacher training institutes. They believed that they would have had the same approach, even without training.
7. All the interviewees credited their teacher-training for equipping them with a variety of methods of teaching, giving them confidence of facing many students and making them realise the importance of student involvement in lesson development.

DISCUSSION

There had been studies conducted on the beliefs and attitudes of teachers and the logic behind it had been that the beliefs and attitudes of a person affect their behaviour and actions. Clarks (1992) conducted a research, precisely to find the connection between the beliefs of the teachers and their actions/practice in the classrooms. The study suggested that the beliefs of the teachers guided their practices and the teachers tied what they did in the classrooms to the beliefs they held about teaching and learning. Thus, the beliefs and attitude of the student-teachers towards teaching and learning reflect and affect their classroom behaviour with their students.

A study similar to the present study was conducted by Kyriacou and Cheng(1993). It studied the attitude of student-teachers towards humanistic approach in teaching and learning using the questionnaire, used in the present study, and interview. The results mirrored the findings of the present study. The attitude of majority of the students was strongly humanistic towards teaching and learning in schools. The results of the interviews of their study also resonated with the results of the interviews of the present study, i.e., the sample student-teachers respected and liked the teachers who were enthusiastic, committed to their teaching, and confident about maintaining classroom control without resorting to the use of fear and punishment. They were described as flexible, giving help rather than criticism, approachable, fair, displaying a sense of humor, varying their use of teaching methods and viewing their pupils, not only as pupils, but as persons as well. Murray (1972) also conducted a study on students' perception of self-actualising and non-self-actualising teachers. Its findings supported the hypothesis of the study that students perceive self-actualising teachers as more concerned than non-self-actualising teachers. Since, self-actualisation is the highest of the Maslow's Hierarchy of Needs, which in turn, has stemmed from the Humanistic Psychology, Murray's study strengthens the findings from

the interviews in the present study that interviewees liked teachers with humanistic approach towards teaching and learning more than other teachers, when they were students in schools.

Not only students but the teachers also believe that effective teaching and learning takes place when the teacher has humanistic characteristics. Steffens (1990), while studying the perception of the National State Teachers of the year in relation to specific conditions and characteristics of effective teaching and learning, also found that the most important characteristics necessary to be effective was the knowledge of subject matter, a caring and compassionate personality, enthusiasm, organisation, a sense of humor and love of children.

IMPLICATIONS

Combs (1972) points out that much research on the teaching has been concerned with the behavior of teachers, instead on their perceptions and beliefs, that actually influence their behaviour. He considers such researches as ineffective as behaviour is caused by the perceptions and beliefs. Greene (1972) points out that attitude of the teachers is a significant variable in the classroom and that the teacher training institutions must be concerned with it. The present study tries to fill this gap and provide the curriculum setters of teacher-education programme with a window to judge the gap between

the type of prospective teachers required and desired and the type of prospective teachers being actually sent to the schools from the teacher training institutes. Thus, the major implication of the present study is that the curriculum of teacher education needs to be enriched with experiences that inculcate a strongly favourable humanistic attitude towards teaching and learning in schools so that the teaching learning process in the schools can be made more effective and holistic.

A significant finding of the study was that the sample of the interviewees did not give credit to their institutes for their strong or mild humanistic approach towards teaching and learning in the schools. They believed that they would have had the same approach, even without the training. They gave their institutes the credit to equip them with pedagogies for curriculum completion, skill to face a large number of students and train for student centered lesson development. This finding provides the clue that the focus of the present curriculum is majorly on pedagogy and content delivery. The importance of humanistic approach to teaching and learning has to be inculcated in the prospective teachers along with the content delivery techniques. These two must be interwoven such that the prospective teachers are trained to modify their personal beliefs about teaching and learning to match with the core principles and beliefs of

the humanistic approach towards teaching and learning in schools. The present study provides clues for such modifications. Researches can be conducted on a large scale along these clues to prepare a complete guideline for the desired modifications in the curriculum of teacher-education.

As the study indicates that all the student-teachers favoured and liked the teachers showing the characteristics of a humanistic teacher, it is suggested that during the appointment of the teachers in the present schools, a reasonable weightage shall be given to those teachers who favour a humanistic approach towards teaching and learning. Thus, the present study implies to challenge the present system of recruitment of teachers based on the academic records of the teachers.

While admitting students to the teacher training institutes, their belief systems in relation to teaching and learning, can be made an important criteria for admission to the institute. It will facilitate in their teacher training, making them effective teachers or teachers strongly favouring Humanistic Approach towards teaching and learning.

SUGGESTIONS FOR FURTHER STUDIES

The present study, though a minor attempt, brings to notice a serious lacuna in our teacher training programmes. Thus, this study has a lot of utility and scope for further research. Conducting similar studies in teacher training institutes of all the states of India will give a better understanding of the type of teachers our institutes are generating to teach our next generations. For this, the questionnaire can be standardised on a large national sample, to be more useful and reliable. As in the present study, the investigator had to take the sample from the English medium sections of the institutes selected, as the language of the questionnaire was English. Attempts can be made to translate the given tool in Hindi and other major regional languages. Then, a similar study can be conducted on the student-teachers, who use these languages as their medium of instruction, during their teacher training. Further, since the attitude of teacher is significant during the initial schooling years of a child also, such study must be conducted on the nursery training institutes, DIETS and other Basic Teacher Training Institutes.

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School Internship Programme

An Analytical Review

VIJAYAN K.*AND PRASUN SHARMA**

Abstract

Internships, in general, are becoming a widely used programme for students' experiential learning and it help to fill the gap between the theory learnt and its application in classroom situation. There are different studies conducted in India and abroad about the implementation of school internship programmes as a part of pre-service teacher education programme. The present study is an attempt to review the various studies conducted in this area focusing on the findings and recommendations. Internships have been associated with many benefits for stakeholders, including the student-teachers, schools and other professionals. Internships provide a variety of opportunities for student-teachers to transfer theoretical knowledge to a practical setting.

INTRODUCTION

Teachers are one of the important resources of education system. The quality of teacher is directly correlated with the quality of learning and hence the quality of schooling. Henard and Leprince, (2008), argued that the quality of education cannot be higher than the quality of its teachers. Therefore, for imparting quality education, each level of education requires well trained and qualified teachers. According to

UNESCO (2006), teacher quality covers a number of areas such as knowledge, skills, competency, motivation and effectiveness of lesson delivery in the classroom which could be acquired through theory and practice.

Huang and Lin (2014) and Voss and Gruber (2006) support the view that important attributes for teachers are content knowledge expertise, communication skills, humour, friendliness, teaching skills and enthusiasm. While some of the

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important attributes are arguably inborn, a good number of them are acquired during teachers' training. For a teacher to possess these critical attributes, a pre-service teacher preparation programme must emphasise on both— theoretical and practical aspects. Most of the pre-service teacher education programmes offered by different institutions across the world do this by providing practical exposure to the student-teachers in the school and classroom processes. This is commonly known as school internship or practice teaching.

INTERNSHIP AS A MANDATORY COMPONENT OF PROFESSIONAL PROGRAMME

Not only teaching profession but also other professions such as Medicine, Pharmaceuticals, Nursing, Management, Law and Engineering also have the concept of internship Programme for the completion of degree or course. Every professional course should prepare students in such a way that they understand the practical aspect of that particular profession and internship is a necessary tool to sharpen the students' skills (Volante and Fazio, 2007). To get mastery in a particular area, one needs to have enough practice and internship is a medium for students to indulge in the practice of that profession. Students will gain hands-on practical experience in their chosen area (Loughran, 2015 and Lubell et al., 2017).

According to Sweitzer and King (2013), during internship, students have the opportunity to develop, apply the skills, and practice theories and concepts learned in the classroom. The ability to develop and learn professional skills that promote growth and development while at the same time gaining industry-specific and often technological skills related to their field is valuable.

They also highlighted that through internships, the students forge important professional connections even before passing their degree. For many students, internship is a stepping stone to get additional opportunities for their professional career.

SCHOOL INTERNSHIP PROGRAMME

School Internship Programme is a culminating experience which develops prospective teachers as a reflective practitioner. School internship plays a crucial role in student-teachers' professional development. It provides the student-teachers, a platform for integrating theory they learnt to the real classroom situation and begin to utilise their knowledge of researches (Adusei et al., 2016 and Asaya, 2010) on teaching and learning. It consists of full-time work in a school to gain intensive experience in planning, teaching, engaging in other school activities, preparing instructional support materials and performing all those duties that a regular teacher is expected to do (NCERT, 2017).

Teaching internship provides student-teachers an opportunity to engage in critical reflection as they create meaning out of their experiences and attempt to discover their identities as teachers. It provides student-teachers with the foundation necessary for continued professional growth and development. Student-teachers learn to tackle multicultural environment and enhance their professional skills (Mapuranga and Bukaliya, 2014).

According to Stretch and Harp (1991), internship is supervised off-campus workplace learning experience, which earns academic credit. Internships give students the opportunities to apply and extend the theoretical knowledge acquired in the classroom to practical experiences, while also allowing them opportunities to view and evaluate careers to which their academic interests may lead. Ideal internships establish positive contacts with prospective employers and are key to building professional networks for students.

The main aim of internship is to enable the intern to convert what was learnt as theory into practice. During internship, a student-teacher is in a very complicated situation operating at two levels to adjust to life as a student, under the control of mentors and supervisors, and also life as a teacher, managing their class (Koerner et al., 2002). Lunenberg, Dengerink, and Korthagen (2014), also noted that the teacher trainees struggle with their work as student

and as a student-teacher during internship at the same time and what they experience as learners of teaching can have far reaching consequences on their future career. Msiska, and Salik, (2016) also attest to the important role of internship by indicating that practicum experiences among pre-service teachers are often described as the most important part of the teacher education program.

IMPORTANCE OF SCHOOL INTERNSHIP PROGRAMME

School internship or practice teaching is important as it also helps the prospective teachers to acquire teaching skills. Just as it occurs in other professions, a trainee teacher needs practice teaching in addition to theory in order to perform efficiently and effectively (Leonard, Halford, and Bruce, 2016). Student internship programme has great importance in the field of teacher education. There are a number of studies which prove its relevance in the professional skill development of the students.

Le HuuNghia, and Ngoc Tai's (2017) article reported the analysis of two pre-service teachers' narratives to highlight the process of development as a teacher during their teaching internship. The analysis showed that their identity as a teacher had been shaped before they entered the teacher education programme, where it continued to be shaped by the educational experts. In that way, they formed the expectations or imaginations of their professional

roles and responsibilities prior to the teaching internships. Benton (1990) also supported that before entering teaching internship, student-teachers had pre-existing expectations or imaginations, which were challenged by the reality they faced. Their engagement with the internship, resilience and negotiations of professional practices were found to be significant for the development of their professional competence as a teacher.

The study by Osei-Owusu et al. (2013) revealed that practical preparation of mentee for teaching, and innovative strategies to solve the challenges faced by the programme, will positively affect teachers' practical preparation for the internship programme. They suggested that partnership schools should be more accessible to the mentee and the supervisor and the government should subsidise the cost involved in undertaking the programme. The need for providing regular mentorship training to mentor teachers and the necessity of collaboration between the university and partnership schools for quality in school internship are some of the other areas that they highlighted. Parveen and Mirza (2012) found that internship gives an opportunity to the student-teachers to integrate theory and practice, plan and deliver lessons properly, critically analyse their own and peers' teaching styles and the feedback given by supervisors were beneficial to them.

Bukaliya (2012) spotted the benefits and challenges faced by student interns at the Zimbabwe Open University through a mixed method study and revealed that internships are beneficial in as far as they provide interns with hands-on practical experience and exposure. The findings also highlighted that internship helps to boost the motivational level of student interns and to understand the theories learnt in classroom. Some of the shortcomings that they highlighted are difficult to get organisations where they can undertake their internship and shorter duration of the internship.

Project by Jackel Daniel (2011) aims to examine the students' internship experience and determine whether it helped to enhance his or her ability to achieve the predicted outcomes of the internship programme. The researcher identified the factors, the number of hours worked weekly at the internship, prior training received, and the availability of the internship coordinator as the reliable predictors of student-teacher development as a teacher.

Beard (1998) emphasised that the internships contribute significantly and positively towards enhancing the motivational level and develops the student professionally before entry into the marketplace.

Griffin (1997) attempted to develop the long-term inclination towards reflection in nine student-teachers. This long term exposure

resulted in making them to become practicing reflective teachers who were aware of their own thinking and valued reflection as something they did for their own self-understanding and improvement. Mansvelder-Longayroux et al. (2007), analysed the nature of reflection in the portfolios of student teachers. It was found that the student teachers tended to focus on their practical experience. They examined what they had done and learned, in what aspects they had made progress, and they formulated plans for the future.

Guihane (2009) aimed to study the current trends and practices of teacher training institutes and to know the perception of student-teachers towards cooperating schools with respect to different aspects of practice teaching during the internship programme. It reported that almost all the student and teacher educators felt that teacher training cannot become more effective unless the cooperative school teachers become active partners in the internship programme. Study also reveals that the climate of cooperative schools is not healthy for the student-teachers to achieve the goals of internship and teacher education programme.

Amer and Ismail (2014) evaluated the internship programme at Sultan Qaboos University (SQU) from both student-teachers and supervisors' perspectives and found that student-teachers have a clear viewpoint on the objectives of internship programme. The study also reveals that student-

teachers shows satisfactory feedback for supervisors support in solving problems, frequency of their visits, and delivery of information.

Olaitan and Agusiobo (1981) explained that practice teaching is an experience of guided teaching in which the student-teacher assumes increasing responsibility for directing the learning of a group of pupils over a specific period of time with the support of teacher educators.

SCHOOL INTERNSHIP PROGRAMME IN INDIAN CONTEXT

In India, the NCTE Regulations, 2009, made an attempt to broaden the scope of practice teaching by emphasising the importance of providing the experience of all activities and programmes of the school to the student-teachers. The NCTE Regulations, 2014, have stipulated further strengthening of the component of 'Field Engagement' by prescribing a longer duration of 20 weeks for it in the elementary and secondary teacher education programmes like D.El.Ed., B.El.Ed., B.Ed, B.A. B.Ed., and B.Sc. B.Ed. and B.Ed. M.Ed. The 'Field Engagement' of 20 weeks has been further split into two parts consisting of four weeks and sixteen weeks to be organised in the first and second year of the two-years programme, and in the second, third and fourth year of the four-year programme. The engagement of 16 weeks' duration is further split into 14 weeks of school internship and two weeks of

engagement with a field other than the school (i.e. community engagement).

Marie Jedemark (2019) formulated a study through the observations of internship at various schools. This study took a critical approach for assessment of dialogues during practical, school based teacher education programme. The result is based on 13 assessments conducted in a course at a Swedish university, where one of the course objectives is to, 'in a scientific way, analyse the teaching situations based on learning theories'. The assessments were analysed, drawing from Bernstein's concepts of classification, framing, horizontal knowledge and vertical knowledge. It found that the quality of practice teaching has failed to create enthusiasm and learning interest among the students because of the lack of clarity and proper planning. Non-cooperation of the experimental schools also affects the quality of teaching practice. It was suggested by the researcher that the goal of true education can be achieved only through the conduction good orientation programme, guidance, supervision, evaluation, feedback and improvement programmes. The study also highlighted the importance of sound relationship between teacher educator and student-teacher and between teacher education institution and experimental schools for quality improvement in practice teaching.

Chennat (2014) argued for a step-by-step progression in the guidance of student- teachers during internship.

The internship should start with the free and unguided observation of classroom transactions and other school activities followed with guided observations. Student-teachers have to be in their respective subject groups tied to a host teacher of the school from the same discipline, as mentors, to ensure meaningful scaffolding. They are to be supported in their teaching by the host teachers, who would be observing their classes, guiding and supporting them in all ways including resource management, classroom management, content enrichment and improving the pedagogic strategies.

DISCUSSIONS

School Internship intends to link the theoretical knowledge learnt to the practical experiences in the real situation. The difference between a professional and a non-professional teacher is School Internship Programme and the experiences gained during the internship. It is said that practice makes a man perfect; in the case of school internship, the student teachers are getting more and more practical exposure and that makes them an effective teacher. It will also help them to understand their strengths and weaknesses, by which the student-teachers learn to use their strengths and to work on their weaknesses. Internship is a stepping stone in the working field and it is going to have a long lasting impact on the performance

of students in their future professional life.

It is found that internship is beneficial in bridging the gap between classroom learning and professional practice (Kuh, 2008), and it also provides the opportunity to solidify the knowledge learned in the classroom (Sattler, 2011). It makes the students develop an awareness of their professional values. Internship will create opportunities for career exploration and job-related skill development (Sattler, 2011). Internship enhances the realistic workplace understanding (Knouse and Fontenot, 2008). Some of the studies by Griffin (1999) and Mansvelder-Longayroux et al. (2007), highlight the importance of reflective practices of student-teachers during their internship. The reflection of various activities in terms of what happened, what went good, what went wrong and what more is required for further improvement, are crucial in the process of becoming a reflective practitioner.

The internship should not be seen as an independent process and the success of internship depends on the support and mentoring of teachers and teacher educators [Amerand Ismail (2014), Osei-Owusu, et al. (2013), and Olaitan and Agusiobo (1981)]. Few studies have highlighted the importance of the accessibility of an internship school and its cooperation with the teacher

education institution. Carpenter and Blance (2007) found that the non-cooperation of internship school is the biggest challenge for successful completion of the internship programme.

CONCLUSION

Teaching as a profession requires professional orientation. The orientation can be done through lecturing and demonstration. But when it comes to the field of a professional course, orientation requires hands-on exposure. Both the theory without practice and practice without theory leads to unprofessionalism. Hence, a happy combination of theory integrated with practical experiences is essential to prepare an effective professional. Merely by increasing the duration of practical experiences in a course also, will not help to develop an effective professional. The relationship between a student-teacher, mentor teacher and teacher educators, the feedback provided to student-teachers by the mentor and teacher educators, the cooperation of internship schools, orienting the school teachers for effective mentoring and orienting student-teachers for the preparation of reflective notes are crucial components of a school internship programme. The teacher education institutions, while planning for the school internship programmes, needs to consider all the above mentioned factors.

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Leading Schools Moving from Issues and Challenges to Potential Solutions in School Education

SHIVANI BAKSHI* AND KASHYAPI AWASTHI**

Abstract

School education in the country is expanding; availability and accessibility are no longer the issues. However, achieving quality education entails strengthening schools, building effective support systems, and ensuring inclusive and safe environment. The paper highlights the role of school heads in transforming schools from government mandated institutes to self-evolving and learning organisations. The authors argue for critical engagement of the school head in addressing the key issues in school education. The study, through descriptive survey from twelve government schools across south and south-west zones of Delhi, examines the leadership practices and support systems created at school level for overall school improvement. While school heads, in the present context, are discursively repositioned as non-experts, the last in the line of management hierarchy, the paper argues on the significant role played by them through narratives from the sample schools. These elaborate the contemporary leadership practices adopted by them to retain students and enable them to complete their education.

INTRODUCTION

India's commitment to the provision of Education for All and its endeavour to achieve this goal in a speedy fashion, has been evident from the national

flagship programmes like Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and the Rights-based Approach to Education (Bhattacharya, 2014).

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While the country, to a large extent, has addressed the issues of availability and accessibility through the continuous expansion and upgrading of the school system both at elementary and secondary levels; the issue of acceptability and adaptability, as per the Article 13 of the International Covenant on Economic, Social and Cultural Rights, is still far from reality.

It demands strengthening schools not just in terms of infrastructure but also academically along with building of effective support systems so that children do not feel excluded on any grounds (G.A., 1976). It demands strong intervention at the school level both in the overall organisation of schools as also the teaching-learning processes. As a result, the role of school heads as effective leaders has always drawn attention of the educational researchers.

School leadership has become a policy priority in education across the globe. With innovations in public policy, change in educational settings and dynamic educational frames, and the accountability of the school principals has greatly increased. Thus, the focus has shifted to another aspect on schooling post globalisation, where importance of heading a school is seen almost equally to that of maintaining teaching-learning quality (Pont, 2014). Despite persistent initiatives to ensure school improvement, there lies scope for school improvement and also to professionalise the area of school leadership. This is required

so as to support the current school leaders and to make school leadership an acknowledged realm. Hence, school leadership has become a key policy priority which can effectively contribute to improve school functioning and its outcomes (Robinson, 2006).

The role of the principal, as a leader and motivator in education, has enabled the policymakers to make prior arrangements for their functional autonomy. At one stage, the pressure was on principals to learn new administrative skills so as to become effective managers, little emphasis was laid upon updating and expanding their knowledge of curriculum, assessment and pedagogy. It was assumed that as experienced teachers, principals already had sufficient knowledge of teaching and learning, of academic supervision, of coaching and so they would be able to develop teacher as well as student support system through their academic leadership and improve the quality of education. Presently, there is a need to understand and nurture school leadership to transform poor performing schools into centres of excellence.

CURRENT SCENARIO IN SCHOOL EDUCATION

We have reached a stage where we can say that provision of basic facilities across the different levels of education is no more a challenge; however, it is vehemently argued that quantitative expansion has been

one of the leading causes for the deterioration of quality. A significant gap between the elementary level and secondary level education showcases that there are some gaps that wait upon for due consideration by the policymakers. With No Detention Policy (NDP) till elementary grade, student retention is not seen as a major problem at elementary level. However, it is argued that the quality of teaching learning is compromised and a sudden shift to conventional examination set-up and assessment patterns in secondary classes does create psychological and pedagogical chaos. The teachers in secondary schools reported that for the first six months or year, their entire focus is on getting the basics, to be precise, on the three R's— Reading, Writing and Arithmetic correctness. Further on, lack of remediation and coaching in schools impedes the student transition and aggravates dropouts.

Even if they somehow sail through the conventional examination pattern, a lot of them face issues at senior secondary level, such as, selecting stream that enables them to harness their maximum potential. Apart from these gaps, there is also a lack of 'academic wholism'.¹ (Giuliano and Sullivan, Summer 2007). Discontinuity of this 'academic wholism' at different levels of school education impedes student transition. Post elementary students often experience the stress of numerous changes and so achieve

lower grades and decreased academic motivation. Resultantly, they drop out of school.

The role of school heads is therefore, crucial as they can prepare students for these transitions by becoming aware of their needs and by taking a proactive role in addressing those needs (Cauley and Jovanovich, 2006 Sept.-Oct.). Therefore, there is a need to reflect upon several practices initiated by school principals to ensure smooth transition at the termination stage through upper primary, secondary and senior secondary levels of school education.

Quality education prevails as a recent agenda on the priority list of Education for All as per the recent Global Monitoring Report 2015 (UNESCO, 2015). Moreover, there have been consistent issues regarding students discontinuing their education. If the state report cards of last two years' educational status are closely analysed, it is found that even if the enrolment at the beginning of any stage is high, by the time it reaches senior secondary, it relatively goes down. One of the essential requirements under SSA and RMSA has been the retention of students. Hence, if children leave schools despite high enrolments, students' retention are eventually questioned (Mehta, 2015). For this reason, school dropouts are considered as effective indicators for the evaluation of out-of-school children and draw our attention

¹ Academic wholism is channelling students' cognitive, social, and emotional domains and learning profiles. A term coined by Giuliano and Sullivan (2004), it refers to the mechanism where students evaluate their own academic strengths and weaknesses, and the instructors give them affirmation or direction toward positive goals. [(Giuliano and Sullivan, 2004, p. 41), as cited in (Giuliano and Sullivan, Summer 2007)].

towards the status of support systems that guarantee student success and smooth transition.

As education is in the concurrent list, due to decentralisation, the overall paradigm is altered with each state and it continues to be so at the level of district and block. The case is worse in a UT such as Delhi, which has a wide variety of schools and under different managements, thereby having different reporting authorities. This also brings government schemes at both the level of state and centre, albeit, the autonomy with the school principals is bare minimum (as the overall government schools in Delhi function as per the centralised mechanism of the Directorate of Education). Therefore, it becomes pertinent to understand the role of school heads under a broader spectrum so as to understand their ever-evolving roles as potential leaders, effective administrators and dynamic managers of the overall institution at their individual level.

In order to understand the role of school head, one must start from the work that takes place within the school and examine how collective communication with the immediate stakeholders of education evolves. Head of the School (HoS) is required to pay close attention to the dynamics of this communication with the student, teacher and parent. How these differences get sorted and settled has been a major question till date. This paper addresses the issues arising in the functioning of

government schools and the role of school leadership in coping up with them. By exploring the interplay between the available autonomy and gravity of the policy implementation, how a HoS overcomes the situational impediments has been a major consideration for this paper. The aim is to unravel how leadership actions are designed and exercised in the situated activities. The paper is a part of the larger research on studying the role of school support system in student transition and particularly attempts to demystify the role of school heads in terms of practices catering to the overall improvement of school. It also tracks down the challenges faced by them at institutional level in terms of supporting student transition, especially at elementary and secondary level.

Research questions posed therefore, are—what are the challenges faced by the school heads during student transition? How do school heads ensure student transition from elementary to secondary and senior secondary grades?

To respond to these questions, the dynamics of the interaction in meetings between the principals and the sample group (teachers, students and parents alternatively) are examined. We also draw on interviews to contextualise the relevance and success of practices initiated by them. The analysis leads on to the emergence of different aspects of leadership that are vital for

the progress of school improvement. By considering the institutional context, a segregation of preceding traditions of leadership actions is attempted, where their practices are highlighted in transforming their schools, including teachers' norms and attitudes. The paper begins by presenting the analytical framework and the research design before moving on to the challenges faced by the HoS and findings on innovative practices. Four case studies have been briefed and finally, we conclude with these reflections.

IMPEDIMENTS TO SCHOOL IMPROVEMENT

The engagement of HoS in government schools is crucial to the development of overall school improvement. It has been observed that the factors influencing children to discontinue or complete their education have been found similar across different nations. It is just that the magnitude varies from nation to nation. (Lamb, 2011) summarises these factors as follows:

- *Family background* includes the socio-economic structure, family structure and parental education.
- *Demographic factor* includes gender, ethnic group and location.
- *Individual attributes* includes disability, health and self-esteem.
- *Experiences in school* includes academic achievement, attitude of the student towards grade repetition and retention.

Hence, it could be said that discontinuance of school education before completion of any stage is the cumulative result of all these factors (Lamb, 2011). The practices of HoS had a significant influence on shaping the minds of students towards education and not just literacy. With the limited autonomy guaranteed to them by the Directorate of Education, so much so that even the syllabus and overall curriculum was pre-determined, they contributed a lot towards making space for the teacher and learner. They acted as strong motivators for their teachers and oriented them not just to become good facilitators of knowledge but also kept them motivated amongst all the odds that they face due to dearth of facilities, extended pupil-teacher ratio (PTR), parental issues, etc. As far as the parents were concerned, the latest intervention made by Delhi government over the need of having parent-teacher meeting from time to time, facilitated the principals with a systemic intervention to be able to contact parents and be transparent regarding the progress of the child.

The field visit was done over a span of two months and so, venturing into different schools with varying demographic and cultural background, which enlightened the researcher on several challenges emerging on day-to-day basis for school principals. This further continued to exploring several practices that they initiated at the level of their own institution to combat these challenges.

FAMILY ISSUES

Issues often arose due to migrant population, and poor accountability of the parents reflected in their attitudes with the key focus on economy generation than education. A major challenge which most of the (Municipal Corporation of Delhi) schools confronted was that despite the fact that a child was severely irregular in attendance and that the register records showed bleak attendance, one could not deny promotion to the child to the next grade due to the latest admission reforms regarding age-appropriate enrollments. In cases of village to village migration, no feedback was possible as the contact numbers were changed within days of their departure. Hence, no report was provided. Snowballing method was usually carried out by the teachers in order to track the students reported for long absence. This was done by asking their best friends and children residing in the neighbourhood. The migrant population belonged to the surrounding states and was lodged into rented accommodation in jhuggis with rare acquaintances around. Hence, if they got demolished, chances were that they left for their native villages. Parents of these students worked as daily wagers and so often leave home as early as six in the morning, without even waking up their children for school. Mostly, children came without having taken a bath, improper uniforms, hungry, previous day's timetable and other

mismanaged items. Issues related to improper hygiene and discipline often fell under major concerns.

ADMINISTRATIVE OR LEGAL ISSUES

Apart from this, the HoS often faced administrative issues at the time of admission and transfer of these students. In cases where schools were attached to feeder schools, issues arose in taking these children from MCDs and other primary schools and integrating them in their school. By the time they would get to know about the mechanism, they were again asked to shift to the other feeder school for secondary and senior secondary level education. At the time of admission, the affidavits were ensured to be in proper place. The situation went against them often at the time of promotion or issuing transfer certificates (TC) because the details of the affidavits submitted usually did not match the details mentioned by the parents in person or in the Aadhaar card. Even when everything would get done, they did not turn up to collect their TCs. However, the ones who took admission in their native villages collected them. Almost all the HoS reported of the students going under long absenteeism, for which they were not supposed to strike off the name. Most of the schools also observed severe teacher crunch, since they had to rely upon the Delhi State Service Selection Board (DSSSB) for recruitment of the staff. As a result, many were asked to take up classes,

which were usually not of their interest.

BEHAVIOURAL ISSUES

Despite being regular with diary entry, teachers rarely got a positive response from the parents. The teachers often reported behavioural issues, daily hygiene, issues in taking down homework and other disciplinary issues to the HoS. It was reported by most of the HOS that parents often turned rowdy and picked up arguments with teachers. On an average, some of the schools received one case per month regarding juvenile delinquency. The teachers often complained of a lack of structured syllabus in case of MCD schools as the syllabus for the primary classes was not planned and designed systematically. There were adjustment issues with students as they were exposed to an exploitative environment back home.

The principals opined that behavioural issues (particularly in case of boys' school) arose due to attention seeking mentality. In case of girls, it was due to adolescent issues in terms of seeking support from outside when the environment at home was not conducive. The basic concern was, therefore, not just poor economic status, but several socio-psychological issues. Irrespective of belonging to financially sound background, the attitude of parents towards education was not progressive. In areas like

Ghitorni, parents wanted to educate their daughters for the purpose of marriage. Hence, any prospective match that came while they still would be studying in secondary class, they would settle for their marriage.

ISSUES FOR WANT OF ACADEMIC SUPPORT SYSTEM

Issues often arose due to communication. The government schools, generally being Hindi medium, had students coming from different states and cultural background, by the time they got a hold on the language, the session would be over and they performed unsatisfactorily in the exams. This way, the learning levels were consistently impacted. While some principals observed low economic status as a concern, most of the principals attributed lower levels of learning to No Detention Policy (NDP). Here, it is important to understand that teaching-learning for children coming from extremely deprived conditions entailed individualised attention and extra efforts on the part of teachers. Given the non-academic and administrative workload of the teachers; reaching out to such children and developing an academic support system at school was almost impossible. In fact, in most of the cases, the support system expected was more in terms of fulfilling the socio-emotional needs of the children so as to prepare them to learn.

ROLE OF SCHOOL LEADERSHIP: CASE STUDIES OF LEADERS OF CHANGE

There is no formula for either leading or managing change. Every organisation and leader is unique. Leading change however is more art than science and managing change is more science than art (Bruhn, 2004). This was very much evident from the schools that were visited. Although, all the government schools received grants and funds for different schemes by the respective state and central governments, but what was interesting to note were the practices which were initiated at their own level and this is what differentiated a leader of change from a manager of change.

The leaders of change had been conscious of highlighting the gravity of establishing strong relationships across stakeholders, in being accessible to all, in making small changes that reinforces them. The leaders of change were role models in front of their students and teachers and took initiatives at the same time to encourage others. So much so, that each school became a full-fledged functionally autonomous institution in itself. In almost all the schools, government funds were used accurately for the allotment of uniforms, stationery items, MDM, etc. So school functioning was not a problem, all the schools in the sample were meeting the checklist standards, yet both the GBSSS (Government Boys' Senior Secondary

School) and GSKV (Government Sarvodaya Kanya Vidhyalaya) in Ghitorni stood out from the others. GSKV had taken developing inclusive schools as its vision and emphasised on promoting higher education for all girls. The teachers and HoS went out of way in some cases where girls were married at young age and asked to discontinue education, providing them home service for learning, facilitating them in sitting for exams, providing coaching, arranging for admissions to NIOS for the completion of exams, counselling and much more. Similarly, the GBSSS focussed on value and skill based education. The style of leading, as shared by the teachers, was mostly collaborative, involving even SMC members, students, teachers and parents in decision making, sensitising and contributing towards improving quality in education. The autonomy provided by the HoS to his staff had helped them in experimenting new ideas and pedagogies. The staff meetings were focussed around finding solutions to the existing problems. Emphasis was given on building strong foundations than only achieving high scores. The teachers felt the school did differently. It was some of these leadership practices that made the leaders of change stand distinct from the managers of change.

Interestingly, when the community rounds were carried in Ghitorni, to ensure data triangulation, researcher happened to meet the students who

had discontinued their education, who were majorly girls. Also, two particular cases were brought to the notice of the researcher, where they had left the same school after failing in Class IX. However, they were admitted to the National Institute of Open Schooling (NIOS) by the HoS and were made to attend the classes conducted for Vishwas group, launched under the Chunauti programme by Delhi government. This ensured that they complete their school education and that they could support their family as well. In the words of HoS,

If a child till 10th is able to read and write and clear the secondary exam (for this acts as a birth proof as well), his basic education is over. What matters thereafter is skill. Question arises how do we prioritise these skills and as school support system, are we ensuring that the child would be able to earn well and suffice his daily needs and living? Else, what is the use of this education?’

The co-curricular participation was therefore considered extremely important, especially the morning assembly, where they could impart value education to the children. This platform was fully utilised in building the self-confidence of students and removing their stage fear. It was ensured that there should not be any communication gap between the teachers and principal. According to him, there has to be a common place, where he could engage with his teachers/staff as equals in reading,

debating and where current issues and latest innovations and trends in education could be discussed. Staffroom was developed as one such place. To him, a collaborative working of HoS and teachers acted as functional support system for the students.

On visiting the school, Class IX students were attending a special class in front of his office. The HoS often spent from his pocket for such extra classes or tests and even arranged it from other private schools, where funding is not an issue. The worksheets arranged for all the students cost ₹350 per week per student. Hence, per week expenditure of each class amounted to be ₹2000–2500. All these practices initiated, contributed positively towards school improvement.

In another interesting case, effective leadership was exhibited in Government Boys Senior Secondary School (GBSSS), C-Block, Sangam Vihar, New Delhi. The HoS took the responsibility of all the issues instead of putting it on the teachers or students. It was reiterated during the interview that if the principal had a positive outlook to face the difficult situations, then everything could be worked out efficiently. He introduced Commerce and Science in his school and ensured all facilities to the students. According to him, only two schools in his zone had these streams, including his. He also stressed that in comparison to a private school, PTR in his school

was 600:1. Hence, having such a result in that situation meant a great thing. With his consistent focus on the CBSE board results, more than 200 students gave distinction each year in Class XII CBSE examination. It was a moment of pride for the HoS when it was disclosed that six students from the Commerce stream could seek admission in Delhi University in regular courses. So, ideally the real challenge was in the government schools with such maddening PTR because in better areas where the student strength was 60 to 70 students per class, attaining high scores for those schools was not surprising. The HoS believed that being accessible to children, listening to their concerns and developing their self-esteem through motivation was the best way to make children and teachers perform well.

Instructional Leadership and transforming teaching learning process were the areas of key emphasis in Government Sarvodaya School, Vasant Vihar, New Delhi. The HoS gave a new vision to the school according to many teachers. The school demonstrated 'Child first' principle; meaning if the practices do not go well with the child, they need to be changed and therefore, teachers need to consistently patient with experimentation to find whether the child responded to a particular strategy or not. It was ensured that the teachers followed the diagnostic approach to identify students' errors and learning difficulties.

Apart from modifying the teaching methodology and focusing on learning by doing, the principal had opened two English-medium sections in Class VI to meet the parental demand.

Since the school acts as a feeder school to another MCD school, the HoS initiated a meeting with the principals and teachers of feeder schools and conveyed her expectations to them regarding the students coming to her school. These children were made to attain a certain level before they entered Class VI because only then they would be able to match the students who had been promoted to higher classes from her school.

Girls often complained of being molested by fathers and brothers, and so mothers insisted that they are married off at a young age say in IX or X. In such cases, the principal took the application from the mothers and even after they were married, she ensured the students appeared for their exams and continued their education post marriage. She kept the option open for NIOS. Several cases were pointed that showed how the HoS supported students during school hours and provided them with remedial teaching.

The school did not have a counsellor, but the HoS ensured that the teachers counselled their students from time to time. In order to promote discipline amongst students, she kept them involved and believed that it's the owning of responsibilities that makes the individuals not only feel empowered but also responsible

and to her, this is one of the ways of teaching discipline. So, she introduced the concept of traffic wardens, wherein, the students were given an opportunity to gauge the dispersal and maintain discipline during the rush hours of the school. Besides this, a meditation cell, a legal cell, a school panchayat, all with teacher and student in-charges were also set up to ensure maximum

student and teacher engagement. Faculty meetings were used constructively and the last working day was kept for teachers' professional development. Citing individual cases, it was informed that a girl was sent to Japan as a representative of Eco club and had returned with a totally changed mindset. There had been collaboration with Niti Aayog, where two Delhi Government schools had

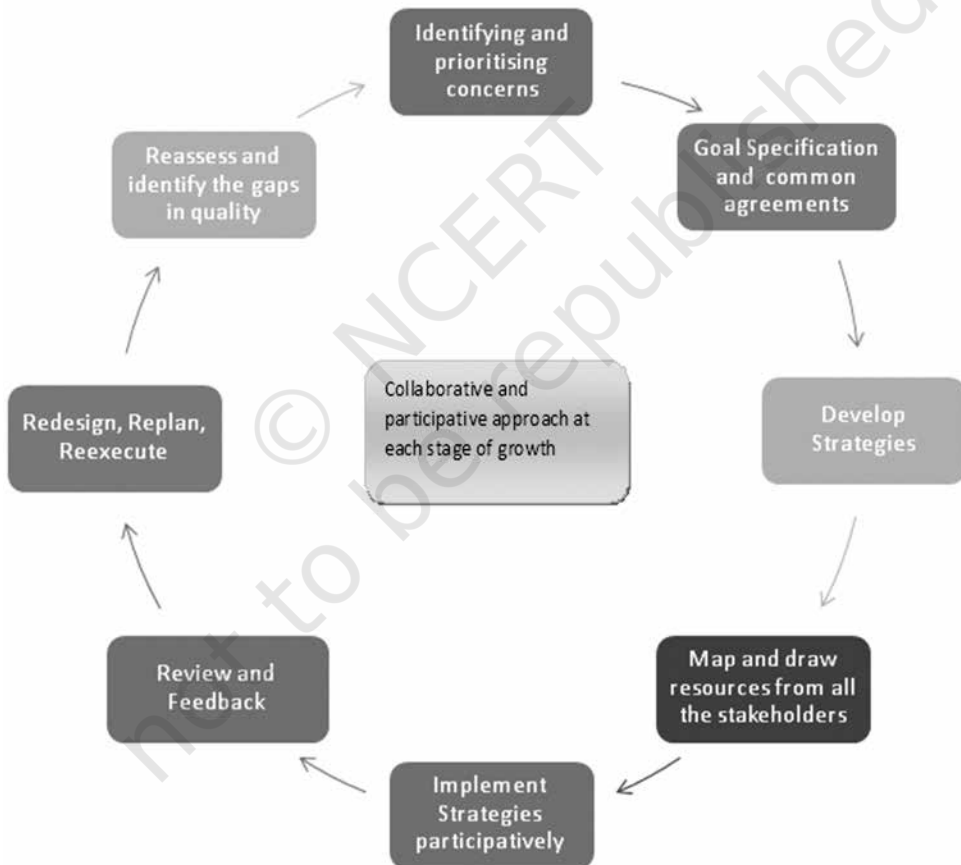


Figure 1: Process emphasised by the leaders of change to transform their schools

been selected including theirs, for 'Atal Tinkering Lab' and the project was worth 20 lakhs for Class 7th. In order to develop scientific temper amongst students, IIT students collaborated to promote newer labs in English, Science and Maths. At TERI University, in a recent lecture, her students competed with the students from Loreto, where she insisted on making students sit together so they did not feel marginalised. Taking care of the sensitivities of students, she managed to pave way for others to look up to the role model she presented through leadership skills.

These four case studies opened up several aspects of a school leader's role from leading self to leading teams, leading healthy partnerships, academic processes and of course in the challenged context of our government schools, leading innovations. The researcher came across several practices and processes adopted by these HoS, whom I call leaders of change. Following is a cyclic representation of the process and practices drawn from the case studies of schools that had leaders of change who assumed responsibility for the organisational plan and nurtured and guided its implementation.

REFLECTIONS

The purpose of this paper was to understand the various roles and responsibilities taken up by the principals of government schools in the midst of challenges faced by them.

It was observed that their engagement with the issues cropping from the side of teachers, students and parents paves way towards progressive school administration; and successful student transition was essentially taken care of. Also, taking initiatives, making healthy relationships and democratic and collaborative approaches to leadership helped some of them address the key issue of quality education in government schools. From the above discussion, the following aspects emerged:

- **Academic Support Structures—**
In the case studies discussed, while the principals ensured that through necessary intervention a support mechanism be developed that benefitted both the teacher and the taught, the HoS in other schools failed to create such an atmosphere, due to which there were issues of student irregularity, dropouts and poor learning levels.
- **School and Teacher Grants—**
The schools received grants from government under different centrally sponsored schemes, that were utilised constructively towards the benefit of the overall school functioning. However, due to high PTRs in some cases and falling short of funds in others due to the extremely dilapidated condition of either the buildings or the infrastructure, the principals generated funds through seeking CSR funds or donations; the schools suffered where this could not be made possible.

- **School Management Committees (SMCs)**— The school management committees were fully utilised as they bridged the communication gaps which the HoS often observed with the parents. However, how to seek support from the SMCs totally depended on the wisdom and vision of the HoS, so in some cases the SMCs played a significant role in curbing the issue of student irregularity.
- **Physical and Human Resource**— The schools struggled hard for space and faced a severe teacher crunch. Even when there was availability of several facilities, the needs rarely met the PTR and consistently increasing student strength. In most cases, not being able to arrange furniture was a major handicap for many HoS, and in some cases, the staff contributed for the basic minimum.
- **Learning Enhancement Programs**— With Chunauti, the HoS tried to lead the teachers to manage the three groups efficiently, i.e. the Pratibha (bright students), Nishtha (persevering ones) and Vishwas (non-reader group). The HoS arranged for several academic supports, T-L material, recommending students for several competitions, etc. Socio-emotionally, such kind of classification and grouping goes against the principle of inclusion and is discriminatory; but on observation, the practice was found to helping the teachers and more so, the students.
- **Support System for Language Learning (for medium of instruction)**— The reader and non-reader intervention was made to cater to this particular issue. But in many cases, this practice had been there since long. The HoS, therefore considered the importance of classroom communication to be of utmost importance and providing students a platform for expressing in public, like the morning assemblies, which was one such space in many schools.
- **Computer-aided Learning**— With ICT based learning, although the computer labs were very much there in schools, but for a school with a strength of more than 4000 students, fifteen computers rarely served the purpose.
- **Workshops and Capacity Building**— The HoS themselves ensured that they regularly attended the training programmes and workshops conducted by NCERT and NIEPA and also sent their teachers for INSET to DIETs and SCERT for workshops during vacations. Some of the principals developed their staffrooms as learning spaces for discussion and dialogue.
- **Autonomy**— Of all the issues, having a centralised mechanism under a decentralised model of education created more issues for

the school heads. The Directorate of Education rested the authority with one's own self of setting the syllabus, evaluating, marking scheme, preparing reference material, etc., so much so that the principals were not allowed to exercise any change in the syllabus to the extent of which topic should be taught when. This was a serious concern for all the teachers and HoS and actually hampered than supported the student learning.

- **Counselling**— HoS shared the responsibilities with the teachers in terms of counselling the parents and students. In cases, where there were no counsellors or special educators, conducive environment was created that ensured positive behaviour.

HoS, as leaders, valued all the learners and created systems to remove the barriers to success. They did not set high expectations of behaviour but ensured respect for students and teachers alike. Their preparedness to challenge the individual staff and pupils by putting them into more demanding situations also reflected upon their ability as efficient leaders of change. Having organised and deployed resources effectively within a consultative management system, the school heads provided the teachers and students with a mutually supportive school climate. By establishing and integrating support for the pupils,

the HoS particularly took care of the socio-economic and psychological development of students. They promoted positive behaviour by understanding what motivates the learners and by ensuring that the learners understood the concept of rights and responsibilities. They, in fact, demonstrated how leadership in schools could take you from issues and challenges to potential solutions through the development of support system at each stage for all the stakeholders.

CONCLUSION

Leadership is primarily about influence and change. Creative leaders recognise the need to influence others so that talent can be harnessed and maximised. This cannot be done in a manipulative way, as creativity can really flourish where the formal leadership authentically and genuinely reflects a desire for several students to excel (Harris, 2009). They persevere continually to demonstrate their personal commitment to the core values and ethos of the school through their daily actions. They encourage all to do the same and they create an atmosphere of mutual support and trust. There is a sense of collective responsibility amongst children and staff for the good order and development of the school community and so this significantly contributes to the management structures to maintain the relationships and ethos.

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Dealing with Disruptive Behaviour of Students through Cooperative Learning Technique in Classrooms

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Abstract

Demographic and socio-economic shifts in nation's population and changes in the family structure have placed increasing demands on the schools. There is a pressing need to understand the factors that give rise to and maintain aggressive behaviours among adolescents and also suggest techniques for dealing with the increased incidence of aggression and violence. Frustration-Aggression theory by Dollard et al. in 1939, pointed out that if the goal directed behaviour is blocked, it leads to frustration which acts as the motive for aggression. Fear of punishment or disapproval may cause the aggressive behaviour to be displaced against some other target, or on oneself. In the classrooms, teachers can structure the learning goals which can promote cooperative, competitive or individualistic efforts. If one compares the cooperative situations with competitive situations, where students work against each other to achieve the goal, only one or few can attain the learning goal, whereas in cooperative situations, all the group members strive to achieve a common goal. 'In the competition, there is negative interdependence among the goal achievements; students perceive that they can obtain the goals if and only if other students in the class fail to obtain their goals' (Deutsch, 1949; Johnson and Johnson, 1989). This paper discusses how the technique of cooperative learning can prove useful to overcome the root cause of conflict, aggression, and intolerance, which develops in the students. By adopting the cooperative learning technique, a teacher can create a positive interdependence among the students for accomplishing any learning goal.

INTRODUCTION

It cannot be denied that one of the greatest stressors for teachers today is to deal and manage the disruptive behaviour of students in the classroom. The classrooms in which disruptive behaviour occurs frequently, face the problem relating to classroom management and also they get less academic engaged time resulting in low academic achievement. Thus, disruptive behaviour does not only distract the teacher and/or peers to achieve on-task objectives but also restrict the teachers' ability to teach most effectively. It also diverts the energy and resources of teachers and school away from achieving their objectives. Disruptive behaviour as noted by Nelson et al. (1996), includes behaviours such as hitting or pretending to hit, yelling, crying, or engaging in non-academic tasks that are not approved by the teacher.

Research has indicated a relationship between social skills deficits and a number of negative developmental outcomes, including low self-esteem, poor achievement, school dropout, delinquency, teacher and peer rejection, vocational adjustment problems, and interpersonal conflicts (Gresham et al., 1999; Ollendick, Weist, Borden, and Greene, 1992). Thus, it is important for teachers to help the students enhance their social skills.

Hence, it is desirable for both the teachers and schools to prevent aggressive behaviour not only because it is unacceptable, but also because

aggression interferes with learning. It is important to intervene early in childhood as the behaviour can easily be changed at this stage. Schools are also in the difficult position of being legally accountable for the behaviour of the students entrusted to them. Thus, for some educators, it has been the fear of liability that has led to identifying violence as a problem in school (Kingery et al., 1998). Also, teachers often suffer from stress while trying to manage aggressive and disruptive students, which can lead to burnout and abandonment of the profession. Teachers frequently express the need for getting more training to successfully handle students' behavioural problems (Boulton, 1997).

WHY ADOLESCENCE IS A PERIOD OF CRISIS?

Adolescence is seen as a period of 'stress and storm' as the most dramatic changes are associated with it. These changes include shifts in the shape and size of the body, increase in hormones and changes in the brain architecture. These biological shifts directly influence the cognitive abilities and physical capacities. There are major changes associated with the expected roles that the adolescents have to play and which are linked to increased social and cognitive maturity.

Apart from these changes in the physical and psychological makeup, it is also the time when individuals make choices and engage in a wide

range of behaviours likely to influence rest of their life; for example, choosing educational and occupational plans, habits and peers. Finally, they also experiment with quite problematic behaviours such as drug, alcohol consumption for which they have to bear long term consequences.

These changes can be classified for better understanding, as follows:

a) Cognitive Changes

The stage of adolescence is associated with an increased ability to have abstract thinking. At this stage, they also start developing the hypothesis, i.e., their thinking becomes much sophisticated and they start using more elaborate information processing strategies. There is a steady increase in learning strategies, in knowledge of a variety of different topics and subject areas, and in the ability to apply knowledge to new learning situations. This kind of changes also affect an individual's self-concept thoughts about one's future and understanding of others.

Between these times, the thinking becomes more abstract, liberal and knowledgeable. Increased ability to deal with abstractions is a function of shift from concrete to formal operational thought. Adelson (1986, as cited in the book *Psychology Applied to Teaching*) concluded that the most significant changes are— (1) an increase in the ability to deal with such abstractions as freedom of speech and equal justice under law; (2) a decline in authoritarian

view; (3) an increase in the ability to imagine the consequences of current actions; and (4) an increased political knowledge.

b) School Transitions

According to person-environment fit theory, stresses that on the interaction between the characteristics of an individual and environment whereby both environment and individual influence each other. This interaction (which is called fit) affects individuals' behaviour, motivation, and mental health. It is seen that often individuals do very well, or remain very motivated, if they are in such social environments that fit their psychological needs. According to this theory, if the social environments in the schools do not accommodate the psychological needs of adolescents, then there is a decline observed in the motivation, interest, performance, and behaviour of the adolescents (Kulka, 1976 and Caplan, 1983).

Adolescence is a period when very strong cognitive and physical changes are experienced by the individuals. This is the time when they may start to view their friends, their peer groups, as more important and influential than their parents or guardians. This happens because of peer pressure, which may sometimes lead to indulgence in activities not deemed socially acceptable. Although, you may find this to be more of a social phenomenon than a psychological one.

c) Urge to Develop Identity

One of the main elements of Erikson's psychosocial stage theory is the development of ego identity. At this stage, individuals develop a conscious sense of self through interacting with others. Which means our ego identity keeps changing constantly due to new experiences and information which we acquire through our interactions with others. In addition to ego identity, Erikson also believed that a sense of competence also motivates behaviour and actions. According to Erikson, if an individual handled this stage well, then a sense of mastery is attained, which he sometimes referred to as ego strength or ego quality. But, if the stage is managed poorly, an individual will emerge with a sense of inadequacy. In each stage, Erikson believed individuals experience a conflict that serve as a turning point in their development. These conflicts, according to him, are centred on either developing a psychological quality otherwise it leads to non-achievement to develop that quality. Therefore, this time is potential for higher personal growth, but at the same time, it is the potential time for failure also. During adolescence, children are exploring their independence and developing a sense of self (Ericson and Joan, 1997).

Hence, at this stage, the individuals receiving proper encouragement and reinforcement through personal exploration, develop a strong sense of self and feeling of independence

and control. Alternatively, those who remain unsure about their beliefs and desires, become insecure and confused about themselves and their future.

The adolescent period initiates the development of a personalised set of beliefs, which many a time, give birth to conflicts with elders and society. The adolescent period shows rapid shift to the self-confidence and insecurity. Identity confusion happens to be the major characteristic of adolescents. The parents, teachers and members are expected to be responsive to the needs of adolescents and help them achieve their goals and aspirations that provide them a meaningful identity.

d) Friendships and Peer Groups

Peer relationships have the most controversial influence on adolescents. One major change in this arena is the general increase in peer focus and involvement in peer related social activities. At this stage, adolescents attach great importance to the activities they do with peers, which is substantially more than the importance given to academic activities.

ANALYSING REASONS FOR DISRUPTIVE BEHAVIOUR AMONG ADOLESCENTS

If we look into the various domains of development of the adolescents, then the following factors could lead to violence among adolescents:

- a. Biological factors: It is found that the level of violence is highest

among secondary school students. But females have been reported to be less violent than males (Bloomquist and Schnell, 2002). The cause of such difference is due to overactive behavioural system and underactive behavioural inhibition system (both located in the frontal lobe of the brain).

- b. Academic Skills and Performance: For various reasons, on an average, girls get higher grades than boys. This arouses the feelings of resentment and anger among them. As a result, their self-esteem also goes down.
- c. Interpersonal Cognitive Problem Solving: Children who get along reasonably well with their peers do so because they are able to formulate realistic plans to satisfy their social goals and think of several possible solutions to execute it. Students who are deficient in personal cognitive problem solving skills, have difficulty in making friends, have emotional blow ups and show less sympathy to others and exhibit physical and verbal aggression (Shure, 1999).
- d. Psychological Factors: The students, at this stage, as explained by Erikson, are at Identity vs Role Confusion stage. A student who fails to make clear occupational choice, is confused with their roles or if they have not got the acceptance by others, then they may exhibit what Erikson calls 'Negative identity'.

Instead of behaving in a better way, they engage themselves into the opposite form of behaviour.

- e. School Environment: So far, the role of biological and psychological factors has been discussed, which are mostly individualistic in nature. Another important factor which leads to violence in schools, is under designed schools which are common in India, where the needs for learning (such as proper furniture, proper reading facilities, etc.) are not fulfilled.

Geddes (2006) highlighted the importance of the value of attachment theory as a psychological framework for understanding what drives disruptive behaviour among students. This theory recognises the importance of relationship between the qualities of early relationships upon an individual's subsequent development. It emphasises the need of providing a safe, calm, protected and nurtured environment to the children by their caregivers. He asserts that when relationships with the caregivers, which include teachers, parents and other family members are damaged, then it can have a detrimental effect on young child's emotional and behavioural development. These insecure attachments with the significant adults may lead to emotional, behavioural and processing difficulties in children. A child with an insecure attachment develops differently from that of a securely

attached child. A securely attached child is able to regulate emotions, reduce fear, have self-understanding and appropriate moral reasoning. These abilities help them to engage in reciprocal relationships.

This implies the need for having a design and system in schools which recognises and supports the particular needs of students. Therefore, the psychological perspective asserts that it is important to understand disruptive behaviour at school because then only as teachers we can support them meaningfully. In addressing how schools can become more effective managers of disruptive behaviour, Greene (2009) highlighted the need for schools to have the following 'three massive shifts':

- a. A dramatic improvement in understanding the factors that set the stage for challenging the behaviour in students;
- b. Creating mechanisms for helping these students that are predominantly proactive instead of reactive; and
- c. Creating processes so that people can work on problems collaboratively.

Gilbert and Procter (2006) viewed disruptive behaviour as student's protective and defensive behaviour, therefore they advocated for a compassionate and collaborative response, rather than a punitive and disciplinarian reaction towards the disruptive behaviour.

Elton Report on Discipline in Schools (1989), also, specifically

recommended the importance of teachers developing 'group management skills', to manage disruptive classroom behaviour. These skills help teachers to establish good and positive relationships with students. The report also emphasised the need for adopting good classroom management skills that include creating a positive atmosphere in the classroom by frequently praising and rarely criticising their students. This will enhance the decrease in the likelihood of a major confrontation in class, affecting not only the student concerned, but the whole class.

For managing disruptive behaviour in school, teachers must use a more collaborative, problem-solving approach along with behaviour management strategies. It will help in expressing emotional needs by the students themselves and thereby a teacher can provide a more reflective and compassionate proactive response. Also, it does not alienate and fuel the underlying anger and shame in the process.

Out of the various techniques that have been suggested to deal with the disruptive behaviours of the students addressing both the academic and social deficits of their students, is cooperative learning. Let us now discuss how it can help.

COOPERATIVE LEARNING: STRATEGY FOR DEALING WITH DISRUPTIVE BEHAVIOUR

According to Vygotsky (1978), the individual mental functioning

develops first at the interpersonal level, where they learn to internalise and transform the content of the interpersonal interactions with others, to the intra-personal level, where it becomes a part of new understanding and skills. For intrapersonal understanding, co-operative learning is well recognised as a pedagogical practice that promotes learning, higher thinking and pro-social behaviour; and greater understanding of children with diverse learning needs, social and adjustment needs. Also, cooperative learning activities provide an ideal means for teachers to structure the environment for successful peer interaction and provide the opportunities to students to develop not only socially and emotionally but also make them responsible for their social environment.

The term 'co-operative learning' and 'collaborative learning' are often used interchangeably but both the terms are different. In comparison to collaborative learning, co-operative learning is considered to be more structured which is imposed by the teacher (Abramiet al., 1995) and designed to achieve a specific goal. Slavin (1992) believed that cooperative learning can be adapted at any level by taking into account student's age, curricular goals and practical matters.

Following are the elements of cooperative learning classrooms:

a. Clearly perceived positive interdependence: In the

cooperative learning conditions, all the students have two major responsibilities, one is to learn the assigned learning task given by the teacher and secondly they have to ensure that all members of the group learn the assigned learning task. Such a dual responsibility undertaken by the students is known as positive interdependence. Positive interdependence helps in promoting a situation where all the group members see that their work benefits is seen as group benefits and they work together to maximise learning by sharing their resources by providing mutual support and encouragement.

b. Considerable promotive interaction: It can be understood as a situation when all the members of the group encourage and facilitate each other's efforts to achieve and complete the tasks for attaining group goals. This also helps in promoting psychological adjustment and social competence among individuals.

c. Clearly perceived individual accountability and personal responsibility to achieve group goals (i.e. assessing the quality and quantity of each member's contribution and giving results to the groups).

d. Frequent use of relevant interpersonal and small group skills

- e. Use of appropriate social skills (i.e. leadership, decision making skills, etc.).

In a classroom, there are two types of social interdependence— positive and negative (Johnson and Johnson, 1989). Positive interdependence (i.e. cooperation) exists when there is a positive correlation between individual goals attainment; individuals perceive that they can attain the goals if and only if the other members of the groups also attain the goals. Negative interdependence (i.e., competition) exists when there is negative correlation among the individuals' goal attainment. Positive interdependence results in promotive interaction (i.e., individuals encouraging and facilitating each others' efforts to achieve the goals which include pro-social behaviours) while negative interdependence results in oppositional interaction (i.e., individuals obstructing each others' efforts to achieve the goals, which may include harm intended aggression).

Also, cooperative learning experiences are significantly related to the individualistic efforts, thus it involves giving one's own interests precedence over the interest of others. It can be seen that with more cooperative learning experiences, the individuals have less chances to become individualistic in nature.

In cooperative learning situations, it is possible to achieve social goals simultaneously with learning achievement goals. In these

conditions, goals can be directed towards outcomes for one's own benefit (self-directed), towards others, or for the benefit of the group.

First, co-operative efforts enable an individual to make friends and avoid isolation. The goal of establishing social relationships reveals itself in such motives as desire to be seen as likeable, to fit in, and to conform to the preferences of others (Johnson and Johnson, 2003).

Secondly, according to Farmer et al. (1991), social goals help in increasing the motivation to achieve. Although, in a cooperative learning situation, learners are valued in their own right, the pursuit of social goals can help organise their efforts and empower individuals to achieve more.

Thirdly, an individual generates a motive to maintain membership by being a member of the group. This is also known as group cohesion, thus it can be further elaborated as the mutual understanding among the members of the group that results in a desire to remain a member of the group. Highly cohesive group members are often characterised by their greater ease in setting goals, greater likelihood in achieving the common goals and they display greater susceptibility to get influenced by other group members (Johnson and Johnson, 1983). Increased cohesiveness decreases the absenteeism and turnover of membership, increases individual members' commitment towards group goals, and the feeling of

personal responsibility to the group increases resulting in willingness to take on personal responsibility. It also increases the motivation and persistence, satisfaction moral increases, and also willingness to endure pain and frustration on behalf of the group increases. This helps in defending the group against the external criticism or attack. Cohesive group members are committed to each others' success and growth increases resulting in the increase in group productivity (Johnson and Johnson, 1989).

Fourth, being a part of cooperative effort provides alliance and comrades who may help protect a person from being bullied, and who may provide support and assistance during times of adversity and stress (Johnson and Johnson, 1989). Finally, social and academic goals seem to be intimately linked. Cooperative behaviour is positively associated with academic success.

Accuracy of Perspective Taking

The perspective taking ability means to understand how a situation appears to another person and how that person is reacting cognitively and emotionally to the situation. The opposite of the perspective taking is egocentrism, which means being embedded in one's own perspectives. Cooperative learning experiences tend to promote greater cognitive and affective perspective taking, than do the individualistic and competitive learning experience (Johnson and

Johnson, 1989). This ability to understand other's perspective decreases the changes of difference in the opinion which is the root cause of violence and aggression among individuals.

Promotes Creativity

Cooperative learning experience promotes creativity by increasing the number of ideas, quality of ideas, feeling of enjoyment and also brings originality of expression in creative problem solving. It is not surprising that the students are triggered by the ideas of others and that different perspectives cause group members to consider a larger number of alternatives. In cooperative relationship, a context is provided to consider and appreciate other group members' ideas instead of ignoring or trying to come up with a better one. It is also seen that creative manifestations provide a vent for the pent up emotions (both positive and negative), thus developing a balanced personality. This in turn decreases the chances of aggression and conflict.

Increases Self esteem

Cooperative learning produces a higher level of self esteem than any other environment. Since, individuals with low self esteem have low productivity in setting goals and thus they either socially withdraw themselves from feeling awkward or become aggressive to cover their low esteem. But, cooperative situations provide an environment where

interaction among individuals is promoted and the group members form multi-dimensional and realistic impressions of each other's competencies, and give accurate feedback about ways to achieve group goals. Such interaction tends to promote a basic acceptance of oneself as a competent person. According to Harter (1996) the willingness of students to form a consensus around the goals of doing well and helping peers academically depends on their perceptions that teachers care about them both as persons and students. On the other hand, when students perceive teachers failed in providing support, neither do they feel any obligation to behave in socially responsible ways, nor do they enjoy school.

CONCLUSION

Cooperative learning holds the promise, as an instructional technique for dealing with disruptive behaviour of the students, particularly in providing structured opportunities for the students to practice learned communication skills.

Cooperative learning experiences promote positive interdependence through internalisation of positive relationships, direct support, shared intimacy and freedom of expression which gives energy to deal with the stress. Evidences available from researches indicate that the classroom practices are so much oriented toward individualistic and competitive learning and schools are also dominated with competitive and individualistic structure. These situations school promotes conflict which leads to aggression; hence it is important that this discrepancy between what researches indicate about effective teaching and what teachers actually do must be reduced.

More efforts can be given in providing inputs regarding compassionate and nurturing approach to behaviour management in teachers' Continuing Professional Development (CPD). By doing so, there will be a shift to reflect child-focused teaching objectives rather than outcome-focused teaching objectives.

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How do Children Learn Mathematics? An Exploration into Mathematics Classroom Processes at Secondary Schools of Bhubaneswar

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Abstract

Considering the change in the perception of mathematics classrooms of India after the emergence of NCF-2005, which emphasises on mathematisation, it is significant to examine mathematics classroom processes. Four secondary schools from Bhubaneswar that are affiliated to CBSE had been selected for the present study. Data was collected using teacher questionnaire, classroom observation and Focus Group Discussion with students. Curricular contents in Mathematics prescribed for Class IX are found quite appropriate, grade specific and properly sequenced as expressed by the teachers. Geometry concepts especially related to Euclidean Geometry are difficult to transact as teachers and students faced problems in understanding these concepts. Although, the resource materials, such as mathematics lab and mathematics kits are available in the majority of schools, their inadequacy from the viewpoint of a large number of students and lack of physical space for storage and use are quite staggering. The preparation of lesson plans/ notes in mathematics is more ritualistic than having any serious and practical pedagogical concern. Methods appropriate to the content and the level of students were found to be used frequently or sometimes by maximum teachers while teaching mathematics. No group activities were conducted and rarely any individual activity took place.

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In most of the mathematics classes, oral and written assessment strategies were followed. The scope for peer and self-assessment is rarely found in mathematics classrooms. The study gives a detailed account of nuances of mathematics classrooms in terms of the content transacted, resources used, pedagogical processes employed, classroom management, and the assessment strategy followed, etc. The finding of the study would support educationists to understand the processes of mathematics learning and would give an insight into the role of mathematics teacher as a facilitator.

INTRODUCTION

Mathematics has always been an integral part of school curriculum. Learning mathematics is a continuous process, it does not remain confined to itself but also plays a role in the development of other disciplines. It is a fundamental building block that helps in structuring thoughts in a logical order. Mathematics is inevitable, learning mathematics involves thinking mathematical ideas. Mathematics has a vital role in the classroom not only because of direct application of the content but because of the reasoning processes that the students develop in the learning process. To achieve the wider goal of mathematics learning, NCF 2005 envisages school mathematics as an activity-oriented domain, which takes place in a situation where children learn to enjoy mathematics. The main goal of mathematics education in schools, as mentioned by NCF 2005, is the mathematisation of the child's thinking. It asserts that clarity of thought and pursuing assumptions to logical conclusions is considered as central to the mathematical enterprise. Mathematics helps to develop the ability to handle

abstractions, and builds an approach to problem solving by introducing children to concepts, skills and thinking strategies that are essential in everyday life. Children feel delighted to arrive at a solution in mathematics and find some patterns by trying out different approaches to the problems. Mathematics is also a powerful way of communicating by exploring and explaining their ideas through different modes using language, symbols, etc. By understanding the history of mathematics, children would appreciate its contribution to the economy and society. It is undeniable that mathematics provides an important instrument for social analysis (D'Ambrosio, 2008). Mathematics not only prepares children with the skills they may use beyond their school life, but also encourages higher order thinking skills such as creativity and problem solving.

CURRICULAR PROVISIONS OF MATHEMATICS AT THE SECONDARY STAGE OF SCHOOLING

Mathematics is one of the core curriculum subjects in schools from Grade I to X. The aims of teaching

mathematics, as understood through researches across countries, is to relate the contribution of mathematics to: (1) everyday life and society; (2) other areas of the curriculum; (3) the child's intellectual development; (4) the child's enjoyment of learning and (5) the body of human knowledge. Mathematics curriculum contains specialised knowledge which needs certain attitudes, frame of mind (analytical and logical thinking) and efforts on the part of learner (Ellis, 2011 and Rojan, 2008). The secondary school mathematics curriculum continues after the development of learning of mathematics in primary schools and at this stage, students try to understand the structure of mathematics. At the same time, the curriculum also aims to enable the students to cope confidently with the mathematics in their future studies, workplace, or daily life. Developing positive attitude towards mathematics and to have self-confidence to deal with all the aspects of number in logical and independent manner is also very significant (NCF, 2005). Integrating previously learnt concepts and skills into problem solving ability is another important concern at secondary stage as mentioned in NCF 2005. Protheroe (2007) found that mathematics instruction given in the secondary classes should build on students' emerging capabilities to improve their abstract reasoning which includes—thinking hypothetically, comprehending causes and effects and reasoning in

both concrete and abstract concepts. However, unfortunately, many students have hindrance in using these cognitive abilities for learning effectively (Fauziah and Sugiman, 2018). A large numbers of students have not acquired the basic skill needed in mathematics learning (Mohd Nizam and Rosaznisham, 2004; Berch Mazzocco, 2007) as cited in Thngkingdang and Thongmoon, 2018. Despite valiant attempts by generations of teachers to improve the quality of pupils' learning, abstractions remain difficult to be grasped, which is the crux of mathematics learning.

Secondary education stage is important because for about half of those entering it, it represents the terminal point of formal schooling (Rao, 2008). The learning experiences of this stage of education become important for their future life in the society. As summarised in NCF 2005, the vision for school mathematics should be that the children learn to enjoy mathematics rather than fear it by learning important mathematics. The most important skills of learning mathematics are abstraction and generalisation, which are achieved through learning the basic content areas of arithmetics, algebra, geometry and trigonometry at secondary stage. Therefore, it is highly imperative that teachers engage every child through various activities in class with the conviction that everyone can learn mathematics. The experiences are to be designed in such a way that

children get ample opportunities for exploring and arriving at patterns and connections, individually and in group.

CLASSROOM PRACTICES AND LEARNING OF MATHEMATICS

Mathematics as a part of children's life experience is the best mathematics education possible, wherein opportunities are there for children to pose and solve meaningful problems. As mathematics learning outcomes are linked with its pedagogical processes, low achievement in mathematics could be associated with the curriculum which fails to attract children with its relevance. At the same time, a method of assessment which usually focuses on mechanical way of solving problems is another concern. Mathematics teachers are supposed to design pedagogical processes in a diverse and inclusive manner; however, teachers find themselves less skilled in it. Lack of teacher preparation and support in the teaching of mathematics is another concern (NCF, 2005). Mathematics teaching depends on two factors, namely, the readiness of learners and the teaching skills of teachers. If any one of these factors falls behind, then the wagon of learning will not go in a balanced manner. The teaching of mathematics at secondary level requires psychologically balanced teaching methods. Also, Shellard and Moyer (2002) showed that there are three critical components of effective mathematics instruction.

First, teaching for conceptual understanding; second, developing children's procedural literacy and last one is promoting strategic competence through meaningful problem-solving investigations. Though importance of learning mathematics is well researched and mathematics is implemented from Class I, it is unfortunate that students develop a sense of fear towards the discipline itself. As teaching-learning activities have a great impact on students' achievement, it is essential to investigate how pedagogical processes in mathematics are executed. From this discussion, it could be concluded that the most suitable strategies followed by mathematics teachers in the classroom may help students to appreciate the nature of mathematics, through which learning of mathematics could be improved significantly.

Teacher quality has been consistently identified as the most important school-based factor in student achievement (McCaffrey, Lockwood, Koretz, and Hamilton, 2003). Much research in education and learning mathematics has produced a number of insights into how students think and learn, but all too often, the resulting impact on actual classroom instruction is uneven and unpredictable as far as the mass is concerned. Decades of research in learning mathematics suggest that the students utilise individual learning styles to keep pace with the classroom processes.

The mathematics learning is much associated with the problem solving and recalling the skills needed to model a mathematics problem. The difficulties in understanding mathematics are qualitative in nature and depend on many factors which may be biological or behavioural.

RATIONALE OF THE STUDY

The problems in school mathematics education are—a majority of children have a sense of fear and failure regarding mathematics. Hence, they give up early on, and drop out of serious mathematical learning (NCF, 2005). From the above discussion, it was observed that the curriculum which cannot equally address the needs of students with diverse needs could be considered as one of the major factors contributing to this unfortunate scenario of mathematics education in the country. Teachers' lack of confidence and preparation in designing appropriate pedagogical practices lead the students to not appreciate mathematics learning. Topics which do not make sense cause students to lose interest in the subject and develop phobia towards the subject. Fear of learning of the subject increases the resistance to the learning process. Students develop the habit of memorising formulas and facts merely to pass the examinations. Achievement survey at national level conducted by various agencies indicates that the achievement of students in mathematics is low, though mathematics is seen as

an important subject all over the country. It is clear that our efforts to improve the status of mathematics at school level over the past decades have not been largely effective. That's why teaching mathematics at secondary level should be given greater importance. Basically these problems occur due to the lack of teachers to recognise, explore, grow and develop mathematical skills that exist in students (Kusmaryono, 2014). Considering the change in the perceptions of mathematics classrooms of India after the emergence of NCF-2005, which emphasises on mathematisation, it is significant to examine mathematics classroom processes to come out with suggestions to improve the learning process in mathematics. In this context, the present research has been undertaken to qualitatively analyse mathematics classroom processes and make a deeper sense of the process.

OBJECTIVES

The objectives of the study are to examine the classroom processes in respect of:

- Content of mathematics
- Pedagogical strategies adopted
- Resource management
- Classroom management
- Assessment

METHOD

A qualitative survey method was adopted for the present study. The

study attempted to examine the classroom processes in depth with specific reference to the curricular provisions in mathematics and the pedagogical processes followed. Arriving at a qualitative description of the classroom processes in mathematics using various research tools was the focus of the study.

SAMPLE

Four secondary English medium schools from Bhubaneswar, affiliated to CBSE were selected purposefully for the study. The schools were Demonstration Multipurpose School (D.M.School), Sainik School, Kendriya Vidyalaya-1 (KV-1) and Kendriya Vidyalaya-4(KV-4) of Bhubaneswar. Except Sainik School, which has all boys as students, all the other schools are co-educational schools. D. M. School is attached to the Regional Institute of Education (NCERT) Bhubaneswar, KV schools are under Kendriya Vidyalaya Sangathan and the Sainik School is under an apex body of Ministry of Defence.

In total, eleven teachers from these schools who teach mathematics in Class IX are included in the study. Students of Class IX of the schools were participated in the study.

TOOLS

Following tools were developed and content was validated by the experts.

1. Questionnaire for Teachers— This will have both closed and open ended items based on the dimensions— content, resources

availability, pedagogical strategies followed, assessment, monitoring and supervision was administered.

2. Observation Schedule— This tool has three parts. Part I is intended to collect the background information of the teacher teaching Mathematics, school, classroom, students and infrastructure facilities available in the classroom. Part II is used to record the observation of the Mathematics Teacher while teaching Mathematics with respect to: Introducing the Topic, Pedagogical Processes Followed, Classroom Management, Assessment and Resource Management following 3-point scale (Yes/Partially/No) with observation remarks. Part III is intended to record the reflection of the observer on the overall functioning of the class.
3. Focus Group Discussion (FGD) with Students— Eight open-ended items were developed for focus group discussion with students to probe more on classroom processes in Mathematics.

PROCEDURE OF DATA COLLECTION

Data was collected from eleven teachers teaching mathematics through questionnaire and observation schedule (41 classes) and 40 students (10 from each school selected randomly) using Focus Group Discussion. The entire process

of data collection was completed approximately in 60 days from November 2017 to February 2018.

ANALYSIS OF THE DATA

The major objective of the study is to explore the status of processes being conducted in the Mathematics classroom of the secondary schools, particularly in Class IX. The five major aspects of Mathematics classroom processes, as included in the objective of the study are content, resource management, pedagogical strategies adopted, classroom management, and assessment. Specific indicators for each of these dimensions were identified keeping the overall objective of the study, which was used as the basis of tool development and data analysis as well. Since, the data are mostly qualitative in nature, the analysis of these data mostly followed qualitative techniques, supported at some instances by a few basic descriptive statistical methods.

MATHEMATICS CONTENTS

Curricular provisions in Mathematics, as in other subject areas, constitute the centrality of all the classroom processes without exception. The relevance of the provision of concepts in the curriculum depends largely on the perception of the teacher who is expected to transact those in the classroom. The teachers teaching Mathematics in Class IX in the sampled schools were asked to give their considered opinion regarding— (i) whether the contents are grade

specific or appropriate for the grade (i.e. Grade IX), (ii) whether concepts are properly sequenced in the prescribed Mathematics textbook, (iii) whether there are adequate examples and practice activities in the Mathematics textbook, and (iv) whether the content load is appropriate for the class under study. Besides, the teachers and students were further asked to specify the areas in Mathematics curriculum which are comparatively difficult for learning and teaching in Class IX.

- Majority (90%) of teachers expressed that the curricular contents in Mathematics prescribed for Class IX are quite appropriate and grade specific for the students reading in this class and 81.8 percent of them considered the prescribed content to be highly appropriate while 18.2 percent thought the prescribed content to be moderately appropriate.
- While all the responding teachers agreed that the concepts in Mathematics textbook for Class IX are properly sequenced, a section of teachers (18.2%) considered the sequencing to be at average level and suggested that it can be further improved in terms of the order of arrangement and presentation in the textbook.
- There is a distinct dichotomy among the responding teachers in terms of their judgement of adequacy of practice activities for students in the Mathematics

textbook. While majority of 63.6 percent teachers affirmed that there were adequate number of practice activities after each lesson, quite a large chunk of the respondents (36.4%) thought more practice activities could have been provided after each lesson.

- So far as the provision of examples for clarification of different mathematical concepts in the textbook is concerned, majority (i.e., 82%) of teachers think that such provisions are quite glaring in their presence in each section of the textbook.
- Content load in the present Mathematics textbook for Class IX is a contentious issue and quite a substantial section of the respondent Mathematics teachers (27.3%) feel the textbook is highly loaded with contents which can be substantially reduced. But, the

majority of the teachers (72.7%) think otherwise.

The above views regarding the proportion of responding teachers on the five aspects of Mathematics content at Class IX level with reference to the existing textbook in Mathematics is shown in Fig. 1.

When asked to specify the areas in Class IX Mathematics, where the teachers encounter difficulties in transacting in the classroom, Mathematics teachers across the sampled schools expressed that Geometry concepts, especially related to Euclidean Geometry, are difficult to transact and students have problem in understanding these concepts. Besides, the students cannot grasp easily the method of proof through contradiction. Large number of theorems and its proofs, concept of pie and irrational numbers are some of the other areas of difficulty as expressed by the teachers.

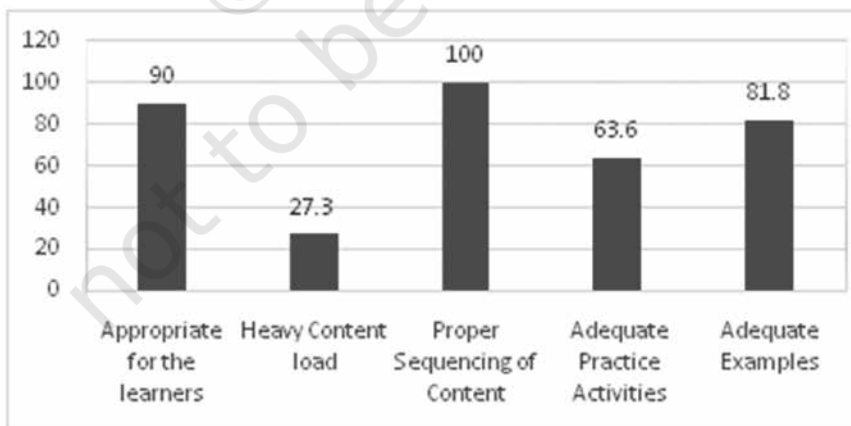


Fig.1 Percentage of teachers responding on different aspects of content of mathematics curriculum and textbook of Class IX

RESOURCES: AVAILABILITY AND MANAGEMENT

Resource management is a skill of continuously creating and procuring the required resources for teaching and learning Mathematics followed by appropriate and optimum utilisation of the available resources. Adequacy of these materials and frequency of the use of materials are the two issues that need to be addressed in the course of any discussion on resource management.

AVAILABILITY AND ADEQUACY OF RESOURCES

The resources for teaching and learning Mathematics at the secondary level can be of a large variety which cannot be listed exhaustibly. But, the minimum requirement for quality mathematics learning at

school level include Mathematics Laboratory, Mathematics Kits, Workbooks/Practice Books, Teaching Learning Materials (TLM) especially developed by the teachers and students, and ICT materials. When asked about the resources availability and adequacy of resources for teaching and learning mathematics, it was learnt that mathematics kits were available in all the sampled schools and nearly 81percent of the teachers stated that Mathematics Laboratory is available in their schools while 70 percent of the teachers stated that teaching learning materials prepared by teachers, workbooks/practice books and ICT resources were available in their schools. Although, the resource materials, as stated above, are available in the majority of schools, but are inadequate. The gap between availability and adequacy of

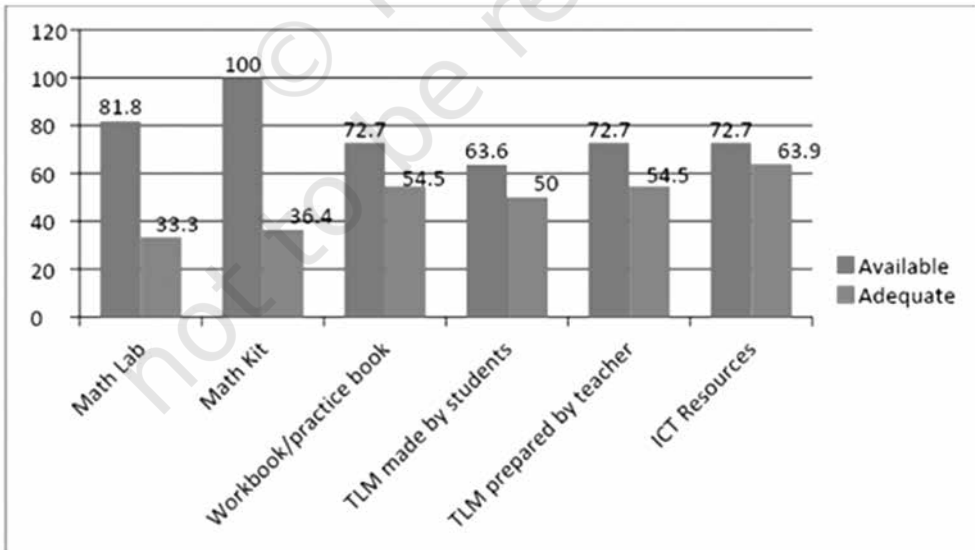


Fig. 2 Teachers' response on the availability and adequacy of resource materials (in %)

resources appears to be the least in the case of ICT resources.

FREQUENCY OF USE OF RESOURCE MATERIALS

Among the resource materials available in the schools, workbooks or practice books are most frequently used in their schools as stated by the majority of teachers (63.6%). Mathematics kits are not used frequently in schools as stated by 90 percent of the teachers. Teaching-learning materials, either made by students or teachers, are rarely used by more than one-third of the responding teachers. ICT resources are adequately available in their schools, as stated by more than 63 percent of teachers.

However, while observing the classroom transactions, it was noticed that some resources were used much lesser than that stated by the teachers. It was observed that most of them (82.9%) did not use appropriate TLM, though there is

a resource as well as availability of materials.

FGD with the students revealed that the teachers bring 3D models like cone, cylinder, cube to the class to demonstrate. During the classroom observation, it was found that while teaching statistics, graph paper was used both by the teacher and students. While teaching construction of plane geometric figures, it was observed that both the students and teacher were using geometric instruments to construct them. Apart from these observations, appropriate TLMs were very less frequently used as given in the graph (7.3%).

Though the materials prepared by teachers are stated to be available in their schools by 72.4 percent of teachers and 54.5 percent expressed the materials prepared by them to be adequately available in their schools. Again, out of the respondent teachers, 36.4 percent stated to be using the materials prepared by

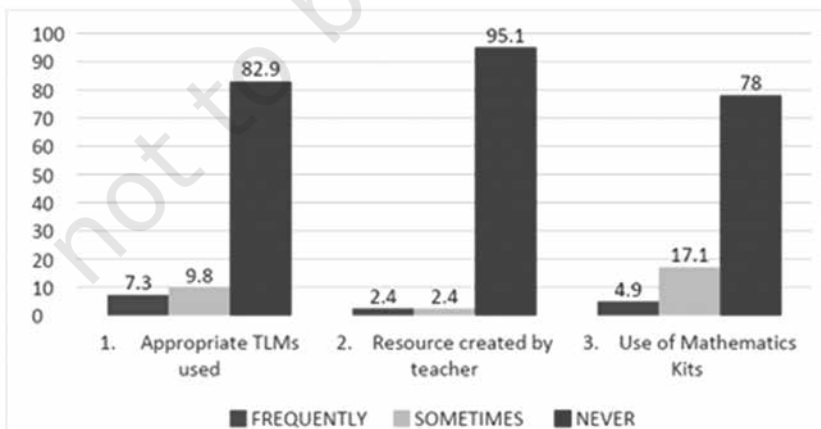


Fig. 3 Use of different mathematics resources in the classroom

them in the class frequently and 27.3 percent used it sometimes. But, from the observation of the classroom practices and from the discussion with students, it was learnt that more than 95 percent of teachers did not use the resource materials developed by the teacher and such materials were used by less than 5 teachers, either frequently (by 2.4% teachers, while making power point presentations) or sometimes (by 2.4% teachers, while focusing on the concept of lateral and closed surface area of cylinder).

As per teachers' response to the questionnaire, all the schools have mathematics kit supplied by NCERT and 36.4 percent teachers expressed that the kits are adequate considering students' strength in the school and more than 90 percent of the teachers stated both the students and the teachers frequently or sometimes use the kit. But the use of mathematics kit, as noticed during the classroom observations, was found to be used frequently only in 4.9 percent of classes and it was used sometimes in 17.1 percent of classes. In the majority of 78 percent of classes, these kits were never used although the kits were available in all the schools.

Mathematics laboratory is found to be in 81.8 percent of schools, but adequately available in 33.3 percent of schools only. In more than half the number of schools (63.6%), these are being used sometimes and in 18.2 percent schools, it is in use frequently.

But when we asked the students in focus group discussion, we got an idea that students have mathematics lab only in 3 of the sampled schools, where students go to the lab and the teacher demonstrates the activities and then the students perform the mathematical activities like verifying properties related to the similarity of triangles and verifying Pythagoras theorem.

The workbooks or practice books, which are usually required in Mathematics classes to be used by the students, were stated to be available to 72.7 percent as reported by the teacher respondents and 54.5 percent teachers expressed that these were adequately available in their schools. While 63.6 percent teachers have said that students use workbooks frequently, 9.1 percent of them said that the students use them sometimes. Most of the students during the focus group discussion agreed on using Mathematics books by other authors and several problem reference books other than the prescribed textbooks, as recommended by their teachers.

As discussed with the students on ICT resources, they say it makes them interested to learn and with the help of use of ICT resources, they can develop their thinking and knowledge and if the applications of each chapter could be visualised, then the students would be more rigorous towards mathematics learning. But, nearly 73 percent of the teachers reported

that ICT resources are available in their schools and nearly 63 percent consider the available material to be adequate for the purpose. While interacting with the students, it was found that the teachers have used it while teaching triangles, construction and number system.

Resources Used in the Mathematics Classroom

While teaching the construction chapter, it has been observed that in two classes of a school, two different resources were used:

1. The teacher showed the step-by-step procedure of how to construct a triangle when its base, a base angle and sum of two sides are given using a website called Extra marks from which the videos were downloaded. After each step, the teacher used to pause and then explain on the board and then the students would do it. In this way two more cases were showed and explained with the help of this website.
2. The teacher had used the geometry box while constructing perpendicular bisectors on the board followed by asking students to do in their notebook. The teacher in all his classes of construction used the geometry box kit so as to show the methods and procedures how to construct.

PEDAGOGICAL PRACTICES

Quality of school learning is largely dependent on the pedagogical practices being conducted in the classroom. The basic pedagogical practices followed for classroom transactions include planning the

lesson for attaining the defined learning objective(s), sequencing the activities depending on the arrangement of concepts, adopting appropriate teaching learning methods enhancing the learners' active involvement and participation, use of appropriate and contextual resource materials, using learners' experiences and employing multiple alternative procedures. Besides these practices being used in different variations depending on the situation specific conditions, classroom practices in Mathematics require some specific processes emphasising on analytical and logical thinking skills. The pedagogical process, in its various aspects, practised in the Mathematics classrooms in the sampled secondary schools, as captured through the research tools, are as follows:

- **Pedagogical Planning:** Preparing a brief plan before going to a class is necessary for a teacher which seems to be practised by all the sampled Mathematics teachers except one who expresses constraint of time for not being able to develop a plan before going to the class. Preparation of fortnightly and weekly plans has also been done by two teachers. Asked to mention the dimensions of the lesson plan, 5 out of 11 sampled teachers (nearly 49%) have given various responses without any general agreement among the dimensions. For example, when asked about the

dimension of their plan, one teacher said “Introductory part with examples”, while another teacher mentioned, “Method of teaching, content and timing of completion of the lesson” and the third teacher elaborated the dimensions as “Gist of the lesson, Activities planned, Correlation with other subjects, Home assignment, HOTs, etc.” Informal interaction with mathematics teachers revealed that the preparation of lesson plans/notes in Mathematics is more ritualistic than plan with any serious and practical pedagogical concern.

- **Teaching-learning Process:**

The classroom teaching-learning process has various components and analysis was done based on these dimensions.

Introducing the Topic

From the observation of the classroom practices, it emerged that while introducing a topic, majority (70.7%) of the sampled teachers started the topic by relating it to the previous lessons or knowledge, while the rest partially tried to relate the topic to the previous topics or knowledge just by asking one or two questions from the previous lesson, but without integrating to the current topic of discussion. It was also observed that less than one-third (31.7%) of the teachers tried partially to introduce the lesson using an activity while the rest did not use any activity for the purpose. Invariably, more than 90 percent of the teachers were observed

to introduce the lesson by directly stating the topic and then relating it to previous knowledge and/or conducting an activity.

Classroom Transactional Processes

Methods appropriate to content and the levels of students were found to be used frequently or sometimes by more than 95 percent of the teachers while teaching Mathematics. Use of multiple and alternative processes, as against the common belief of uniqueness in the process of solving Mathematics problems was observed in different forms by more than 95 percent of teachers. At the same time, teachers’ observations on difficulties in using alternative and multiple processes for solving problems in Mathematics bring some relevant issues to the fore.

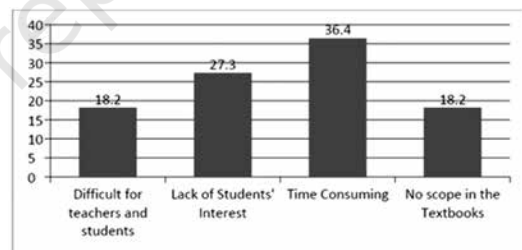


Fig. 4 Percentage of teachers facing difficulties in using alternative processes in solving mathematics problems

The four major difficulties, cited by the teachers, in using alternative and multiple processes are— (i) more time consuming, (ii) lack of students’ interest, (iii) difficult for both teachers and students to pursue, and (iv) no scope in the textbooks.

In more than 95 percent of the classrooms, there were visible efforts in engaging students in the practices of developing mathematical skills and procedures. In around 40 percent of the classrooms observed, the teachers strictly adhered to the problems and examples given in the prescribed Mathematics textbook rather than using contextual materials and activities beyond the textbook. On the other hand, more than 56 percent of teachers used contextual materials and examples from the real life situations making mathematics learning more meaningful.

Encouraging Learners in Learning Process

The teaching-learning process involves promoting the ability of learning rather than instructing the students to learn. Facilitating problem solving skills, providing enough

scope for discovering mathematics principles and concepts, addressing individual learning difficulties of students, and encouraging the students to ask questions to clarify their doubts are some of the important processes for promoting meaningful learning, especially in Mathematics. These aspects are being focused more and more in the capacity building programmes meant for Mathematics teachers. On these aspects, the study has brought to the fore some encouraging practices as observed in the Mathematics classrooms of the sampled schools. Facilitating problem solving skills and providing opportunities for developing analytical and logical reasoning that are closely associated with Mathematics learning, are being practised by nearly 83 percent of teachers, as observed from their classroom transactions.

Table 1
Percentage of Teachers Adopting Different Modes for Encouraging Learners in Learning Mathematics

Processes for Encouraging Learners in Learning Mathematics	Frequently	Sometimes	Rarely
Facilitating problem solving skills of students	53.7	29.3	17.1
Opportunities for analytical and logical reasoning	53.7	29.3	17.1
Scope for discovering mathematics principles and concepts	63.4	26.8	9.8
Addressing learning difficulties of students	39.0	53.7	7.3
Encouraging students' questioning	26.8	56.1	17.1

Providing scope for the development of problem solving skills and opportunities for analytic and logical reasoning process among students through teaching of Mathematics could be observed in around 83 percent of classroom practices observed. Similarly, scope for discovering mathematical principles and concepts by the students were provided in nearly 90 percent of the classrooms observed. In comparison, addressing learning difficulties of students and encouraging students' questioning were not promoted as frequently as in the previous practices.

Activities for Promoting Analytical and Logical Reasoning Abilities

The activities that are being conducted in the sampled schools for promoting analytical and logical reasoning through teaching Mathematics include, as stated by the teachers—non-textual problems to solve; more open-ended questions; scope to ask unusual questions; higher order thinking questions to solve; promoting divergent thinking abilities; solving and developing mathematical puzzles and quizzes; preparation of charts, models and answer sheets; solving challenging problems in groups; and peer learning groups for various mathematics activities.

CLASSROOM MANAGEMENT

Based on the objective of classroom management, the dimensions identified are—stimulating learning

environment, peer learning, non-discriminating behaviour of teacher, encouraging learners' participation, and overall balance in time management.

- Participatory approach, ensuring the involvement learner in the classroom learning process, seems to be the most preferred process, fully or partially, by the teachers in all of the mathematics classrooms observed.
- The individual learning needs were not attended frequently (29.3%) in classrooms as per the observation. No group activity was done in the classroom, however rarely (36.6%) individual activity was performed. The students while discussing said that they have maintained an activity copy in which they do all the activities assigned to them. In one school, students do all the activities in their home assignment copy. But, in rest of the schools, they go to maths lab and do a few activities such as, verify Pythagoras theorem, to show triangle similarity, angle subtended by an arc at the centre of the circle, sum of first n natural numbers and many more. If the students have more number of classes based on activities, then they can enjoy and learn mathematics better as they have mentioned that they face difficulties while proving a theorem.
- The scope for peer learning is found to be very less (4.9%). The

learning environment stimulation is found to be 77.3 percent. From the students' comments, it was found that they enjoy mathematics in class mostly when the questions and problems are to be solved in less time. Mostly (97.6%) non-discriminating behaviour of teachers with only 2.4 percent partially discriminating was found when the teacher mostly focused on front benchers who give immediate answers while solving problems. But, if students ask any question after the class, they are also welcomed. Some teachers give personal time to the students asking doubts.

- Time management is a key factor of classroom management, which is found to be 82.9 percent and in rest few it is found that the teacher was in a hurry to get the course completed and more questions though could have done, were not attempted.

LEARNERS' ASSESSMENT

The learners' assessment is analysed with respect to the strategies followed— oral, written or performance wise; self and peer assessment, continuous assessment, provision for follow up and feedback.

- In most of the classes observed, oral and written assessment strategies were followed whereas only in 2.4 percent classes, performance test was used for assessment. There are four formative assessments in terms

of unit tests and two summative assessments, i.e., one half yearly and one annual exam. All the exams are in the form of written tests in all the schools.

- It is observed that assessment has been done at the beginning of lesson in 48.8 percent classes.
- Only in 34.1 percent classes, questions were asked beyond the textbook, mainly while teaching probability, statistics and construction. However, in 36.6 percent classes, the questions in examination were focused more on topics such as circles and number system. During FGD, students expressed 'circle' as one of the difficult topics which have been transacted mostly based on the textbook.
- All the teachers said that they assess higher order thinking skills (HOTS) of the students by asking them to solve a question or prove a theorem in an alternative method other than the textbook method. Students were asked to solve Olympiad and exemplar problems such as, "If the sum of two prime numbers is 99, then what are the two numbers?"
- Though the feedback based on the assessment is found to be 70.7 percent in class, but the teachers claimed that after the evaluation, all of them provide feedback and conduct discussion with learners on strength and weakness of learners. They also mentioned that they motivate learners for

self-learning by assigning new problems to solve. 90.9 percent said that they provide alternate learning experiences which contradict from the students' point of view. One of them suggested making a pair of a bright student with a poor student so that a case of peer learning may arise.

- The scope for peer and self-assessment is rarely found from the classroom observation, i.e. 48.8 per cent, whereas the teachers revealed that the scope for peer and self-assessment is 81.8 percent. As per students' corner, self-assessment is mostly followed with peer assessment.
- All the teachers in the sample do continuous assessment by following the strategies like written assignments (82.2%) and oral work, observation, project work and presentation of the students, which are equally followed (72.7%) as compared to portfolio (45.5%).

MAJOR FINDINGS

1. Curricular contents in Mathematics prescribed for Class IX are found quite appropriate, grade specific and properly sequenced as expressed by the teachers.
2. Geometry concepts especially related to Euclidean geometry are difficult to transact as the teachers and students have problems in understanding these concepts.
3. Although, the resource materials, such as mathematics lab and mathematics kits are available in the majority of schools, their inadequacy from the point of view of number of students and lack of physical space for storage and use, is quite staggering.
4. Among the resource materials available in the schools, workbooks or practice books are most frequently used in the schools.
5. Teaching-learning materials, either made by students or teachers, are rarely used by more than one-third of the responding teachers.
6. The preparation of lesson plans and notes in Mathematics is more ritualistic than having any serious and practical pedagogical concern.
7. Introduction of the topic was mainly done by relating it to the previous lessons/knowledge and least by doing activities.
8. Methods appropriate to content and to the levels of students were found to be used frequently or sometimes by maximum teachers while teaching Mathematics.
9. The four major difficulties cited by the teachers in finding it difficult for using alternative and multiple processes are— (i) more time consuming, (ii) lack of students' interest, (iii) difficult for both teachers and students to pursue, and (iv) no scope in the textbooks.

10. Facilitating problem solving skills and providing opportunities for developing analytical and logical reasoning, which are closely associated with Mathematics learning, are being practised by teachers in most of the classes.
11. The attention to individual learning needs is not given so frequently in many classrooms.
12. No group activities were conducted and rarely any individual activity was conducted.
13. In most of the Mathematics classes, oral and written assessment strategies were followed.
14. The scope for peer and self-assessment is rarely found in Mathematics classroom.

DISCUSSION AND EDUCATIONAL IMPLICATION

The study gives a detailed account of the nuances of mathematics classrooms in terms of the content transacted, resources used, pedagogical processes employed, classroom management, and assessment strategy followed, etc. The findings of the study would support educationists to understand the processes of mathematics learning and would give an insight into the role of mathematics teacher as a facilitator. The content was found to be adequate by the teachers, though both teachers and students found some areas as difficult. Curriculum developers and textbook writers could reflect on these topics and the

transactional modality suggested and can revise the curriculum accordingly. At the same time, the study revealed how ICT helps in making some topics easier for the students. Teacher educators could focus on capacity development of the teachers in integrating ICT in mathematics classrooms. The pedagogical strategies were appropriately selected by the teachers; however, planning seems to be one of the weakest areas in Mathematics teaching. To fulfil our aim of making 'teacher as a reflective practitioner', planning of the lesson is very significant. Teachers might be oriented to reflect on the classroom processes while planning the lesson, during transaction of the lesson and do a critical reflection after finishing the class. This would definitely help teachers to improve teaching-learning processes in mathematics. Assessment requires serious attention as it is found that oral and written assessment strategies are mainly used in mathematics classroom. Innovative assessment processes have to be integrated so that learning mathematics becomes fun, and not a threat. This is in agreement with many of the research findings on maths anxiety and maths phobia such as, the study conducted by Zakaria and Nordin (2008). Peer learning and peer-assessment were rarely found in the classroom even though the studies conducted by Iqbal (2004) and Ahmadi (2000) found that cooperative learning improves the performance in mathematics.

Therefore, administrators should take steps in providing enough opportunity for teachers to develop their skills of organising peer learning in the classroom.

CONCLUSION

The study, basically, was an attempt to explore the classroom processes in terms of content, resource management, pedagogical strategy, classroom management and assessment. The findings indicate overall positive learning environment in the schools with respect to the pedagogical processes of mathematics. Teachers have interest in providing a stimulating learning environment to students, however planning of the lessons need to be more reflective in

nature. Innovative ways of teaching mathematics using ICT were tried out in the classroom; more focus needs to be given to alternative and multiple ways of solving the problems and peer learning. Assessment of students' learning continued to be conducted in the traditional oral and written questioning manner and it needs a paradigmatic shift. The study would help the educationists to plan in-service programmes for mathematics teachers meticulously focusing on the thrust areas of mathematics learning. Curriculum developers also might get input from the study for revising mathematics curriculum and textbooks to make mathematics learning more meaningful at the secondary stage.

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Quality of Elementary Education in Himachal Pradesh An Evaluative Study

HEM RAJ* AND MAMTA GARG**

Abstract

Quality education is the education that best fits the present and future needs of the learners in given circumstances and prospects. Quality education embraces the development of every student's potential in every new generation. The present study aimed to examine the existing quality of elementary education in Himachal Pradesh state which came up as a unique example of success in India for its high literacy rate and access to elementary education. The Gross Enrolment Ratio, for both boys and girls across rural and urban areas, is consistently above 100. Despite the enhanced enrolments, many reports indicated poor quality of education here. In this study, investigators intended to find out whether students were being prepared for life, which is the aim of education as envisaged in RTE, 2009. To have an insight about this, other related quality indicators (input and process) were studied. Descriptive survey method with mixed approach (quantitative and qualitative) was used. The sample of study consisted of 17 schools from three districts of Himachal Pradesh. Both non-testing techniques (observations and focus group discussion) and psychological tests/questionnaires were employed as per the objectives of the study. The results indicated that the input indicators of quality, related with learners (intelligence and achievement motivation), teachers (qualification, status and attitude towards teaching) and school infrastructure, were of satisfactory level to a large extent in most of the schools, still learners' outcome was not satisfactory. The unsatisfactory output may be attributed to the flawed input/process indicators, especially the modes of curriculum transactions which lacked child-centeredness.

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INTRODUCTION

Himachal Pradesh, which was considered one of the backward regions of North India for long, has fared much better in the field of elementary education than some of its more prosperous neighbors and in a much shorter time span. The state recognises education as the most important tool to achieve human development and is giving due emphasis on education by establishing primary, middle and secondary schools in difficult, isolated and marginal areas. It has made faster strides in education over the last two decades than most other states in the country. The average literacy level in the state is 83.8%. The total male literacy level is 90.08%, while the female literacy level is 76.6% (Census 2011).

The achievements of Himachal Pradesh in universalisation of elementary education have begun to be recognised lately. The Public Report on Basic Education (PROBE) published in year 1999 has brought the achievement of Himachal Pradesh 'a surprising exception' to the general pattern one can observe in North India. It was noted that four decades back, the status of elementary education in Himachal Pradesh was no different from Uttar Pradesh or Bihar or any other North Indian state, but it came in the league of a few states that have achieved Universal Elementary Education (Dreze, 1999). Drawing on PROBE, the achievement of Himachal

Pradesh was described as a 'quiet leap forward' (Mander, 1999).

The state opened new upper primary schools by covering all the remote areas of the state, to ensure that the children have to walk minimum distance from their habitation to attend the school. With the efforts of State Government, Himachal Pradesh emerged as the best performer with 100.81 GER at elementary level (DISE, 2014–2015). At present, there are functional 10,712 primary, 2,201 middle and 2,385 high schools (10+2) in Himachal Pradesh (Department of Economics and Statistics, Government of Himachal Pradesh, 2015).

Despite the improvement in enrolment and retention rates, students' attendance continues to be patchy, with one national survey reporting that around one quarter of enrolled children were absent on any given school day (ASER, 2011). Also, the performance of students of government schools (both primary and upper primary) is not up to the mark as reported in various studies and surveys (Aggarwal and Chugh, 2003; ASER, 2012, 2014; and Team lease Service, 2007). As per Annual State of Education Report (2014) of H.P., 30% of Class III students in Himachal Pradesh government schools were not able to comprehend the textbooks meant for the students of Class I. Likewise, students of Class V (25%) could not read a textbook meant for Class II. Less than two percent students of Class VI got

'A' grade on the achievement test in Hindi. In other subjects like English, Mathematics and Environmental Studies, the performance was poorer than that. The percentage of Class V students who could read Class II level textbook had gone down from 82.3% in 2007 to 72.8% in 2012, and the percentage of students who could solve three-digit problems, had declined from 66.9% to 48.7% during this period. A majority of students at primary level were not able to read and write properly, also the students at upper primary level had poor understanding of languages, mathematics, science and social sciences subjects (Kanwar, 2013).

This may be an indication of the fact that considerable quantitative expansion of education is happening at the cost of quality. It is to reiterate again that education is a process of development of physical, mental and spiritual aspects of human beings. Only admitting in a school is not 'education'. A student must have to learn the specific contents of the curriculum at a particular point or level of education and acquire the knowledge, skills, attitudes and values that help them in leading a meaningful life. Thus, every child has a right to learn, i.e., the right to education (admission). There has been a greater emphasis on the provision of more schools ('quantity') than on the activities that actually take place inside the classrooms ('quality'). Low quality education implies that even those children who

have completed schooling may not be functionally literate and numerate (Bajpai and Goyal, 2004).

The educational outcomes depend on various factors which include learners' readiness, teachers' preparedness, availability of teaching and learning resources and their effective use by teachers in the actual classroom activities. Educational outcomes also depend on how much teaching actually takes place, which in turn depends upon a number of factors including teachers' own attitudes towards teaching and their competencies. These different elements influencing educational outcomes can be thought of as comprising the 'quality' of education. Low quality of the school system contributes to irrelevant curriculum, faulty methods of teaching and evaluation, parental apathy towards actually sending their children to school, and teacher apathy towards developing learners' potentialities.

It is imperative that the quality of school system at elementary level may be improved because retention and transition from elementary to high school education depends upon the quality. The World Bank (1997) suggested that 'the best way to improve access is to improve quality which would make coming to school or staying in school a more attractive option from the perspective of parents as well as children'. Thus, after enrolment, concern to improve the quality of education in schools has started receiving the highest

priority in almost all countries of the world. The concern for improving the quality of education is equally thought about by developed and developing nations, i.e., at the places where access to education has been achieved and where people are still trying to accomplish it (Reddy, 2007). In fact, it has now been established that access and quality are not sequential elements, and a number of international organisations have visualised the role of quality as being instrumental in improving access to education (UNESCO 2003, UNESCO 2005). Thus, it has been realised that only education with quality can effectively fulfill the human development agendas, and therefore, provision of quality education is increasingly gaining importance in educational discourse across the globe. Additionally, the endeavours to improve quality will increase the proficiency of the public expenditure and will urge the stakeholders, especially parents to add to their education of wards (Quality of Primary Education in Pakistan, 2003).

Most of the empirical evidences available so far, on the quality of education in India, especially in Himachal Pradesh, have focused on the outcomes in terms of achievement in various school subjects only. Very little has been done to take an objective picture of what goes on in the classroom and whether the curriculum being taught is related with life, i.e., whether the school is really preparing the learners for

better future? How efficient learners are being produced? For this, there is a dire need to conduct empirical studies to assess the present system with regard to its compliance with the various quality indicators and to identify the issues which require immediate attention for improvement in education. The effort may help in suggesting an integrated model for education at elementary level to make education 'relevant for the learners'.

QUALITY INDICATORS OF ELEMENTARY EDUCATION

Quality can be defined in various ways depending on the circumstances. For Coombs (1985), quality in education refers to significant changes in the educational system itself, in the nature of its inputs (students, teachers, facilities and equipment); its objectives, curriculum, educational technologies; and its socioeconomic, cultural and political environment. Cheng (1995) defined education quality as 'the character of the set of elements in the input, process, and output of the education system that provides services that completely satisfy both internal and external strategic constituencies by meeting their explicit and implicit expectations'.

'Quality education is the education that best fits the present and future needs of the particular learners in question and the community, given the particular circumstances and prospects' (Navaneetham, 2017). The quality concept also has to embrace

the development of every member's potential in every new generation (Fredriksson, 2004).

To summarise, it may be said that if education is considered to be a pre-requisite for the acquisition of knowledge, enhancing skills, developing attitudes and values and leading a meaningful life, then quality education is one that satisfies the basic learning needs and enriches the lives of learners and their overall experience of living. Quality also pertains to the relevance of what is taught and learned and how well it fits the present and future needs of the particular learners in question in their context.

Quality indicators proposed by UNESCO (2003) have been classified into three categories— input including policy administration, support inputs, teachers and accessibility, process indicators include school climate, teachers' job assignments and satisfaction, teaching learning process and parent-school relationship; and output indicators include participation, retention, and completion rates, academic achievement, knowledge, skills and attitudes measured against the set standards linked to national goals, personality and other traits, students' perception of school and community's perception of school.

Input Indicators

Input indicators refer to those factors or conditions in school which may affect the outcomes. According to Chalmers (2008), 'Input indicators

reflect the human, financial and physical resources involved in supporting institutional programmes, activities and services'.

In this study, the investigator selected human resource (teachers and learners related variables) and material (infrastructural facilities given by RTE) in schools as input indicators, as these are essential factors in an effective teaching learning process and may have an impact on the outcomes of the pupils, as is evident from many researches.

Process Indicators

Process indicators are those factors which are related with the delivery of educational programmes, activities and services within the institutional environment (Burke, 1998).

The mode of transaction of curriculum and problems faced by the teachers were studied as process indicators in this study as these may determine effective transaction of the teaching learning process and hence may have impact on the learning outcomes of the students.

Output Indicators

Output refers to the immediate measurable results which are direct consequences of the activities implemented to produce such results (Burke, 1998).

In the present study, investigator assessed the output of education in terms of the ability of learners to use their classroom learning in real life situations. Therefore, functional aspects of learning (Math, Social

Studies and Language) were tested, which is in coherence with the main objective of the SSA (Education for Life).

OBJECTIVES OF THE STUDY

1. To investigate the input indicators of quality education in elementary schools, viz.
 - a. Teachers (in terms of qualification, status of job and attitude towards teaching)
 - b. Learners (intelligence and achievement motivation)
 - c. Availability of infrastructural facilities (as per RTE Act 2009)
2. To examine the process indicators of quality of education, namely, modes of curriculum transaction and problems faced by teachers
3. To assess the output indicator of quality, i.e., learning outcomes of the students at the last ladder (Class VIII) of elementary schooling in terms of:
 - a. Functional mathematical ability
 - b. Functional knowledge
 - c. Awareness about civic functionaries, rights and duties
 - d. Language proficiency

METHODOLOGY

In the present study, descriptive survey method was used to examine the quality of elementary education in Himachal Pradesh. Keeping in view the intent of the study, mixed approach (quantitative and qualitative) was adopted. Both non-testing techniques (observations and focus group discussion)

and psychological tests and questionnaires were employed.

The input indicators related with teachers, students and school infrastructure were studied by employing the psychological tests, scales and checklist. Input indicators included teachers' qualification, job status and their attitude towards teaching, students' intelligence and achievement motivation and school infrastructure.

The school teachers' educational and professional qualification and their job status were assessed as per the norms cited in Right to Education Act 2009. The attitude of teachers was evaluated on the basis of Teaching Attitude Scale given by Goyal (2007). This scale consisted of 22 items. Out of these 22 items, 10 items indicated favourable attitude, two indicated neutral and 10 indicated unfavourable attitude towards teaching. The reliability coefficient of the scale was 0.90 by using split half method and 0.95 with Spearman Brown correlation formula. The validity of the scale was determined through content validity and validity coefficient is 0.78.

The general mental ability, i.e., intelligence of the students was measured by employing culture fair intelligence test by Kapoor and Singh (2002). This intelligence test is designed in such a manner that reduces, as much as possible, the influence of verbal fluency, cultural climate, and educational level on individual's intelligence. In this test,

the examinees need to perceive the relationship in shape and figures. The test consisted of four subtests, involving different perceptual tasks, so that the composite intelligence measure avoids spurious reliance on a single skill. The reliability coefficient calculated by test-retest method was 0.73 and split half coefficient was 0.76. For the validity of the test, concept validity and concrete validity methods were used. The values of concept validity and concrete validity were found to be 0.81 and 0.70 respectively.

To assess the achievement motivation of the students, the investigator used Academic Achievement Motivation Scale developed by Sharma (1984). The scale consisted of 38 items, each with two possible alternative responses. The reliability coefficient calculated for the test retest correlation coefficient was 0.079 (boys) and 0.810 (girls), and split half coefficient was 0.697. Besides, three types of validity indices (content, criterion and construct) were established by the author of the scale.

The scores obtained by the sample of students in intelligence test and achievement motivation scale were evaluated on the basis of norms established by the authors of these tests. Available infrastructural facilities were observed by using a checklist and evaluation of these facilities was done on the basis of recommendations for infrastructures prescribed in Right to Education Act, 2009.

For examining and evaluating the process indicators, the investigator conducted observations and focus group discussions. The modes of curriculum transaction were observed by the investigator on an observation record sheet and information for the same was also obtained from the students in focus group discussions. This data was compared with the recommendations given in National Curriculum Framework (2005) and suggested the strategies prescribed in the curriculum of Central Board of Secondary Education (C.B.S.E). The observation record had information pertaining to the class, subject, teaching methods used by the teachers, use of teaching aids, use of blackboard and classroom interaction. The investigator made four to five observations in each of the selected schools over a period of ten months. The data obtained by these observation sheets were analysed to find out the strategies/methods used by teachers to teach in and outside the class. Frequency of various methods being used by the teachers were found out and compared with the suggestions given in NCF (2005) to deal with the curriculum.

To collect data on the problems faced by elementary school teachers, a questionnaire was constructed. Situations, conditions and experiences with respect to the availability of resources, classroom environment, administrative attitude, workload, students' behaviour, their parents' behaviour, etc., due to which a teacher feels uncomfortable or

unable to devote proper time to teach, have been termed as 'problems' for constructing the questionnaire on teachers' problems. The questionnaire had 63 questions related to problems faced by the teachers. The Cronbach's alpha was used to find the reliability that was found to be 0.775.

The output indicators were examined in terms of the ability of Class VIII students to translate their learning at schools to real life situations. Therefore, their functional mathematical ability, functional knowledge, awareness about civic functionaries, rights and duties, and language proficiency (Hindi and English) were measured. The bases of all these areas were derived from the objective of SSA and RTE, i.e., focus of elementary education of satisfactory quality with emphasis on education for life. Criterion referenced tests were constructed by the investigator to assess functional mathematical ability, functional knowledge and awareness about civic functionaries and rights and duties.

The functional mathematical ability test included items related to cost accounting/commercial mathematics, ratio and proportion in domestic life, measurement and mensuration. All these items are related to basic functional mathematics problems which are related to daily life. The functional mathematical ability test included items like— (i) What will be the price of 400 grams of sugar if price of 1 kg sugar is ₹40? (ii) What will be the

price of a book, if its actual price was ₹700 and shopkeeper sells it at 30% discount? etc.

Functional knowledge test consisted of questions related to practical knowledge which is useful in everyday life. Questions pertaining to health and hygiene, general safety, consumer awareness, local conditions, general science, etc., were included. Functional knowledge test included items like— (i) On which side should we walk on the road?, (ii) Which colour is used to show danger? etc.

Test on awareness about civic functionaries and rights and duties covers the items related to civic functionaries, local governance, its role and responsibilities as well as the rights and duties of citizens enshrined in Indian Constitution. Test on awareness about civic functionaries and rights and duties included the items like— (i) Who is the head of gram panchayat?, (ii) Which right is violated if a child of age 13 is made to work in a factory? etc.

In language proficiency test for assessing the writing skills, the investigator selected three topics (i.e., my village, my school and aim of my life) on which students were required to write paragraphs. The students had to write one paragraph in Hindi and another in English. For assessing the reading skills, paragraphs were selected from the language books of NCERT, Class VIII. Investigator gave 10 lines for reading.

The evaluation of students' responses on functional mathematical ability test, functional knowledge test and test on awareness about civic functionaries and rights and duties was done by creating a holistic rubric scale and four scale values (between 0 to 1) were assigned to the responses depending on the degree of correctness of the responses. Score 1 was given to the responses which were fully correct or the model response and Score 0 for either no response or a totally wrong response. In between these, scores of 0.5 and 0.25 were given for partially correct responses depending on the extent of correctness. The scores obtained by the students on these tests were graded as per the CBSE assessment system. The language proficiency of Class VIII students was assessed on the basis of two skills viz. reading and writing. The writing skills were assessed and scored on the basis of four criteria, i.e., Error per line, sequence of ideas, grammatical correctness and thoughtfulness. All these criteria were scored on three points scale i.e. Good, Average and Poor and the same criterion was adopted for scoring reading skills.

The data was analysed to have a better insight about the number of schools (out of the selected sample) with high, average or poor quality of input indicators, process indicators and output indicators of quality education.

SAMPLE

Multistage random sampling technique was used to collect the data. Out of twelve districts of Himachal Pradesh, the investigator selected three districts by random sampling method. Again by using random sampling method, five/six government elementary schools were selected from the three districts (depending upon the size of the district). In total, 17 elementary schools were selected from the three districts. The sample of teachers was taken from these selected schools. The sample of students constituted of all the students studying in Class VIII in 17 elementary schools. From these schools, all the available students were included, which ultimately make a total of 223 students, who provided information on all of the data collection instruments. The data was collected from the selected sample from December 2014 to March 2016.

FINDINGS

Related with Input Indicators

• Teachers

With regards to the availability of teachers in schools, it was found that all the schools had requisite number of teachers as per RTE norms. Most of them were employed on regular basis (69%) and some were on contractual basis (18%) or under some other schemes (13%) like SMC, PTA, etc. In all the schools

(except one), teachers possessed the required educational qualification (or even more than required). Besides basic qualification, 27% teachers had Junior Basic Training (JBT) or Elementary Teacher Training (ETT), 34% had obtained B.Ed. degree, and three percent had completed M.Ed. And 34% had professional diplomas/degrees in Arts/Drawing, Physical Education, Languages, etc. Only two percent teachers had not obtained any professional qualification.

Regarding their attitude towards teaching, it was found that there was not even a single teacher who had unfavourable attitude towards teaching. About 18% teachers possessed most favourable attitude, 72% teachers had favourable attitude and 10% teachers had neutral attitude toward teaching.

On the whole, it may be said that the quality of teachers in elementary schools in Himachal Pradesh is satisfactory.

• **Learners**

About intelligence level of the students, it was found that about 72% students possessed either average or above average intelligence but a few students exhibited below average intelligence (28%) on intelligence test. Out of these 28% students, only five percent scored low in the intelligence category.

Pertaining to achievement motivation, it was found that 44% students exhibited high achievement motivation, 18% had average achievement motivation and 38% students exhibited below average achievement motivation. This shows that more than 60% students had high or average academic achievement motivation.

With regards to learners' attributes, it may be said that the quality of learners in elementary schools is also good as most of them possess adequate intelligence and achievement motivation.

• **Infrastructural facilities**

Table 1
Infrastructural availability as per RTE Norms

Infrastructural components		RTE norms for Infrastructural Facilities		
			Yes	No
All Weather building	i	At least one classroom for every teacher	71	29
	ii	An office cum store cum Head Teacher's room	82	18
	iii	Barrier-free access (ramps, handrails)	42	58

	iv	Separate toilets for boys and girls	82	18
	v	Safe and adequate drinking water facility for all children	100	0
	vi	A kitchen where mid-day meal is cooked in the school	76	24
	vii	Playground	77	23
	viii	Arrangements for securing the school building by boundary wall or fencing	47	53
Teaching learning equipment		Shall be provided to each class as required	100	0
Library		There shall be a library in each school providing newspapers, magazines and books on all subjects including story-books.	35	65*

*A separate room was not available for library, but reading material was available.

Table 2
Quality aspects of Infrastructure

Infrastructure	Quality in schools (% of schools)		
	<i>Good</i>	<i>Average</i>	<i>Poor</i>
Building	65	23	12
Floor	76	18	6
Condition of classroom	41	53	6
Boundary wall	47	0	53
Playground	65	12	23
Ramp	42	47	11
Furniture for teacher	100	0	0
Furniture for students	82	18	0
Cleanliness of drinking area	82	18	0
Cleanliness of toilets	64.8	17.6	17.6
Quality of door/windows	94	6	0
Quality of blackboard	53	47	0
Condition of electrical appliances	88	12	0
Light and Ventilation	100	0	0

Five schools (29%) fulfilled all the ten norms and two schools (12%) had nine facilities as given in the RTE act. In addition, four schools (23.5%) had eight infrastructure facilities and one school had six facilities out of ten. There were three schools (18%) where five facilities were available and one school was having only four facilities out of ten. It was found that only two norms (i.e., safe and adequate drinking water facility and teaching learning equipment) were fulfilled by all the schools while some of the facilities (such as library, proper boundary wall, full ramps for barrier free access for physically challenged, etc.), were missing in a large number of schools (as shown in Table 1). Pertaining to the quality of infrastructure, it was observed that the condition of buildings was good in 65% schools, average in 23% schools and poor in 12% schools. Out of these, one school was not having its own building but was being run from a rented house. The boundary wall was found in a good condition in 47% schools and poor in 53% schools. As far as the classrooms are concerned, it was observed that in 41% schools, classrooms were in good condition as these had adequate and well maintained furniture for both the teachers and students. The classrooms had good quality blackboards, proper electrical fittings, were well lit and ventilated. There was not a single school where quality pertaining to drinking area

i.e. cleanliness of drinking area, door, window, and blackboard, condition of electric material (well fitted and not broken) was found poor. Cleanliness of toilets (18%) and condition of playgrounds (23%) as well as ramps (11.76%) were found to be in a poor state as these were not maintained at all.

Regarding the overall input indicators of quality education, out of 17 elementary schools, nine schools had sufficient input for quality education related with teachers, as required number of teachers were appointed in all the schools (mostly on regular basis and some on contractual or under some schemes) and all of them had qualification according to the prescribed norms. Besides this, most of them possessed favourable attitude towards teaching. More specifically, in 13 schools, the attitude towards teaching was found favourable and therest were neutral. Further, the quality pertaining to learners indicated that more than 65% students in all 17 schools were found to have average or above average level of intelligence. As far as achievement motivation of the student is concerned, it was found that in 11 schools, more than 60% students possessed average or above average motivation. On the contrary, there were three schools where more than 60% students had low level of achievement motivation. For infrastructure facilities, 12 schools had six or more than six facilities out

of 10 as per RTE (Table 1) and four schools lacked sufficient facilities.

On analysing the data of individual schools on all the aspects taken together, it was found that in two schools out of 17, the quality of teachers, learners and infrastructure was up to the desirable standards. Along with these, in five other schools, quality related to all the input indicators was satisfactory to a large extent. In rest of the schools, there were issues with one or the other factors, i.e., in some schools proper infrastructure was not available, in other schools, achievement motivation and intelligence among a large number of students was in below average category, or the teachers lacked favourable attitude.

Overall, for input indicators, it may be said that less than 50% schools of Himachal Pradesh (sampled in the present study) had all the input indicators (i.e., teachers, students and infrastructure) of satisfactory quality for imparting quality education and rest of the schools had some deficiencies.

Process Indicators

Modes of curriculum transaction

During observations, it was found that the teachers regularly took classes but the methodologies used by the teachers were not appropriate, as they used traditional methods of book reading followed by little explanation and writing new concepts and difficult words and their meanings

on the board. A few teachers asked some questions also. None of the teachers in any school was found to use any innovative or learner-centred strategies for teaching.

The investigator tried to confirm his observations, i.e., whether this was the only mode being used in schools, or if the teachers used other methods and strategies also, which were missed by the investigator during observations. For this, the investigator conducted focus group discussions with students. During focus group discussion, students told that the teachers used to read the text, translate it, give meaning of the difficult words and then ask the students to read aloud. In all the classes, teachers used to spend the first few minutes asking about the previous day's homework. Then the teachers taught the day's lesson and gave homework. Most of the students reported that in Science and Math classes, the teachers used the blackboard to teach them; while in language classes, the blackboard was not much used. Students also reported that the teachers checked the class work of the monitor and then asked them to check the class work of other students.

Problems faced by teachers in teaching learning process

The problem that was most frequently mentioned by the teachers (25%) was related to students' behaviour in teaching-learning process, 14% teachers reported problems related

with the infrastructure, 16% teachers reported problems with respect to administration. About 19% teachers mentioned that they lacked motivation for the job due to various reasons. Along with these, 12% teachers reported that they faced problems due to tasks other than teaching and 13% teachers were disturbed with parents' behaviour. With regards to interpersonal relationships, only one percent teachers complained to have poor relationship with the colleagues. Besides these, many teachers faced different kinds of problems in schools related to the availability of time,

parents' behaviour and tasks other than teaching, which affect the teaching learning process.

Output Indicators

The learning outcomes of the students of Class VIII were assessed by administering tests for Functional Mathematical Ability, Functional Knowledge, Awareness about Civic Functionaries, Rights and Duties, and Language Proficiency (Hindi and English). The scores obtained by the students were graded according to the CBSE norms and the percentages of students with different grade levels were found out.

Table 3
Achievement levels of students in Functional Mathematical Ability, Functional Knowledge, Awareness about Civic Functionaries, Rights and Duties

Marks%	Achievement Levels (CBSE grading system)	Percentage of students in different categories of achievement levels in three tests		
		<i>Functional Mathematics</i>	<i>Functional Knowledge</i>	<i>Civic Awareness</i>
91-100	Super	0	0	0
81-90	Best	0.45	0	0.9
71-80	Very Good	0.45	1.34	7.62
61-70	Good	2.69	8.97	4.93
51-60	Fine	2.69	19.73	3.59
41-50	Average	7.17	22.87	12.11
33-40	Below average	9.42	20.18	8.52
21-32	Needs improvement	20.18	17.49	25.56
0-20	Not Satisfied	56.95	9.42	36.77

Functional mathematical ability means the ability to use mathematical functions in routine

tasks and contexts and in the world of work. Learners who are functional with mathematics are able to use and

apply the mathematics they know to address the problems that arise in their life and work (Functional Skill Support Programme, 2008).

In the test of Functional Mathematics, most of the students showed very poor performance. Only 14% students exhibited average or above average ability for Functional Mathematics and nine percent passed the test but scored below average. Out of 223 students, only 23% students passed and the remaining 77% could not pass this test.

Functional Knowledge covers day-to-day general knowledge of the things, matters and concerns. General awareness about self and surroundings focuses on basic knowledge which is helpful for individuals in daily life.

For Functional Knowledge Test, it was found that more than half of the sample possessed reasonable knowledge which is useful in day-to-day life as 53% students scored average or above average and though 20% students passed the test but were not having adequate functional knowledge. Remaining 27% could not even pass this test.

Civic Awareness is concerned with the content of that the citizens are ought to know about government, civic life, constitution and the processes of government and the

role of an individual as a citizen. It is very important to help children to be responsible members of a civil society (Riley, 1997).

It was found that in the test of Awareness about Civic Functionaries, Rights and Duties, large number of the students (62%) showed very poor performance. In all, 38% students passed the test and out of these, about 29% students obtained average or above average scores. To conclude, it may be said that most of the students are not much aware about civic functionaries, rights and duties of citizens.

Language proficiency is the ability of an individual to speak or perform in an acquired language. For the present study, the language proficiency of Class VIII students was assessed for Hindi and English language on two skills, viz. Writing and reading. For assessing the writing skills, the investigator selected three topics (i.e., My village, My school and Aim of my life) on which students were required to write paragraphs. The students had to write one paragraph in Hindi and another in English. For assessing the reading skills, paragraphs were selected from the language books of NCERT of Class VIII. The investigator gave 10 lines for reading.

Table 4
Hindi language proficiency among 8th Graders (in percentage)

Levels of language Proficiency	Reading Proficiency	Writing Skill			
		Spelling	Grammar	Sequencing of ideas	Thoughtfulness
Good	86	28	10	02	02
Average	12	55	73	58	28
Poor	02	17	17	40	70

Table 5
English language proficiency among 8th Graders (in percentage)

Levels of language Proficiency	Reading Proficiency	Writing Skill			
		Spelling	Grammar	Sequencing of ideas	Thoughtfulness
Good	33	45	01	01	01
Average	53	32	31	22	11
Poor	14	23	68	77	88

It was found that most of the students possessed average proficiency for spellings and grammar in Hindi language but performed poorly in the cognitive aspect of writing, i.e., generation of ideas and its sequencing. While in language proficiency in English, most of the students performed poorly in grammar, sequencing of ideas and thoughtfulness. As far as reading is concerned, most of the students possessed good reading skills in Hindi language. On contrary, most of the students possessed average reading skills in English language.

To summarise the outcomes in five subject areas mentioned above,

it was found that 77.13% students (172 out of 223) in Functional Mathematics, 26.91% (43 students) in Functional Knowledge and 62.33% (139 students) in Awareness about Civic Functionaries, Rights And Duties could not even score passing marks (33%). In other words, expect for Functional Knowledge where about 73% got at least passing marks (33%), in the other two tests only a few students got through, i.e., 23% in Functional Mathematics and 38% in Awareness about Civic Functionaries, Rights and Duties. For language proficiency, most of the students scored average in Hindi language and poor in English language.

Classification of students based on performance in different tests

Besides analysing the number of students in different grade categories on different tests, the investigator also evaluated the performance of each student individually on three tests (Functional Mathematics, Functional Knowledge and Awareness about Civic Functionaries, Rights and Duties). The data has been illustrated in Figure 1.

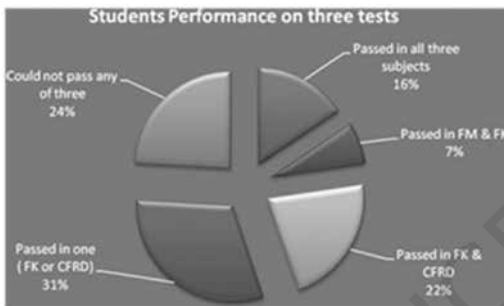


Figure 1: Students' performance in three tests

As shown in Figure 1, there were only 16% students who got at least passing scores on all the three tests, whereas 24% could not even pass any of the three. Remaining 60% students scored passing marks in at least one out of the three tests. Maximum number of students (31%) passed in one test only (either Functional Knowledge or Awareness about Civic Functionaries, Rights and Duties). Rest of the students passed in two out of three tests, i.e., seven percent in Functional Mathematics and Functional Knowledge, whereas 22% in Functional Knowledge as well as Awareness about Civic Functionaries,

Rights and Duties. In other words, it may be said that the performance of most of the students was not up to the mark.

Overall quality of education in schools (with respect to input, process and output indicators)

- Out of 17 schools, not even a single school was found wherein all the three quality aspects, i.e., input, process and output, have a satisfactory level.
- There were four schools out of 17, wherein all the input indicators of quality education (except for modes of curriculum transaction) were meeting the norms.
- None of the schools showed satisfactory process and output indicator of quality. In all the schools, teachers used traditional modes of teaching and most of the students possess low level of Awareness about Civic Functionaries, Rights and Duties, competence for using mathematics related to life situations and poor language proficiency for English but did not have sufficient functional knowledge and proficiency to read and write Hindi language.

DISCUSSION OF RESULTS

The results of the present study showed that in most of the schools, basic input indicators were satisfactory to an extent as there were required number of teachers with adequate educational qualification

as per norms, and had desirable attitude for teaching. Along with this, most of the students have adequate intellectual level and achievement motivation and school infrastructure especially, school building, proper classrooms with sufficient furniture, safe drinking water, separate toilets for boys and girls, etc., were also available in most of the schools. Despite the sufficient basic inputs, the desired output was not achieved as most of the students were not able to apply their mathematical knowledge to real life situations, had insufficient functional knowledge and lacked in their awareness about civic functionaries and were deficient in writing skills in Hindi and English both.

The poor achievement levels of students in all the subjects have been evidenced in researches (Aggarwal and Chugh, 2003; Ahmed, 2013; Goyal, 2007; Kumar, 2015; Mehta, 2008; Teamlease Services, 2007; Thakur, n.d.) and many reports (ASER, 2012, 2014; DISE 2012–13; SSA, 2009; NAS, 2017). Not much change has been observed since then as latest reports also indicate similar results. According to ASER (2016), 55% students of Class VIII cannot read simple sentences in English. Of those who can read these sentences, only about two-thirds know the meaning of the content. In Mathematics also, only 43.2% can divide a 3 digit number by a 1 digit number, something that is usually taught in Class II. As per NAS 2017,

the performance of Himachal Pradesh has been found comparable to national average. In 2017 NAS report, Himachal Pradesh elementary school students scored 59% in comparison to 56% national average in language, 35% vs 42% for mathematics, 43% vs 44% in science and for social science the percentage remains equal at 43. Only simple items could be responded by the students, performance of the students on items covering the topic 'Ratio and Proportion and relationship' was also low. In Social Science, a large number of students did not know about Civics especially our Constitution, Judicial System, Parliamentary Government, etc. The findings of the present study also coincide with these findings of NAS as well as with the findings of a survey by SSA, cited in Himachal Watcher (April 17, 2015) that 74 percent of Class VIII students did not have class appropriate competence.

It was also found that most of the teachers were facing various problems related to parents' behaviour, availability of time, students' behaviour and extra workload. Teachers have to do a lot of clerical work such as, to maintain the register related to funds and MDM, etc., which put a lot of pressure on the teachers. This seemed to affect their capacity to teach and as a consequence, learning outcome of the students has decreased. Regular PTA meeting and awareness programmes for parents must be organised; rules and regulations by the government

must be taken into consideration for working hours and workload of the teachers. Administrative positions should be instated in the school according to the requirement of the school so that the teaching learning activities run smoothly.

There are a number of home related factors which influence the students' learning (Kingdon, 1998), but were not included in the present study. The parents of most of the students in rural government schools are not much educated. Thus, expecting much from them is unrealistic, i.e., it cannot be expected from them to teach their wards.

CONCLUSION AND SUGGESTIONS

Quality in education is the most talked about topic in both developed and developing countries among researchers, academicians and policy-makers. There are sufficient reasons to conclude that the situation of quality of education is almost same in many countries around the globe. It can be assumed that many children leave school without having developed sufficient basic literacy skills (Fredriksson, 2004). Government should emphasise more on learning rather than schooling. This shift from schooling to learning would mean a shift in focus from inputs to learning outcomes. Cuesta, Glewwe and Krause (2015) write that it can be achieved only by changing the way schools are run. Policymakers as well as researchers have to collectively work for this.

The findings of the present study indicated that the input indicators of quality related with learners (intelligence and achievement motivation), teachers (qualification, status and attitude towards teaching) and school infrastructure, teacher-taught relationship were of satisfactory level to a large extent in most of the schools still learners' outcome was not satisfactory. The unsatisfactory output may be attributed to the process indicators, especially to the modes of curriculum transactions which lacked child-centredness.

On the basis of findings of the present study, the researchers suggest that there is dire need to change the teaching methodology being used by teachers as results showed that their methods used for curriculum transaction are teacher-centred. Zakaria, Chinand Daud(2010) have also suggested that the process of education should not only focus on transacting rules, definitions and procedures for the learners to cram, but should also involve them as active participants. Greitzer(2002) talked about training teachers in teaching methodology which is more learner oriented and encourage active participation of children in the learning process. Hesson and Shad(2007) talked about promoting interest, analytical research, critical thinking and enjoyment among children. Providing training to teachers and specific

in-service training programmes for child centred teaching methodology would improve the practical knowledge, ability and skills amongst students and their preparedness for life. The teacher should get regular appointment and be provided with all the required facilities and their other problems may be resolved by the administrations so that their motivation may not lower down. As parents are not literate, hence, it becomes the duty of teachers to orient the parents on how they can support their wards by sending them to the

school regularly and by providing them sufficient time at home to do their assigned homework and also have a constant contact with teachers to have a check on the progress of their wards.

It may be said that quality cannot improve by itself. National Policy of Education 1986 and 1992 suggested that quality of education requires multi-pronged and strategic reforms in teacher training, improvements in the facilities and infrastructure in schools, teachers' motivation and a change in the style of teaching to make each student learn.

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Elementary Education in Chhattisgarh Status and Policy Perspectives

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Abstract

Realising the importance of education in national development, momentum has been gathering in the last two decades all over the country for restructuring and consolidating education system in a bottom-up approach. Stringent initiatives have been taken to expand and strengthen elementary education as it marks an important phase in the life of school going children. In order to attain the goal of elementary education, every state has been putting enormous efforts, henceforth it is essential to know the scenario of elementary education in various states in general and Chhattisgarh in particular. Chhattisgarh is one of the newly formed states, and has no long history on elementary education. In this study, an attempt has been made to find out the growth of various types of elementary schools, enrolment of boys and girls, gross enrolment ratio, drop-out rate at various levels, teacher population and teacher-pupil ratio of Chhattisgarh from 2012-13 to 2016-17. This paper also highlights various implemented schemes by the state of Chhattisgarh such as, syllabus revision, computer literacy project, introduction of English language in Class I, appointment of teachers, training of in-service teachers, infrastructure facilities, distribution of free textbooks and uniforms, Mid-day Meal scheme, and insurance and scholarships for students to improve elementary education.

INTRODUCTION

Chhattisgarh is one of the newly formed states in India that came into existence on 1 November, 2000, after

being separated from the then Madhya Pradesh. It is located in the centre-east of the country. Chhattisgarh is one of the fastest-developing states in India.

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Chhattisgarh shares its borders with six states— Madhya Pradesh in the northwest, Maharashtra in the south west, Telangana in the south, Odisha in the southeast, Jharkhand in the northeast and Uttar Pradesh in the north. It is situated between 17°47' N and 24°06' N latitudes and 80° 15' E and 84° 24' E longitudes. It is the tenth largest state in India, with an area of 135,191 square km. Most of its regions are covered with dense forests, hills and untraceable areas. Currently, the state consists of 27 districts and 149 blocks.

Total population of Chhattisgarh, as per 2011 census, is 25,545,198, of which male and female are 12,832,895 and 12,712,303 respectively. In 2001, the total population was 20,833,803, in which males were 10,474,218 and females were 10,359,585. The total population growth in this decade was 22.61 per cent, while in previous decade, it was 18.06 per cent. The population of Chhattisgarh was 2.11 per cent of the total population of India in 2011. In 2001, the figure was 2.03 per cent. The rural and urban populations, as per census 2011, are 19,607,961 and 5,937,237 respectively. The population density is recorded to be 189 people per square kilometre and the sex ratio is 991 females per 1000 males. According to the 2011 census, a large share, i.e., 77 per cent of its population lives in rural areas.

According to the 2001 census report, Chhattisgarh had a literacy

rate of 64.66 per cent, which included male and female literacy rate of 77.38 per cent and 51.58 per cent respectively. As per census 2011, the overall literacy rate increased to 70.28 in which male and female literacy rates are 80.27 and 60.24 respectively. Rural and urban literacy rates are 65.99 and 84.05 respectively. The overall growth in the literacy rate of Chhattisgarh was 12.72 within a decade. The decadal growth of male literacy was 2.89 per cent, while the female literacy was 8.39 per cent.

Being a new state, it has been facing many challenges in almost all the fields. In spite of such a challenging condition, the state has emerged as one of the most developing states in India. It has also made a tremendous progress not only in the field of agriculture, industry, public distribution system but also at all the levels of education sector.

Today, one of the most important tasks before the state is to expand and strengthen its elementary education. To achieve this goal, even though the state has been putting enormous efforts, but it is essential to know the scenario of elementary education in this state. In this study, an attempt has been made to discern the growth, present status and initiatives taken for the improvement of elementary education in Chhattisgarh.

OBJECTIVES OF THE STUDY

The investigation was conducted with the following objectives:

1. To study the status of elementary education in Chhattisgarh since 2012 for a period of five years (2012–03 to 2016–17) in terms of— (a) number of schools, (b) students' enrolment and dropout rate, and (c) teacher population.
2. To study the various schemes implemented for the improvement of elementary education in Chhattisgarh.

DATA BASE AND METHODOLOGY

The present study primarily utilised the secondary sources of information. Data for the study were obtained from several sources such as, census of India 2001, 2011 and U-DISE, NUEPA. Also, data were collected from the Department of Education, Government of Chhattisgarh.

No specific tool has been used to collect the data. No sample has been drawn for conducting the research work. All the units of population have been taken into consideration. The data were tabulated and analysed by using appropriate techniques like frequency and percentage analysis. Graphical representations of the data were made wherever required.

RESULTS AND DISCUSSION

(a) Status of Elementary Schools in Chhattisgarh

The analysis of the growth of elementary schools was made for

a period of five years (2012–13 to 2016–17). The description regarding the growth or decline of elementary schools is presented in Table 1 and Table 2.

Table 1
Status of Elementary Schools in Chhattisgarh (2012–13 to 2016–17)

Year	Primary	Upper Primary (UP)	Total
2012–13	35672	14210	49882
2013–14	35325	12682	48007
2014–15	35149	12601	47750
2015–16	32826	12014	44840
2016–17	32969	11884	44853

Source: U-DISE, NUEPA

In Chhattisgarh, there were a total of 49882 elementary (Primary and Upper Primary) schools in the year 2012–13. The number of elementary schools declined up to 44853 by the year 2016–17, i.e., 5029 elementary schools were closed down within a period of five years, on an average 1006 schools per year (Table 1).

Table 1 shows that there were 35672 Primary schools in the year 2012–13 and it decreased to 32969 by the year 2016–17. It was that the number of Primary schools decreased from the year 2012–13 to the year 2016–17. However, the number of Primary schools increased in the year 2016–17 with respect to 2015–16. So far, the number of Upper Primary schools are concerned, it was found that there was a continuous fall in the number of students from the year 2012–13 to 2016–17. There were

14210 Upper Primary schools in the year 2012–13, then the number decreased, and by the year 2016–17, the number of Upper Primary schools reached to 11884.

Table 2
Management wise Distribution of Elementary Schools in 2016–17

Type	Primary	Upper Primary	Total
Govt.	30938 (93.84)	11662 (98.13)	42600 (94.98)
Govt. Aided	212 (0.64)	68 (0.57)	280 (0.62)
Pvt.	1819 (5.52)	154 (1.30)	1973 (4.40)
Total	32969	11884	44853

Source: Source: U-DISE, NUEPA

Note: Figures in the parentheses indicate percentage.

It is evident from Table 2 that there are three types of elementary (Primary and Upper Primary) schools in Chhattisgarh viz. government, government aided and private. As per the statistics of 2016–17, 93.84 per cent of the Primary schools were government schools and very less

per cent, i.e., 0.64 and 5.52 per cent schools were government aided and private schools. On the other hand, 98.13 per cent Upper Primary schools were government schools and the remaining 0.57 per cent and 1.3 per cent Upper Primary schools were government aided and private respectively.

There was a total of 44853 elementary schools in year 2016–17, which accounted of 94.98 per cent government schools, 0.62 per cent government aided schools and 4.40 per cent private schools.

(b) Enrolment in Elementary Education (EE) in Chhattisgarh

The analysis of the growth or decline of enrolment of elementary (Primary and Upper Primary) school students was made for a period of five years (2012–13 to 2016–17). The description regarding the number and percentage of growth or decline of students in various years with respect to the year 2012–13 is presented in Table 3.

Table 3
Enrolment in Elementary Education in Chhattisgarh (2012–13 to 2016–17)

Year	Primary	% Decline/ Growth	Upper Primary	% Decline/ Growth	Total	% Decline/ Growth
2012–13	3057283		1695256		4752539	
2013–14	2922943	-4.39	1666621	-1.69	4589564	-3.43
2014–15	2887939	-5.54	1660741	-2.03	4548680	-4.29
2015–16	2793005	-8.64	1664350	-1.82	4457355	-6.21
2016–17	2710696	-11.34	1639555	-3.28	4350251	-8.64

Note: The minus (-) sign (-) indicates decline.

Source: Source: U-DISE, NUEPA

In the year 2012-13, students enrolment at Primary stage was 3057283, which declined to 2710696 by the year 2016-17. Analysis reveals that the enrolment at Primary stage declined in all the years. The percentage of decline was highest in the year 2016-17, i.e., 11.34 per cent and was lowest in the year 2012-13, i.e., 4.39 per cent w.r.t. the enrolment of 2012-13. The enrolment at Upper Primary stage in 2012-13 was 1695256 (Table 3). During the subsequent years, enrolment declined and there was about 2.03 per cent drop in enrolment by the year

2014-15. However, a slight increase in enrolment occurred between 2014-15 and 2015-16. By the year 2016-17, the enrolment at Upper Primary stage reached to 1639555, it dropped down by 3.28 per cent as compared to the base year 2012-13. The total enrolment (Primary and Upper Primary) was 4752539 in the year 2012-13 (Table 3). There was found a gradual decline of enrolment in the subsequent years. The enrolment became 435025 by the year 2016-17, which accounted a decline of 8.46 per cent w.r.t. the base year 2012-13.

Table 4
Enrolment in Class I in Chhattisgarh
(2012-13 to 2016-17)

Year	Boys	Girls	Total	% Growth/ Decline
2012-13	309478 (51.17)	295320 (48.83)	604798	
2013-14	282989 (51.27)	269018 (48.73)	552007	-8.73
2014-15	294028 (51.37)	278290 (48.63)	572318	-5.37
2015-16	290797 (51.34)	275625 (48.66)	566422	-6.35
2016-17	286533 (51.27)	272286 (48.73)	558819	-7.6

Note: The minus (-) sign (-) indicates decline.

Source: Source: U-DISE, NUEPA

The data in Table 4 reveals the enrolment of Class I in Chhattisgarh from the year 2012-13 to 2016-17. It was found that the enrolment in Class 1 declined from 604798 in 2012-13 to 558819 in 2016-17 (Table 4), showing a decrease of 7.6 from the base year 2012-13. The enrolment

was highest in 2012-13 and lowest in 2013-14. It is pertinent to note that in all the years, percentage of girls enrolment was less than that of boys enrolment and the ratio of boys and girls enrolment was quite consistent, i.e., about 51:49.

Table 5
Gross Enrolment Ratio in Elementary Education in Chhattisgarh
(2012–13 to 2016–17)

Year	Primary			Upper Primary			Elementary (Primary+Upper Primary)		
	All	Boys	Girls	All	Boys	Girls	All	Boys	Girls
2012–13	110.90	DNA	DNA	97.56	DNA	DNA	104.23	DNA	DNA
2013–14	103.99	104.06	103.92	100.72	100.35	101.10	102.78	102.69	102.87
2014–15	102.75	103.04	102.44	100.37	100.20	100.54	101.86	101.99	101.73
2015–16	99.69	99.91	99.46	101.45	100.92	101.99	100.34	100.98	100.40
2016–17	97.07	97.26	96.87	100.81	99.55	102.12	98.45	98.11	98.81

Note: DNA- stands for Data Not Available.

Source: U-DISE, NUEPA

Table 5 shows the Gross Enrolment Ratio (GER) of Elementary Education in Chhattisgarh from 2012–13 to 2016–17, indicating the extent of participation of students in elementary education over the years. The GER at Primary stage declined from 110.90 to 97.07 between 2012–13 and 2016–17. Similarly, the overall GER at elementary level declined from 104.23 to 98.45 between 2012–13 and 2016–17. However, the GER at Upper Primary stage increased from 97.56 to 100.81 in the said period (Table 5). It is found that there is an optimum degree of access to elementary education over the years.

Table 6
Enrolment of Boys and Girls in EE in Chhattisgarh
(2012–13 to 2016–17)

Year	Primary		Upper primary		Both (P+UP)	
	Boys	Girls	Boys	Girls	Boys	Girls
2012–13	1560784 (51.05)	1496499 (48.95)	858689 (50.65)	836567 (49.34)	2419473 (50.90)	2333066 (49.09)
2013–14	1491507 (51.03)	1431436 (48.97)	844684 (50.68)	821937 (49.32)	2336191 (50.90)	2253373 (49.50)
2014--15	1476869 (51.14)	1411070 (48.86)	843386 (50.78)	817355 (49.22)	2320255 (51.01)	2228425 (48.99)
2015--16	1428455 (51.14)	1364550 (48.86)	843779 (50.70)	820571 (49.30)	2272234 (50.98)	2185121 (49.02)

2016--17	1387044 (51.17)	1323652 (48.83)	826579 (50.41)	812976 (49.59)	2213623 (50.88)	2136628 (49.12)
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Note: Figures in the parentheses indicate percentage.

Source: Source: U-DISE, NUEPA

As evident in Table 6, in the year 2012–13, the percentage of enrolment of boys and girls were 50.9 and 49.09 respectively at elementary level (Primary and Upper primary). The ratio reached to 50.88:49.12 by the year 2016–17, which was almost same as in the year 2012–13 (Table 6). It is pertinent to note that there is no such change observed in the gender gap in the enrolment at the elementary stage during the five years of study. It is also revealed that the participation of girls in the state was found relatively constant over the five years.

At Primary stage, the boys-girls enrolment ratio was 51.05:48.95 in the year 2012–13 and by the year 2016–17, the ratio was 51.17:48.83 (Table 6). Analysis reveals that the boy and girl enrolment ratio at

Primary stage was more or less same throughout the five years of study.

On the other hand, the enrolment ratio of boys and girls at Upper primary stage in the year 2012–13 was 50.65 and 49.35 respectively. Over the five years of study, the boys-girls enrolment ratio at Upper Primary stage was almost the same and by the year 2016–17, the ratio stands at 50.41:49.59. Further analysis (Table 6) reveals that the gender gap in enrolment is lesser at Upper Primary stage as compared to the Primary stage. The findings showed that the total enrolment (boys and girls) at Upper Primary stage is lesser as compared to the Primary stage, due to the fact that at this stage, the rate of dropout of students is higher than the Primary stage.

Table 7
Enrolment of Boys and Girls of Different Castes in the Year 2016–17

	Scheduled Caste (SC)			Scheduled Tribe (ST)		
	Boys	Girls	Total	Boys	Girls	Total
Primary	199189 (50.76)	193214 (49.23)	392403	452726 (51.21)	431321 (48.79)	884047
Upper Primary	122586 (50.18)	121715 (49.82)	244301	255139 (50.26)	252503 (49.74)	507642

Note: Figures in the parentheses indicate percentage.

Source: Source: U-DISE, NUEPA

Data in Table 7 shows the enrolment of boys and girls of SC and ST students in the year

2016–17. It is evident from Table 7 that at Primary stage, the enrolment ratio of boys and girls among Schedule

Caste (SC) and Scheduled Tribe (ST) students are almost same. Similarly, at the Upper Primary stage, the ratio of boys-girls of both categories is not much different in the year 2016–17. However, it was observed that in both Primary and Upper Primary stages, the enrolment of ST students (boys and girls) is higher than SC students (boys and girls). It is surprising to note that the gender gap in enrolment of both SCs and STs are slightly higher at the Primary stage than the Upper Primary stage. Compared to the overall gender gap, the gender gap in the enrolment of SCs and STs is slightly more. It is one of the findings

that caste is a factor associated with gender gap in the enrolment in Primary and Upper Primary schools. Analysis indicates that in all the categories, safe gender gap in enrolment is a common phenomenon in elementary education. In all cases, the percentage of boys' enrolment at elementary level is higher than the percentage of girls' enrolment.

Dropout Rate at Elementary stage

Dropout rate of boys and girls at different stages of school education over five years, i.e., from 2012–13 to 2016–17, has been presented in Table 8.

Table 8
Dropout Rate of Boys and Girls in Elementary Education in Chhattisgarh (2012–13 to 2016–17)

Year	Primary (I–V)			Upper Primary (VI–VIII)		
	Boys	Girls	Total	Boys	Girls	Total
2012–13	4.24	4.05	4.14	6.09	4.73	5.42
2013–14	1.45	1.38	1.42	4.09	3.51	3.80
2014–15	1.45	1.38	1.42	4.09	3.51	3.80
2015–16	3.08	2.74	2.91	6.47	5.22	5.85
2016–17	3.42	3.07	3.25	7.05	5.29	6.18

Source: Source: U-DISE, NUEPA

As per the data in Table 8, it was found that the dropout rate has decreased from 4.14 in 2012–13 to 3.25 in 2016–17 in Primary schools. But the reverse trend of dropout rate was observed at Upper Primary level. It was found that the rate of dropout was 5.42 in the year 2012–13 and by the year 2016–17, it increased to 6.18. Dropout rate at Primary stage was highest in the year 2012–13, i.e.,

4.14, however, at the Upper Primary stage, it was highest in 2016–17. Compared to Primary stage, the dropout rate remained consistently higher at Upper Primary stage over the five years of study, indicating the fact that more children leave school before completing Class VIII. Further analysis of the statistics of 2016–17 revealed that out of every 100 children enrolled in Class I, approximately 96

students could reach Class V and 94 students could reach Class VIII.

It is evident from Table 8 that there is no such substantial difference in the dropout rate among boys and girls at Primary stage during the last five years of study. However, at the Upper Primary stage, the dropout rate of boys was considerably higher than that of girls over the five years. This result thus revealed that gender is not a significant factor associated with dropout rate at the Primary stage where as at Upper Primary stage,

gender is associated with the dropout rate among children. Henceforth, it is felt that the dropout rate of children at elementary stage in general and boys in particular are a major cause of concern.

(c) Teacher population

An analysis was made to find out the percentage of male and female teachers in elementary (Primary and Upper Primary) schools for a period of five years (2012–13 to 2016–17). The detailed description is given in Table 9.

Table 9
Percentage of Male and Female Teachers in Elementary Schools of Chhattisgarh (2012–13 to 2016–17)

Year	Primary		Upper Primary (UP)	
	Male	Female	Male	Female
2012–13	63.43	36.57	68.24	31.76
2013–14	63.13	36.87	68.09	31.91
2014–15	62.43	37.57	67.90	32.10
2015–16	62.12	37.88	67.85	32.15
2016–17	61.62	38.38	67.75	32.25

Source: U-DISE, NUEPA

At Primary stage, the percentage of male teachers was 63.43 and that of female teachers was 36.57 in the year 2012–13 (Table 9). In the subsequent years, the percentage ratio of both the teachers was almost same. By the year 2016–17, the ratio of male-female teachers was 61.62:38.38. Similarly, at the Upper Primary stage, the percentage of male teachers was 68.24 and that of female teachers was 31.76 in the year 2012–13. After

five years, i.e., by the year 2016–17, the percentage of male and female teachers became 67.75 and 32.25 respectively.

Analysis indicates that the proportion of female teachers increased consistently in comparison to male teachers both at the Primary and Upper Primary stages of school education. It also indicates that gradually women are showing affinity towards the teaching profession.

Table 10
Teacher-Pupil Ratio in Primary and
Upper Primary Schools
(2012–13 to 2016–17)

Year	Primary	Upper Primary
2012–13	23	24
2013–14	22	23
2014–15	21	23
2015–16	21	23
2016–17	20	22

Source: U-DISE, NUEPA

As evident from the data given in Table 10, the Teacher-Pupil Ratio (TPR) at the Primary and the Upper Primary stage was 1:23 and 1:24 respectively in the year 2012–13. A decline was observed in both the type of schools in the subsequent years and by the year 2016–17, Teacher-Pupil Ratio (TPR) was 1:20 at the Primary stage and 1:22 at the Upper Primary stage. The decline trend of TPR is due to non-recruitment of adequate number of teachers. However, low TPR may not be interpreted as a major factor for imparting quality elementary education.

IMPLEMENTATION OF SCHEMES FOR IMPROVEMENT OF ELEMENTARY EDUCATION IN CHHATTISGARH

In order to expand and improve elementary education, several schemes have been implemented. The functions and objectives of these schemes are presented below in brief:

(a) Preparation of textbooks and syllabus revision

With a view to improve the quality of education at elementary level, the

state revised the syllabus/textbooks of various classes and implemented them in a phased manner in all the government and government aided schools of Chhattisgarh. State primary education programme authority and SCERT are working collaboratively to maintain the standard of primary education in the state. With the help of state resource persons (SRP), a phase-wise review of textbooks and syllabus has been carried out.

(b) Computer Literacy Project:

Realising the importance of computer in the learning process, the government has introduced computer education for students in elementary schools. The objective of the scheme is to enable the students to use computer as an important learning aid, both at school and home. ICT instructors have been appointed to teach the basic contents of computer hardware and software and practical classes have been provided to acquire computer-related operational skills by the students. Time to time, funding has been allotted to spread ICT-related infrastructure in a better and bigger manner across schools.

(c) Introduction of English in Class I

As decided by the Government, English has been introduced as a compulsory oral subject from Class I onwards in all the State Board schools in order to reduce the dropout rate of children in upper classes as the students find English as a difficult language in higher classes.

Bridge-books and linker-books have been prepared by the resource persons to mitigate the side effects of shifting from mother tongue to English.

(d) Appointment of teachers

Appointment of teachers is regularly done by the state government. The state government has been appointing the required number of teachers every year at Primary and Upper Primary schools in order to strengthen the human resources and to improve the teaching-learning process. Stringent criteria are being followed to recruit a suitable teacher workforce for improving the quality of primary education in the State. A balance has been maintained through time to time appointment of teachers and also, cadres in teaching are being generated to attract qualified individuals towards teaching profession.

(e) Training for untrained teacher

The State has given training to train the un-trained teachers working at the Primary and Upper Primary schools of Chhattisgarh. In this state, teacher training through distance mode started on 7th May, 2012, to train 45,223 in-service teachers, which has been operated by State Council of Educational Research and Training (SCERT), Raipur. Later on, National Institute of Open Schooling (NIOS) also conducted a training programme for the remaining un-trained teachers of the State. DIETs are taking responsibility to organise

content enrichment training and pedagogy-related training for both trained and un-trained teachers in the primary schools of the state by appointing resource persons at district, block and even cluster level. Training modules have been prepared by primary education programme authority and orientation is given at subsidiary level.

(f) Infrastructure facilities

The State has given top priority to the improvement of infrastructure facilities in government schools under the Sarva Shiksha Abhiyan (SSA). Under this scheme, some school buildings have also been renovated. In previous years, compound walls, additional classrooms, and toilets or urinals including separate toilets for girls have been constructed. Water connection has been provided to the maximum schools and many schools have been electrified. As a result, a large number of government schools of Chhattisgarh at present have acquired improved infrastructure and the required physical facilities. Proposals have been taken from the concerned DEOs and BEOs regarding infrastructural deficiencies in District Review Meeting (DRM) by the district collectors and the problem of infrastructure in schools have been tried to solve through tenders.

(g) Incentive schemes

The Government of Chhattisgarh has launched a number of schemes to ensure maximum enrolment and to check the dropout rate at the

elementary stage. The schemes that have been launched are listed below.

- (i) *Free textbooks:* With a view to encourage the students for getting enrolled in the school, the Department of School Education, Chhattisgarh, supplies free of cost textbooks to all the students of state board elementary schools. DEOs, BEOs and CRCCs have taken the responsibility for smooth distribution of books among students.
- (ii) *Free uniforms:* Under this scheme, two pairs of school uniforms are provided free of cost to all the students of Class I to VIII irrespective of their socio-economic background to achieve the objective of hundred per cent retention and expansion of elementary education.
- (iii) *Mid-day meal scheme:* Under the scheme, hot cooked food is provided to the Primary and Upper Primary school children of all the government and government aided schools. Food for Primary school children contains 450 calories of carbohydrates and 12 grams of proteins, while food for Upper Primary school contains 700 calories of carbohydrates and 20 grams of proteins. In order to know the proper operation of the scheme, monitoring committees have been constituted at the State, District, Block and School level to monitor the effective implementation of the scheme. Due its functional flexibility, additional funds are given to maintain the quality and quantity of MDM in elementary schools.
- (iv) *Insurance for students:* The scheme aims at bridging the gap in enrolment and to ensure cent per cent retention in the schools of Chhattisgarh. Under this scheme, ₹10,000 is provided to each student's family for accidental death of a student, ₹5,000 is provided to each one of the completely disabled or Person with Disabled (PWD) students and ₹500 is provided to each student for partial body fracture and for the treatment of the students. This scheme started in the year 2016-17 and a large number of students are getting benefit from this scheme.
- (v) *Scholarships for students:* The State Government made a provision for providing scholarships to encourage the SC, ST and OBC students (both boys and girls). Under this scheme, The State Government made a provision for providing scholarships to encourage the SC, ST and OBC students (both boys and girls). Under this scheme, The State Government made a provision for providing scholarships to encourage the SC, ST and OBC students (both boys and girls). Under this

scheme, ₹500/- is provided to SC/ST girls of Class III–V per annum, 800/- is provided to SC/ST girls of Class VI–VII per annum, 600 is provided to SC/ST boys of Class VI–VIII per annum, ₹450/- is provided to OBC girls of Class VI–VII per annum and ₹300/- is provided to the OBC boys of Class VI–VIII per annum. Personal bank account has been opened for individual students and students are getting benefits directly from the state and central schemes. 500/- is provided to SC/ST girls of Class III–V per annum, 800/- is provided to SC/ST girls of Class VI–VII per annum, 600 is provided to SC/ST boys of Class VI–VIII per annum, ₹450/- is provided to OBC girls of Class VI–VII per annum and ₹300/- is provided to the OBC boys of Class VI–VIII per annum. Personal bank account has been opened for individual students and students are getting benefits directly from the state and central schemes. 500/- is provided to SC/ST girls of Class III–V per annum, 800/- is provided to SC/ST girls of Class VI–VII per annum, 600 is provided to SC/ST boys of Class VI–VIII per annum, ₹450/- is provided to OBC girls of Class VI–VII per annum and ₹300/- is provided to the OBC boys of Class VI–VIII per annum. Personal bank account has been opened for individual students and students are getting benefits

directly from the state and central schemes.

- (vi) *Dr. APJ Abdul Kalam Shiksha Gunvatta Abhiyan*: With the objective to ensure the quality of Primary education, Dr. APJ Abdul Kalam Shiksha Gunvatta Abhiyan was launched by Chhattisgarh government in September 2015. Under this scheme, schools are identified in a phased manner and their academic activities are analysed with the quality parameters. It is decided to cover all the schools within four years of the commencement of the scheme. The state and district machineries prepare valuable strategies to identify the best performing schools along with rewards to nurture a sense of positive competitiveness within an inclusive setting.

SUMMARY AND CONCLUSION

In the times when robotic learning, machine learning and virtual learning are spreading its wings, at the same time we are struggling to rehabilitate our education system and efforts have been displayed rampantly to gain mileage for a long term. In the pretext of responsibility, governments are coming with a new education plan and policy in every five years but showing its failure to implement the same at right place in right time. The status of primary education is changing slowly as compared to the increasing rate of various plans and policy, which

creates chaos in the implementation process. As far as Chhattisgarh is concerned, making plans and policies and their implementation for improving the standard of primary education is a herculean task due to its cultural diversity, language disparity and social variance. Although improvement has been seen since last few years, but an inclusive strategy needs to be adopted for homogeneous distribution of educational opportunities among all the students.

The number of elementary schools (Primary and Upper Primary) declined in between 2012–13 and 2016–17. In the last few years, due to increasing demands for English medium education and privatisation of education, the number of private schools has been increasing. On the other hand, on account of decline in enrolment, a number of Government Primary and Upper Primary schools are being closed down every year.

Enrolment at the Primary and Upper Primary stages declined substantially over the past five years on account of gradual decrease of relevant age group of children. Enrolment in the elementary education in the year 2016–17 was approximately 8.5 per cent less as compared to the enrolment of 2012–13. The fall in enrolment between 2012–13 and 2016–17 at Primary stage was substantially higher compared to the Upper Primary stage during the said period. There was the highest decline in enrolment,

i.e., approximately 9 per cent, in Class I between 2012–13 and 2013–14. Gross Enrolment Ratio (GER) in the elementary education in Chhattisgarh in the year 2016–17 was 98.45, which was far better than many other states of India and GER of All India figures i.e., 93.55. Participation of school going children in elementary schools of Chhattisgarh is quite satisfactory. Boys and girls ratio of Chhattisgarh at the elementary stage remained almost same during the last five years. The gender gap in enrolment is slightly less at Upper Primary stage as compared to the Primary stage. The percentages of girl enrolment in overall India at Primary and Upper Primary stages was 48.11 and 48.53 respectively, which were less than the girls enrolment of Chhattisgarh in the year 2016–17.

Caste is a factor somehow associated with gender gap in the enrolment in elementary education. Compared to SC students, the enrolment of ST students is higher both at Primary and Upper Primary stages, due to gradual decrease of relevant category of students in this state. With the reference of Table 7, it is depicted that at both primary and upper primary level, there is a slight difference in the enrolment percentage of SC and ST category students. Even though dropout rate at Primary stage in Chhattisgarh has declined over the years, it could not meet the expectation of RTE yet. Dropout is higher at Upper Primary

stage compared to the Primary stage. Dropout rate of boys both at the Primary and Upper Primary stages is slightly higher than girls.

The percentage of female teachers is higher at Primary stage compared to the Upper Primary stage. At Primary and Upper Primary stages, the percentage of female teachers increased consistently compared to male teachers over the years. The number of female teachers, at both Primary and Upper Primary stages in Chhattisgarh, is less in comparison to the number of teachers in many other states and in overall India. Teacher-Pupil Ratio (TPR) declined over the years in Primary and Upper Primary schools. Enrolment has also declined over the years along with the number of teachers.

State Government has implemented several schemes independently and certain schemes are implemented with the assistance of Central Government for the improvement of elementary education in the state. To improve the academic standard of elementary education, the Government has introduced computer literacy projects in elementary schools, English as a subject in Class I and syllabus and textbook revision work is going on regularly. In order to improve and strengthen the human resources, teachers have been appointed time to time and training programme has been organised by SCERT to train the un-trained teachers through open and distance mode.

Government has taken initiatives to improve the infrastructure facilities in the schools on a war footing. As a result, a large number of Government schools of Chhattisgarh at present have been equipped with adequate infrastructure and required facilities. To ensure cent per cent enrolment and retention in the elementary schools, the Government introduced many incentives and schemes such as free textbooks, free uniforms, insurance, and scholarships particularly for girls, SC, ST children and economically disadvantaged children.

The overall discussion provides a mixed picture of enrolment and dropout of students at elementary level in Chhattisgarh. Responding to the alarming trend, the State has implemented several programmes at institutional level with an objective to increase the access and improve the quality of elementary education. Time has come to do something serious in this regard. Government alone cannot do all this. It needs a concerted and continuous effort by all the compartments of the society. We as a parent, community member, and teacher need to come forward for helping our children to have a reasonable future in the changing context. Finally, it can be said that if we all come forward with innovative ideas to educate the children with a suitable and amicable environment, then these educated children, after a decade or two, will take over and take care of their state as well as of their motherland, which is the real dream of the present society.

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Development of Achievement Test on Statistical Application and Interpretation for Assessing Learning of Educational Researchers Through Module

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Abstract

In the backdrop of University Grants Commission's (UGC) decision to relax the eligibility criteria for research guides, need was felt to augment the educational researchers' skills in statistical application and interpretation through the module. Apart from developing a module on the subject, it was planned to develop an achievement test to assess the effect of treatment in terms of researchers' understanding of the statistical application and writing interpretation of the results. Accordingly, an achievement test was constructed in two parts. Part A focused on the assessment of understanding of statistical tests and appropriate research situations, it comprised of 50 multiple choice type test items. Part B, consisting of 10 free response test items tested researchers' skill of interpreting results of the statistical tests. The tests were reviewed by the experts of research methodology and testing. The reviewed tests were tried out on a small sample of 18 researchers of different universities participating in two research methodology workshops at University of Allahabad and Regional Institute of Education (RIE), Ajmer respectively. Response analysis of the test items was performed. The feedback obtained from the response analysis led to the needed item modification and item replacement. Cronbach's α was computed following the final administration of the test.

INTRODUCTION

Need of Improving Research Skills of Practitioners through the Module

UGC, through its notification, 'University Grants Commission (Minimum Standards and Procedure for Award of M.Phil./Ph.D. Degree) Regulations, 2016', decided to relax the criteria for recognising a research guide. This led to a steep rise in the number of recognised guides and by implication, the number of Ph.D. candidates working/aspiring to work under their supervision would also increase. The scenario of quality of educational research from the point of view of statistical application has not been satisfactory, as evidenced by Govil et al. (2015), Tyagi (2019). In the wake of these developments, it is feared that unless the research knowledge and skill repertory of the research scholars and the research guides are adequately strengthened, the quality of the research work carried out in the universities may go down further.

However, there are ways to handle this situation. One way is to offer refresher courses in research methodology and organise workshops on statistical application and interpretation. Another alternative is to develop open online courses, Massive Open Online Courses (MOOCs) on statistical application and interpretation, such as launched on UGC digital platforms like Swayam

or the e-PG pathshala under National Mission on Education using ICT (NME-ICT). The problem with video lectures, however, is that most of the developed video lectures are in English medium with an accent unfamiliar for most of the viewers. Besides, video lectures are basically passive strategies that lack in active learning tasks by the learners. The required tasks for learner engagement for skill development through practical work is missing in such strategies. Thus, the opportunities for the development of skills of statistical application and interpretation through video lectures are somewhat limited. Use of learning modules in Hindi may offset these problems to some extent for a large section of the researchers' population.

A MODULAR APPROACH TO LEARNING

A module is a self-learning material defined differently by different authors. Houston (1972) defined a module as a 'set of experiences designed to facilitate the learners' demonstration of specified objectives'. According to Khasnavis (1983), a module is defined as an instrument which 'systematises the learning process of students and holds the student accountable for his learning experiences'.

Thus, a module includes a set of activities intended to facilitate the learners' achievement of specific objectives. It is relatively self-contained and self-pacing unit of instruction designed for

specific purposes and as a part of a comprehensive instructional system.

RATIONALE FOR EXPERIMENTING WITH MODULAR LEARNING

The modular approach to learning has been studied in the context of a few subjects at school level as also at the teacher education level.

A study by Kohal (1999) revealed that the students of Class XI taught through mastery teaching strategies attained geography concepts better than the students taught through non-mastery strategies. Londhey (2007) studied the effectiveness of the modular approach for teaching science to Class IX students in terms of their achievement. The finding of the study was that the modular group was significantly effective in terms of achievement of students more than the other group.

Mollykutty (1991) studied the effectiveness of modular approach in teacher education and found that achievement through a modular approach was significantly higher than the existing approaches adopted in teacher education institutions. Joshi (1999) found that the module was effective in terms of the achievement of B.Ed. students of Devi Ahilya Vishwavidyalaya in Educational Technology. Maharana (2011) conducted a study which found that the module with and without jerk technology was effective in terms of achievement of students in environmental education when

groups were matched with respect to pre-achievement in environmental education. Shinde (2007) found video instructional material to be effective in terms of achievement of Post Graduate students in Research Methodology and Statistics, while Sultan and Tyagi (2018) found modular approach in Research and Statistics to be significantly more effective than e-lecture approach.

Furthermore, modules have been used to enhance the communication and management skills of the heads of educational institutions. Chopra (2002) undertook a study on self-instructional module for enhancing the communication skills of college principals. It was observed that the communication module has definitely been useful for college principals in enhancing their communication skills and competence to optimally perform at work. Shetty (2004) conducted a study on self-instructional module on staff development for secondary school principals. The study concluded that— (i) Modules helped the principals to enhance their abilities of organisational management, (ii) Principals were able to perform better in encouraging the staff, increasing staff participation, effective time management, and working effectively under pressure by studying through the module.

Learning modules, particularly in the Hindi language, have not so far been used for developing the achievement of educational

researchers in the field of statistical applications and interpretation.

ASSESSMENT OF ACHIEVEMENT OF MODULAR LEARNING

The present study focussed at experimenting with teaching statistical application and interpretation to researchers in education through the module. Apart from conducting the experiment, the tasks involved in the study were based on developing— (i) a module consisting of 8–10 capsules on various topics under the focal areas of statistical application and interpretation, and (ii) an achievement test on statistical application and interpretation. The present paper is confined to the second objective listed above.

Development of Achievement Test on Statistical Application: Test A

The study intended to develop module on statistical application and interpretation for the use of research practitioners in education and study their effectiveness in

terms of conceptual understanding of the tests applied and the skill of writing interpretation of results. Accordingly, a criterion-referenced test was proposed to be used both at the pre- and post-experiment stage in two parts, namely: Part A, covering statistical application, and Part B on writing interpretation of the results. The first part of the test was supposed to be an objective type test focussed on the understanding of the concepts underlying the application of statistical tests. The second part of the test was to be based on the interpretation of the results of test of hypotheses. Part B of the test was designed in the subjective format allowing the subjects to write their responses freely. The process of the development of each of these parts of the tests is given below in detail .

Preparation of the initial draft

An objective type test comprising of 50 multiple response type questions to be answered in about an hour, was conceptualised for this purpose. First of all, an initial draft was prepared covering the following content areas:

Table 1
Distribution of the Content Areas in the Test Along with Weights

Content area	Serial no. of Items	Total no. of Items	Weight in Percentage
Assumptions underlying tests and their testing procedure	1, 2, 3, 4, 5, 7, 8, 17, 18, 19, 21, 22, 25, 42, 44, 46	16	32
Selection of appropriate tests of hypotheses	9, 15, 23, 24, 26, 27, 28, 30, 33, 36, 39, 43, 45	13	26

Interpretation of results	6, 13, 14, 16, 20, 31, 32, 34, 35, 37, 38, 40, 41	13	26
Post significance analysis	10, 11, 12, 29	04	08
Effect size measures	47, 48, 49, 50	04	08
Total		50	100

The initial draft of the test was mailed to two subject experts—one from the area of research methodology and the other from testing area, for their expert views on the test. The draft was reviewed in light of the received comments.

Small sample try out

The preliminary draft was subjected to empirical testing for getting feedback on the quality of the questions framed. The sample for small group try out comprised of 18 UGC JRF and Research scholars selected purposively from two institutions as per details given below.

Table 2
Sample for Small Group Tryout
(N=18)

University/ Institution	Subjects	No. of Subjects
University of Allahabad	UGC research fellows	10
Regional Institute of Education, Ajmer	Research scholars	08

Analysis of the results of small sample tryout

The test performance of the subjects was analysed using SPSS. Various

test parameters were observed, which are as under:

Mean = 10.89 Median = 11.00
 Variance = 36.69 SD = 6.06
 Minimum = 1 Maximum = 21
 Skewness(Sk) = 0.158
 Standard error = 0.536
 Kurtosis (Ku) = -0.84
 Standard error = 1.3

Table 3
Shapiro-Wilk Test of Normality

S-W Statistics	df	Sig.
0.958	18	0.535

The results of the Shapiro-Wilk normality test (SW = 0.958, $p = 0.535 > 0.05$) show that the distribution of scores on the test was quite normal. The descriptive statistics related to the test show that the value of skewness is less than its standard error, and hence can statistically be regarded as 0. Likewise, kurtosis too does not deviate substantially from the corresponding value of a normal distribution, being within ± 1.96 of its standard error. The obtained scores ranged from a minimum of 1 to a maximum of 21.

The test items were further subjected to response analysis to detect the cases of probable guessing,

leading to the identification of items needing item reformulation, modification or replacement.

(i) Test items with no response or no correct response

The item responses were tabulated and analysed. Out of 50 questions, there were 4 items which elicited no correct response at all. The serial numbers and the content areas for these items are presented below:

Table 4
Items without a Single Correct Response

Item Serial	Contents Covered
7	Data Transformation
11	Post-hoc Test in Case of Heterogeneity
26	Statistical Test Suitable for 2-Groups Pre-test Post-test Design
40	Interpretation of Table of Cell Means in Factorial ANOVA

All these items were centred on the concepts which are normally not included in the prevailing PG and post PG course curriculum of research and statistics. Similar, was the situation for those items which registered just one correct response each from the entire sample. The details are presented below.

(ii) Test items with one correct response each

Three items given below were answered correctly by just a single respondent. The content areas tested by the item are mentioned against each item.

Table 5
Items with just a Single Correct Response

Item Serial	Contents Covered
21	Assumption of Homogeneity of Regression slopes
43	Non-parametric Paired Samples Test
49	Effect Size for Two-way ANOVA

The responses to these items were clearly not influenced by pure guessing, implying that the items possessed good quality distracters. These items were, therefore, retained in the final draft without any change.

(iii) Test items with an unexpectedly high correct response probably due to guessing

Upon analysis of the frequencies of the correct response and the contents covered, it was revealed that the following items elicited unexpectedly high correct response as the concepts on which the items were based were almost new to the respondents. Below are given the relevant information regarding these items.

Table 6
Items with an Unexpectedly High Correct Response Rate

Item Serial	Contents Covered	Correct Response	%
8	Levene's Statistic-Conceptual Base	4*	22
10	Most Liberal Post-hoc Test	5	28

47	Effect Size for t-test	4	22
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*Maximum correct responses for any item of the entire test were 9/18.

Item modification

The items which received relatively high correct response needed further investigation. The occurrence could be due to inadvertently suggestive nature of their stems making it

easier to guess the key. Alternatively, it might be caused by the inferior quality of the distracters. Thus, after taking all possibilities into account, the following modifications were made in the test items. Table 7 shows item serial, the contents of the original item, item-wise suggested modifications and the probable reason thereof.

Table 7
Items with the Modifications or Replacements Applied along with the Reason

Item Serial	Original	Modification Proposed	Reason
8	Levene's Statistics	Levene's Statistics for Homogeneity of Variance	Will add to the value of the distracter containing the word 'Variance'
8	Group Means	Group Medians	Inadvertent typological error making the two distracters indistinguishable
10	Most Liberal	Most Conservative	The word 'least' was perhaps suggestive of the 'liberal' test
47	Effect Size Measure for t-test....Cohen's d	The item was replaced with no reference to 'd'	Since the formula for t-test contains statistics 'd', the key [Cohen's d] was suggestive
50	Cohen's d of 0.8 means....large effect size in case of t-test	The item was replaced with a new question	Respondents perhaps thought the value of 0.8 (as in correlation coefficient 'r') is large

All the remaining items needed no modification as the respondents were expected to learn something regarding these areas in their PG, M. Phil. or Pre-Ph.D. coursework, and hence were retained as such in the final version of the test.

FINAL ADMINISTRATION OF THE TEST

The final version of Test-A was administered on 33 participants of a National Workshop on Statistical Application and Interpretation held at Bareilly. The participants included research fellows and

research scholars from M. J. P. Rohilkhand University, Bareilly; Kumaun University, Almora campus; Dr. Harisingh Gour University, Sagar and C. C. S. University, Meerut. Besides researchers, the participants also included the faculty members of the department of education of Jyoti College of Management and Sciences, Bareilly affiliated to Mahatma Jyotiba Phule Rohilkhand University, Bareilly.

Analysis of the Results of the Final Administration

The test performance of the subjects was analysed using SPSS. Various test parameters were observed, which are as under:

Mean = 10.45 Median = 11.00
 Variance = 18.13 SD = 4.26
 Minimum = 1 Maximum = 18
 Skewness = -0.163 Standard error = 0.409
 Kurtosis = -0.549 Standard error = 0.798

Table 8
Shapiro-Wilk Test of Normality

S-W Statistics	df	Sig.
0.981	33	0.822

The results of Shapiro-Wilk normality test show that the distribution of scores on the test was quite normal (SW = 0.981, $p = 0.882 > 0.05$). The descriptive statistics related to the test shows the skewness to be around 0 and kurtosis too not deviating substantially from the corresponding value of a normal

distribution. The obtained scores ranged, now from a minimum of 1 to a maximum of 18. The variance of the scores in the final administration reduced considerably (36.69 to 18.13) indicating a reduction in scores by guessing and improvement in the quality of the test items.

Reliability analysis

The scores of the final administration of the test consisting of 50 items were subjected to reliability analysis, the results of which are presented below in Table 9 and 10.

Table 9
Case Processing Summary

Cases	N	%
Valid	33	100.0
Excluded ^a	0	.0
Total	33	100.0

Table 10
Reliability Statistics

Cronbach's Alpha	N of Items
0.624	50

The results reveal that the reliability coefficient of the test administered on a sample of 33 respondents was 0.624, which is quite close to the acceptable value of 0.7.

DEVELOPMENT OF TEST OF STATISTICAL INTERPRETATION: TEST B

As indicated earlier, another part of the test (Test B) was planned to assess the skill of research practitioners in writing an interpretation of the output of statistical tests. It was decided to

have it as a free, extended response (commonly known as essay) type test consisting of 10 items to be answered in about one hour. As with Test A, an initial draft was constructed, to begin with. Questions cutting across all the statistical tests to be taught at the M.Phil. or Ph.D. coursework level were included in the test. Enough space for writing the response was provided on the test paper itself. The areas covered in the preliminary draft of the test are enumerated below.

Table 11
Item-wise Content Areas in the Preliminary Draft of Test B

Test item	Area Covered
1	Directional Hypothesis
2	Significant Interaction
3	Tukey's Test
4	Normality of Test Scores
5	Homogeneity of Variance
6	Homogeneity of Regression Slopes
7	Kruskal Wallis test
8	2-Samples Chi-square
9	Regression Analysis
10	Wilcoxon Test

SMALL SAMPLE TRY OUT

The preliminary draft of this test was also subjected to empirical testing for getting feedback on the quality of the questions framed. The sample for the small group tryout comprised of the same 18 UGC JRF or Research Scholars who were also administered in the first part of the test, i.e., Test A (refer to Table 2 for details). The responses were analysed with a view

to improve the items, the results are discussed below.

Analysis of the Test Performance

An analysis of the test responses led to the following observations:

- Most of the researchers could only attempt questions on t-test, ANOVA, regression, normality, and homogeneity of variance. Regarding these, they could interpret the significance of the test statistics in the questions through p-values. They, however, were unable to write proper interpretation because of the lack of skill of formulating hypotheses commensurate with the statistical tests.
- Many of them just repeated the information from the tabulated output in the text form without further knowing how to answer the research question posed in the given situation.
- None of the research scholars attempted questions on interpretation of the results of non-parametric tests.
- The output of Tukey's test in the form of homogeneous subsets proved to be too tricky for the respondents.
- The output regarding chi-square test received no response at all. Similarly, the respondents did not have any idea regarding the residual analysis performed in view of a significant chi-square value of the test.

MODIFICATION IN THE TEST ITEMS

Insights into the responses led to a modification in the questions. Also, some of the items got dropped

and replaced by the new items. The following table gives an idea of the modifications along with reasons.

Table 12
Changes made in the Revised Draft of Test B with Reasons thereof

Test item Serial	Test Item Serial Revised	Area Covered	Decision	Reason for Change
1	2	Directional Hypothesis	Retained	
2	3	Interpretation of Significant Interaction Through Graph	Retained	
3	4	Tukey's Test: Homogenous Subsets	Retained	
4	5	Normality of Test Scores	Retained	
5	1	Homogeneity of Variance Test	Replaced (by item on Writing Objective/ Hypothesis of Two-way ANOVA)	To avoid duplicity of items on assumption testing
6	6	Homogeneity of Regression Slopes	Replaced (by an item on One-way ANCOVA With one Covariate)	To avoid duplicity of items on assumption testing. Moreover, ANCOVA was not represented in the test
7	7	Kruskal Wallis Test	Retained	
8	8	2-Samples Chi-Square Test	Modified to include the Interpretation of Chi-square Value Along With Residual Analysis	Added the task of Stating and Testing of the Hypothesis (of Independence of Attributes)

9	9	Regression Analysis	Retained	
10	10	Wilcoxon Test	Retained	

Development of the Response Sheet

Since Test A was reusable, responses to it were supposed to be recorded on a separate sheet called, response sheet. The response sheet comprised of general information regarding the respondents such as, name, university or institution and the class, designation (in case of a faculty), apart from instructions to mark their responses on the response sheet. After tryout of Test A, it was decided to add one more entry under the title 'Subject,' so as to permit the selection of subjects from the field of education by a mixed group of researchers of social sciences.

Likewise, the entries printed on Test A were also added to the cover page of Test B. This was done to facilitate the identification of the respondents answering Test B from the response sheet of Test B itself.

CONCLUDING REMARKS

Thus, the present work related to the development of an Achievement Test on statistical application

and interpretation for research practitioners in education offered a unique challenge on a couple of grounds. Firstly, the test was based on contents, some of which were new to the respondents unless taught to them. This led to a situation of almost zero variance in obtained scores on such items, thus not permitting item analysis using item discrimination index and item difficulty value. This, also, partly explains a nearly acceptable value of reliability coefficient Cronbach's $\alpha = 0.624$.

Secondly, a part of the test was a free response (as against fixed response) or essay type, designed to test the interpretational skills of the researchers. The second part of the test, too, was not amenable to traditional item analysis and hence, only descriptive response analysis could be performed on it.

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Community Participation in School Prospects and Challenges

KASHIF MATIN* AND ARSHAD IKRAM AHMAD**

Abstract

The present paper has been written with the objective of providing the prospects and challenges of community participation in school. The entire paper is divided into three parts. The first part deals with the introduction, concept and definition of community, participation and community participation in school. The second part deals with Indian perspective of community participation in school, where the historical background, success story of SSA, Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and Right To Education (RTE) has been discussed. In the third part, issues and challenges related to community participation in school have been discussed, followed by a conclusion.

INTRODUCTION

Education is not an activity to be carried out in isolation. It is an activity to be done in collaboration. Without community participation, education cannot achieve its goals. Community participation can contribute to promoting education (UNICEF, 1992). Community participation not only increases ownership but also empowers the communities to take important decisions concerning the future of

their children. It has been proven that when parents get involved in the education of their children, the latter get motivated and perform better. Education policies give a significant place to 'community participation', which is also considered to be a tool to improve the functioning of school. All members of the community should give special regard to giving education to all children, as a part of their social responsibility. And for this, it is important to make a

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strategy to involve the stakeholders. There is also a need to take initiatives to improve the infrastructure, educational services and educational quality.

As we know that education takes place not only in schools but also within families, communities and society. But no one can take 100 per cent responsibility for educating children. It is, therefore, important to develop partnerships between schools, parents and communities. Active involvement of the community is very helpful in identifying the educational issues related to the community and formulating effective strategies to overcome them, which significantly hamper the process of education.

If we see globally, most of the educationists and researchers from all over the world discuss that community participation plays a very important role in promoting education in terms of quality and quantity. They recognise community participation as one of the major key to improve the quality of education.

Before discussing the ways of community participation in school, it is important to discuss what the word community is referred to in terms of education.

WHAT IS COMMUNITY?

A community is a social unit of any size that shares common values like social, religious, occupational and geographical characteristics.

If we see the etymological meaning of community, we will find that the word 'Community' is derived from the Latin word 'communis' which means things held in common.

WHAT IS PARTICIPATION?

Participation is a process through which all the members of a community or organisation are involved and influence the decisions related to educational activities that will affect them.

The term 'participation' can be defined in various ways. Shaeffer (1994) points out seven possible definitions of the term participation:

- Involvement through the mere use of a service (such as enrolling children in the school or through primary health care of the children).
- Involvement through the contribution of money, materials, and labour.
- Involvement through 'attendance' (e.g., at parents' meetings at school)
- Involvement through consultation on a particular issue related to the children.
- Participation in the delivery of a service, often as a partner with other actors.
- Participation as implementers of delegated powers.
- Participation 'in real decision making at every stage', including identification of problems, the study of feasibility, planning,

implementation, and evaluation. (Uemura, 1999).

COMMUNITY PARTICIPATION IN SCHOOL

Community participation has been highly beneficial to increasing enrolment. It is believed that through oversight and active contribution, it can also bring about a change in the retention and achievement. The community will require substantial improvement in its own capacity to contribute to school efficiency. Children not only learn from parents and families but also from the world outside their families. Schools are institutions that equip the children with important skills to contribute to the betterment of society. Since each group like parents, family, school, society, etc., plays a different role in contributing to children's education, therefore, it is important to collaborate with all the groups of people so that education takes place most efficiently and effectively.

COMMUNITY PARTICIPATION IN SCHOOL: HISTORICAL BACKGROUND

If we go into the genesis, it has been recorded that it is the community which has taken care of the education system instead of State. The organic bond between community and school has been recommended by Kothari Commission (1964–66). In addition to this, the NPE (1986) and POA (1992), while emphasising the role of community in the educational

enterprise, have recommended that both should work in tandem in order to give education to the children according to their local needs.

The Central Advisory Board of Education (CABE) committee has proposed a broad framework for managing education. One of the important features of this framework is the provision for village education committees (VECs). The committee was expected to have the power to check attendance registers and report on regularity of students, teachers' attendance and the overall functioning of the school. Significantly, there are a large number of projects which have focused on exploring the possibilities of community participation in the education system. In this context, DPEP (District Primary Education Programme), Bihar Education Project, Shiksha Karmi and Lok Jumbish projects in Rajasthan, Mahila Samakhya Project and Andhra Pradesh Primary Education Project included a strong component of community participation. (Niranjanaradhya, 2014).

In Kerala, Parents' Teachers' Associations (PTAs) and Mothers' Teachers' Associations (MTAs) played a very important role in achieving literacy and universal enrolment. It also helped in decreasing the dropout rates. As of 2007, the net enrolment in elementary education was almost 100 per cent in Kerala and was almost balanced among different sexes, social groups and regions.

SUCCESS STORY OF SSA IN TERMS OF COMMUNITY PARTICIPATION

Sarva Shiksha Abhiyan (SSA) is one of the most successful decentralisation programmes initiated by the Indian State. It was launched in 2001, with the 'time bound' objective of universalising quality elementary education for all in the age group of 6–14 years by 2010. The programme is implemented by the Central Government in collaboration with the State, and is often quoted as an exemplar illustration of effective decentralisation. While the Central Government has provided only a framework (as opposed to guidelines), the structure and content of the programme is developed by the respective State Government. But what makes SSA a truly decentralised program is its very crux—community mobilisation is the pivot of the SSA programme. Community participation, according to the SSA, includes the organisation of committees like the Village Education Committee (VEC), School Management Committee (SMC) and Parents' Teachers' Association (PTA). The SSA has been designed such that without community participation, the twin objectives of the SSA of providing quality and gathering quantity would collapse.

To guarantee the achievement of SSA objectives, the Ministry of Human Resource Development (MHRD) has outlined the key purposes for community mobilisation. Often many

people misunderstand that the only purpose of community mobilisation is to ensure accountability; and that the vigilance of the community will guarantee that there is no misallocation or misuse of funds. However, the purpose of community mobilisation is beyond ensuring transparency.

By tying the community's interests with the schools, SSA seeks to 'kill two birds with one stone': Through community participation, the social inequalities that often obstruct the path to full literacy are sought to be wiped out. Community mobilisation thus plays a prominent role in bridging gender and social gap, for creating access and enrolment (it includes micro planning and school mapping), ensure equity in school facilities (ensure gender sensitive infrastructure), ensuring complete transparency and in monitoring the quality of education (which includes keeping check of students' progress, improving the quality of school facilities, etc.)

SSA advocates for community mobilisation since it ensures community ownership and management of the school system. It was widely believed that this sharing of responsibilities and devolution of powers would create a sense of honour and incentivise communities to participate in micro planning and school mapping initiatives. Micro-planning and school mapping initiatives essentially refer to identifying the households

that should participate in the SSA scheme, recognising the habitations that lack access to schools and mobilising parents and students to enrol themselves into PTAs and schools, respectively.

More specifically, the SSA framework recommends conducting regular enrolment drives, providing formal schooling facilities in the centres of religious instruction like Maktabas and Madrasas, and setting up of special models of Alternate Schools exclusively for girls like, Bal Vidyalayas, etc. This approach of tackling grass-root level problems was an explicit attempt by the Government to reduce 'information costs' with the involvement of the local community; not only is there a movement towards holistic development of the education system but also towards the practice of an economically viable solution.

SUCCESS STORY OF RMSA IN TERMS OF COMMUNITY PARTICIPATION

Under RMSA programme, 5,49,949 community members have been imparted training since the inception of the programme including minority members from School Management and Development Committee (SMDC). Total 3188.445 lakh community members have been approved by the RMSA Project Approval Board PAB for imparting the training till December 2011.

Apart from the above, sensitisation programmes are organised in the States and UTs which allow school management and development

committee members to attend training programmes for three days at ₹200 per head. Almost all the States and UTs have been approved for the same concerning the issues related to the functioning of schools, teachers' performance, students' achievement, community mobilisation, monitoring, research, evaluation and other activities of the school apart from construction.

ROLE OF COMMUNITY INVOLVEMENT IN IMPLEMENTING THE RIGHT TO FREE AND COMPULSORY EDUCATION ACT 2009

The community involvement in implementing the Right to Free and Compulsory Education as per the RTE Act 2009 becomes very useful in the areas mentioned below:

- Where parents show reluctance in sending their children to schools though there is no dearth of facilities as far as the provisions for free education are concerned in the neighbourhood. Orphans and destitute who normally become prey to the gangs who engage them for begging, rag picking, shoe polishing, etc.
- Where the parents think that children's education is not a priority but their support to the family income by working in farmland, grazing cattle in the fields, and domestic works is more necessary.
- Where the parents of girl child show discrimination in

not sending her to school. However, their sons attend the schools. This is because of well-known reasons like social taboos, sibling care, domestic works, gathering fuelwood, water fetching, cooking, early marriage, etc. (Sachar, 2015).

SCHOOL MANAGEMENT COMMITTEES (SMCs)

One of the goals of RTE is to empower the SMCs, which could in turn, transform the existing system of education. The SMCs can work better to make school systems effective by constantly taking positive actions and engaging in a constructive dialogue with other stakeholders. Through the cooperative endeavour, the SMCs have the potential to change the school dynamics first at local levels and then at the larger systemic levels.

All the government, government aided, and special category schools shall have to constitute SMCs as per Section 21 of the RTE Act. The SMC is intended to be the basic unit of a decentralised governance model with active involvement of parents in the school's functioning. The idea is that parents are the main stakeholders in the education process and hence they should be the leaders of change, who initiate the reversal of inefficiencies in the system through constructive and collective engagement (Dayaram, 2011).

COMMUNITY PARTICIPATION IN SCHOOLS: ISSUES AND CHALLENGES

The fact is that community involvement in the dissemination of education would face challenges. However, there is a good prospect of tackling them to a great extent. In an attempt to understand the factors that prevent communities from being involved in formal education, Shaeffer (1994) found that the degree of community participation is particularly low in socially and economically marginalised regions. Traditional exclusion of some groups (women, minorities, youth, and children) often limits their freedom to participate in community-wide initiatives. Ingrained prejudicial attitude towards marginalised groups can manifest themselves through a reluctance to include or work together with them and to value their contributions. To counteract these barriers, quota for representation in the formal bodies (PTA, SMC, etc.), may be implemented initially, until the significance of full community participation is recognised. Many communities have entrenched the power structures, including the schools, which are often characterised by authoritarianism, corruption, and a lack of transparency. Involving local leaders in the participatory assessment process can help generate their buy-in and support and also make them more accountable to the community members.

Illiteracy, lack of economic or material resources, and ill health are among the contributors that lead to sustained poverty and due to poverty poor people limit themselves to take part in community wide initiatives. When individuals are focused on day-to-day survival, it is difficult to set aside the time, energy, or resources needed for engaging in long-term plans, even if the desire and understanding of the needs are present. As communities become more skillful in addressing the challenges, these more complex barriers can also be addressed, leading to fuller participation.

SUGGESTIONS FOR SOLVING THESE ISSUES AND CHALLENGES

Following are the suggestions that need to be implemented in order to improve the practice of involving communities in delivering education.

To understand nature of the community

As we know that no community is homogenous, it is not easy to examine and understand the community contexts. However, the degree of community participation required by the school needs to be meticulously examined. This is because some communities are traditionally involved in community activities, while others find it difficult to collaborate with schools or even other community members. In the present scenario, it is indispensable to understand the current formal structure and

the function of school along with the role of parents, community and other concerned organisations.

To assess capabilities of communities and responsible agencies and provide them assistance

It is necessary to assess community contexts, and the agencies responsible for promoting community participation efforts, in order to create specific plans or components of the projects.

If the agencies do not seem to collaborate with communities in achieving the objectives, there is a need to make them understand the importance of community participation in education. Communities should have a good understanding of why they need to collaborate with the schools, and the benefits that can be yielded. However, understanding and willingness are not enough. Implementing agencies are required to have the technical capability to carry out active community participation, encouraging and involving communities in a great range of school management activities. In this context, financial knowledge to oversee the funding and to operate the school is essentially required.

School, parent, and community organisations also need to have certain knowledge, skills and attitudes to realise successful community participation in education.

To establish communication channels

In order to exercise any kind of community participation, there needs to be an understanding among all the stakeholders. People should be apprised of the benefits of community participation. A continuous dialogue between schools and community is essential keeping in view its long-term benefits. Conducting social marketing and awareness campaigns are also required in order to promote community involvement in children's education. Such campaigns designed to target the parents and community members can help them increase their understanding on the benefits of their collaboration with the teachers and schools.

To conduct continuous assessment

A continuous assessment of the practice of community participation needs to be undertaken as soon as the implementation gets started. The communities are always evolving and so are their needs and demands. Therefore, the strategies need to be modified and tailored accordingly. Also important is to make sure that the different stakeholders' voices are reflected in the implementation practice.

CONCLUSION

Significantly, community participation has drawn greater attention with reference to international and national policy in recent past. It is considered important as an end in

itself (as a democratic right), as well as a means to the achievement of sustainable development. Most of the educationists and researchers all over the world argued that community participation plays a very important role in promoting education in terms of quality and quantity. Community participation can contribute to educational planning and development through various channels such as, advocating enrolment and education benefits, boosting the morale of school teachers, raising money for schools, constructing, repairing, and improving the school facilities.

Education of all children should be considered as a shared social goal for all members of the community and it is important to set up the structures and interventions to involve the stakeholders. These might include the initiatives to improve physical infrastructure, develop efficiency in educational services and improve educational quality, and should also include community members, as well as educational professionals. Indeed, both public response and public action are the essential ingredients for sustainable and continuous development of education. The school has to be viewed as a social organisation, organically linked to the community. Over the years, almost complete disappearance of this space for the local community in managing schools, has significantly contributed towards the decline in the school system. Restoring this legitimate space for the community was exclusively

discussed by the RTE Act-2009. This is an opportunity that we must not lose. As a matter of priority, the essential components of a good school need to be understood, especially by the parents. Thus, understanding the child's learning processes, teacher-child relationships, role of

the school management, issues that the schools face and the role of SMCs in taking schools out of this present mess, etc., are some crucial issues. In this context, skills to engage with schools at the local level as well as at the level of the system, acquire a great significance for the parents.

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Food Safety Law and Education

ANURAG BHARDWAJ*

Abstract

Safe and nutritious food is necessary for a healthy life and to pursue education. However, it is a malady that today's environment is attuned to unhealthy and unsafe food. In addition to this, pollution caused by unsustainable development and other allied factors has maligned this. As a result, people are afflicted with sickness and ailments. The students, both at school and college level are at a greater risk of losing health. They are prone to glamorous commercials which fascinate them to eat junk and unhealthy food. This necessitates us to think over the issue of food safety measures and the related food safety act if we are really the well-wishers of school and college students. If the students of any grade ail on account of unsafe food, they will not be able to pursue their studies as consistently and pleurably as they will do if they are healthy. It is, therefore, imperative to assimilate food safety measures with the educational system including curriculum. This paper focuses on Food Safety Laws in India and various initiatives taken by the governments, at national, state and local levels to annex food safety and nutrition to education. Apathetic attitude and lethargy on the part of administrative agencies towards the implementation of laws are to be weeded out so that the physical and mental health of pursuers of education may bloom to the optimum level.

NEED AND IMPORTANCE OF FOOD SAFETY

Education at present is afflicted with sick children who are easily vulnerable to unhealthy and unsafe food. The spread of intensified

pollution caused by unsustainable development has added fuel to the fire. Today, the students are misguided by printed and electronic glamorous advertisements which allure them to eat junk and unhealthy food. Even

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some negligent and reckless parents have gone a long way to contribute to it. Access to sufficient quantity of safe and nutritious food is, no doubt, the key to sustain a healthy life. But it is a matter of grievous pity that there is a serious lack in this access. It is a matter of common knowledge that if the students of any grade are sick or ill on account of unsafe food, they will not be able to pursue their studies as industriously as they will do if they are healthy. It is, therefore, necessary to take into stock the food safety measures before education is given a serious thought.

RESULTS EMANATING FROM

UNSAFE FOOD

Unsafe food comprises of dangerous bacteria, viruses, parasites and chemical elements. These result in diseases from diarrhea to cancer. About 600 million people, i.e., 1 out of 10 in the world fall ill after having contaminated food and 4, 20,000 die every year. Diarrhoeal diseases result in the illness of 550 million people and 2,30,000 deaths every year. Every year, approximately 1,25,000 children under 5 years of age die due to food-borne diseases (World Health Organisation Factsheets on Food Safety, 2020). The major cause of mortality and morbidity among school going children is the prevalence of under nutrition among children. The available data is important for evolving a curriculum and syllabus that addresses the real life situation. The curriculum design has to address and integrate these concerns effectively.

Food safety, nutrition and education are inextricably linked. They are important for the overall development of the child and these three inputs need to be addressed in a comprehensive manner. Unsafe food creates a vicious cycle of diseases. Malnutrition affects not only elderly and sick but also the infants and young school children. Other than the impacts on health, unsafe food impacts other things also. There are negative economic consequences not only for individuals and families but also for communities, business and countries. They impose substantial burden on health care systems and reduce economic productivity and threaten livelihood. Food-borne diseases impede socio-economic development by straining health care systems and harming national economics, tourism and trade.

The Supreme Court, in Pt. Parmanand Kataravs Union of India, held that Right to health is a fundamental right under Article 21 because health is vital for making life meaningful, purposeful and attuned with personal dignity. The State is under an obligation to protect every person's right to life. It is the responsibility of those who are in-charge of the health of the community to protect life (1989 AIR 2039).

Similarly, in Centre for Public Interest Litigation vs Union of India, the Supreme Court observed that the right to life under Article 21 of the Constitution of India also includes the right to have food articles and beverages which are free from

injurious residues like pesticides or insecticides; food articles which are injurious to public health can strike the fundamental right to life guaranteed by the Constitution and it is government's duty to take steps for the protection of life and health (2014 AIR 49).

MEASURES ADOPTED BY THE GOVERNMENT

Realising the gravity and enormity of the situation, certain measures have been taken by the Governments. One of them is the Food Safety and Standards Act, 2006. It provides for unsafe food and its regulatory mechanism. The Food Safety and Standards Authority of India (FSSAI) has undertaken to make people aware at large about the unsafe food, their ill-effects, steps and techniques to detect the presence of adulterants in food, safe and nutritious food, how to take them, etc. This is indeed a major step in the right direction of a better future.

The Food Safety and Standards Authority of India has issued a handbook named *The Pink Book: Your Guide for Safe and Nutritious Food at Home*, wherein all do's and don'ts are prescribed for food such as, how to select and purchase food, storing raw food, preparing and cooking food, serving food, eating healthy food, storing cooked food, packing food, maintaining hygiene and sanitation, etc.

Similarly, the Food Safety and Standards Authority of India has also issued a handbook named DART:

Detect Adulteration with Rapid Test, which tells about common quick tests to detect adulteration in some household items.

Taking into account the fact that children are change agents of the future, Food Safety and Standards Authority of India has developed a 'Do-it-yourself' toolkit for school children —a 'Food Safety Magic Box' for detecting food adulterants through easy tests at school. Recently, a new handbook named *Eat Right* has been launched which broadly contains the following themes or principles:

1. Eat Healthy
2. Eat Safe
3. Eat Fortified
4. No Food Waste
5. Physical Exercise.

Basically it's a guide on what to eat, how to eat, when to eat and how much to eat.

The National Education Curriculum Framework (NCF) 2005, by National Council of Educational Research and Training (NCERT) has mentioned about the importance of health and nutrition among school children. According to it, the guarantee of health, nutrition and inclusive school environment, whereby children are empowered in learning, has been enjoined upon. The child's accomplishment at school is determined by nutrition and physical activities, henceforth resources must be deployed and Mid-day Meal programme should be fortified. Special efforts are to be made to make sure that both boys and girls receive same attention in

health and physical education right from the pre-school stage. Well growth of children is a condition precedent for all the development. For this, the basic needs like sufficient nutrition, physical workout and other needs are to be taken care of. Access to food, safe drinking water, housing, sanitation and health services influences the health status. There is an immediate need to breed awareness about health and cultivate habits essential for a healthy living. It was proposed that inclusive, organised and systematic approaches to health education awareness be incorporated in teacher education curricula (NCF, 2005).

The introduction of Mid-day Meal Scheme in school is a commendable and wise step in the direction of providing nutritious and healthy food to students who lack access to nutritious food. The Mid-day Meal Scheme provides cooked nutritious food to the school children. During 2017–18, 9.46 crore school children studying in 11.34 lakh schools reaped the benefit of hot cooked nutritious food (Annual Report, MHA, 2017–18). While cooking food for school children, the nutrition guidelines for the minimum amount of food and calorie content per child per day are expected to be borne in mind. It is a matter of common knowledge that 450 calorie for students of primary classes (i.e. Class I to Class V) and 750 calories for students of upper primary classes (i.e. Class V to VIII) are the minimum requirements of a child per day.

However, there are administrative lapses too while receiving and

distributing mid-day meal among the students. On certain occasions, cockroaches, lizards and other unwanted external elements have been found in the food. It is an indication that the place where food is cooked is unhygienic and those who are the in-charge of preparing mid-day meal can be charged with the dereliction of duty. So it is necessary to keep a watchful eye to curb such negligence. As a matter of fact, Mid-day Meal Scheme should be extended to the students who are pursuing higher education at university level. It is an undeniable fact that this is a noble step initiated in the sector of education.

In addition to this, introducing operational guidelines on school health programme under Ayushman Bharat is another initiative for improving the health of children receiving education. Its objectives are to identify malnourished and anaemic children to detect and treat diseases early in childhood and adolescence, and to provide appropriate information about health and nutrition to the school children (Ministry of Human Resource Development, 2018).

To realise these objectives, teachers from science and physical education background and self-motivated teachers with good communication skills and ability are to be given preference so that they may act as Health and Wellness Ambassadors for students. They will be able to improve nutrition, mental health, prevent injuries and violence and address the condition for

non-communicable diseases. All these measures will have the way for food safety.

Education of children at school level is an important concern which aims at holistic development of children by promoting among them the ability to respond to new situations in a flexible and creative manner. Teachers play a crucial role in achieving these goals. Towards this end, the pre-service teacher education programme lays an emphasis on orienting teachers as well as developing skills among them. The core of Human Resource Development is 'education', which plays a significant and supportive role in balancing the socio-economic fabric of the country. A recent initiative of MHRD of providing training to teachers under NISHTHA, has been given importance under the theme 'Health and Well Being'. NISHTHA is a National Initiative for School Heads' and Teachers' Holistic Advancement, wherein National Resource Groups will train the Key Resource Persons and State Resource Persons.

Healthy eating habits and maintaining hygiene, which are important factors affecting the health of children are also essential. The body remains fit only when various organ systems function properly. The organ systems remain fit and healthy only when nutritious diet is taken regularly, hygienic habits and regular physical exercises are performed and healthy lifestyle is observed. A healthy and fit body helps in developing a

positive attitude towards oneself and others. Just as a single swallow doesn't make a summer, in the same way, healthy eating habits are not sufficient unless they are backed by safe and uncontaminated food.

CONCLUSION

Besides above steps, there is every need to make the majority of Indian population aware about the unsafe food, their ill-effects, steps and techniques to detect adulterants in food and the availability of safe and nutritious food. Like the mid-day meal programmes practiced by public and municipal schools in several states, the Union and State governments should make it mandatory to include nutraceutical products as a part of diet in these schools such as, vitamins and minerals. Also, supplements, fortified foods and beverages, functional foods, healthy drinks, etc., could be included in the meals provided by these programmes.

A mass campaign is required to be launched for the food safety law. Without the awareness among people and their active participation, it will be difficult to make the food safety standards in India at par with international standards. Voluntary compliance will provide a stronger basis for public health measures than legal compulsion.

This can be done by making Food Safety Law a part of the school and university curriculum like social science in school and social-economic offences in law course, specifying

about how to detect adulterants in food, the availability of safe and nutritious food, how to select safe food, eating healthy food, maintaining hygiene and sanitation, etc. Regular demonstration and workshops in schools and colleges should be conducted to create awareness among students at large. Besides these, social media, awareness clips in cinema, TV shows, sign boards in public transport and metro should be employed to create awareness. A ban should be clamped on junk and

low quality food in school, colleges, universities, etc.

In this respect, I would like to quote words from the Preface written by Shri Pawan Agarwal, CEO, FSSAI. According to him, if there is a time to take charge of our food choice and habits, it is now. India faces a silent epidemic today; of rising childhood obesity coupled with under nutrition and micronutrient deficiencies. Each one of us, parents, teachers and children, has a right and responsibility to make an informed choice (Pawan Agarwal, 2019).

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Comments on the Draft New Education Policy with particular reference to Teacher Education and National Research Foundation

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Abstract

Government of India has sought the comments on Draft NEP 2019 submitted by the committee under the Chairmanship of Dr.K.Kasturirangan latest by 31st July 2019. Accordingly, the Indian Institute Public of Administration (IIPA), Tirupati local branch, Department of Adult and Continuing Education and Institute of Advanced Study in Education (IASE) of Sri Venkateswara University, Tirupati, conducted a Symposium on the Draft New Education Policy (NEP), 2019, focusing on higher education on 31-7-2019. I was a participant in the Symposium. After a thorough reading of the Draft on NEP, it is noted that the Draft Report contains four parts covering 484 pages viz., Part – I: School Education; Part – II: Higher Education; Part – III: Additional Key Focus Areas and Part-IV; Transforming Education. I have presented a few comments on Teacher Education and National Education Funding besides commenting on two additional key focus areas viz., Vocational Education and Adult Education in the symposium. In this paper, I tried to provide the comments on Teacher Education (Chapter 15) and National Education Funding (Chapter 14) under Higher Education System, which I had made in the Symposium for wider deliberations among the Teacher Educators and also the academies/researchers.

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INTRODUCTION

In this paper, the Draft NEP has been reviewed and comments have been made on various sub-heads/ aspects relating to the two chapters viz., Teacher Education and National Education Foundation. Suggestions/ alternatives were provided wherever possible. For example, comparing of B.Ed. degree with other undergraduate degrees like agriculture, medicine and law was opposed as the B.Ed., is a different one and no comparison should be made. The author has appreciated certain aspects, which are new in the Policy. Example, the NRF aims to induct a true culture of research into the universities and also boon to others viz., academics, researchers, governments, industries etc.

TEACHER EDUCATION

The committee has provided the policy guidelines in Chapter 15 of the Draft Policy in pages 283 to 292. The objective of teacher education is to 'Ensure that teachers are given the highest quality training in content, pedagogy and practice, by moving the teacher education system into multi-disciplinary colleges and universities, and establishing the four-year integrated Bachelor's Degree as the minimum qualification for all school teachers' (P.283). The above objective is misleading and stating that teacher education system shall be offered four year integrated Bachelor's degree through multidisciplinary colleges, which is not appropriate. It does not

include the concern of education and training of teacher educators anywhere. Hence, the objective of teacher education should be 'to ensure that teachers and teacher educators are given the highest quality training and education in theory and practice of perspectives, pedagogy and co-curricular aspects' (Singh, Sunil Kumar, 2019).

The Committee has stated that the four-year B.Ed. degree will be on par with the other undergraduate degrees like agriculture, medicine, law, etc., and students with a four-year B.Ed., will be eligible to take up a Master's degree programme. But, the teacher education program shall not be compared with other professional courses like agriculture, medicine and law, as this is a different programme and its importance is not equated with those courses. Thus, unnecessary comparisons should not be made.

As stated that to educate future teachers, the B.Ed., programme would be started in collaboration with other departments such as, psychology, philosophy, sociology, neurosciences, Indian languages, arts, history and literature as well as various specialised subjects such as science and mathematics. But, three important disciplines namely, geography, economics, and anthropology are left out. Thus, the above disciplines may be added there to have a correct perspective of the interdisciplinary nature of education.

The committee in its sub-head P15.1.1 has categorically pointed out that the substandard and dysfunctional Teacher Education Institutes (TEIs) that do not meet the basic educational criteria will be closed. This effort will be launched in a mission mode by MHRD with strong political will, positive administrative intent, and an effective implementation strategy. It seems that the Committee is serious about restoring the quality in TEIs. It appears as if, till now, it was not serious and now onwards it will change the system and improve. However, it is a good step towards improving the quality of Teacher Education.

The committee specified that the four-year Integrated Bachelor of Education programme for teacher preparation will be offered at multi-disciplinary institutions as an undergraduate programme of study, including both disciplinary and teacher preparation courses. If we offer a four year Integrated Bachelor of Education programme through multi-disciplinary institutions as an under-graduate program of study, the quality will be in question and thus, the four year Integrated B.Ed., programme may not be advisable. In the existing system of teacher education, the students are coming with disciplinary knowledge. In the proposed multi-disciplinary system, the disciplinary knowledge and also the professional knowledge both will be at stake.

As mentioned in P15.2.1 (para 4), if the current two-year B.Ed. programme is continued until 2030, there is no clear explanation about the continuation of two year B.Ed., programme by those multidisciplinary institutions only which are offering the four-year integrated B.Ed. programme. Further, it was mentioned in P15.2.1 that if the pre-service program is withdrawn after 2030, only in-service program is allowed. As the committee recommended that the teacher education will be offered by multi-disciplinary institutions with having expertise across disciplines or core areas of education, and have a strong theory-practice connect, but in practice that will not work, because of different reasons.

In the sub-head P15.3 of page 288, except describing the strengthening of Departments of Education in universities as spaces for research and innovation in education, there is no concrete focus on offering of M.Ed., course in a specific manner. However, it was mentioned that the Departments of Education and Centers of Excellence in Teacher Education will be set up at some universities, which are interested. Further, except mentioning, in the sub-head P15.3.5, that all faculty members will be encouraged to engage in the research and development of knowledge related to various specified aspects that need to be developed at the university through research and higher academic degrees including the M.A. in Education (Research),

as well as the doctoral programs of study (P15.3.7), no specific strategy was suggested by the committee to promote research in teacher education. Hence, there is a need to specify the strategies for promotion of research in teacher education.

In another sub-head (15.4), it was described that the Faculty of Teacher Education programmes must reflect the range of specialisations from multidisciplinary perspectives that are required for teacher preparation today. The practices of teacher preparation, which are mentioned in P15.4.1, ‘an induction and orientation course will be made available for such faculty before they take up teaching duties’ is a good step towards teacher preparation. Faculty members in universities and colleges need to have opportunities to develop their own understanding of the development of education and need to be inducted and exposed to the contemporary pedagogic practices, which are described in P15.5 and the in-service Continuous Professional Development for college and university teachers will continue at HRDCs (P15.5.2) are some of the positive steps provided in the Draft NEP. However, these training opportunities are already there in the existing system.

NATIONAL RESEARCH FOUNDATION

The National Research Foundation (NRF), which was referred in Chapter 14 (PP.265 - 282), will be set up through an Act of Parliament, as an

autonomous body of the Government of India, is an innovative idea to support academics, researchers, ministries, governments, industries etc (P14.1.1). There was a mention that NRF will be given an annual grant of INR 20,000 crores (~ 0.1% of GDP); this will be increased progressively over the next decade as the country’s capacity for quality research is developed. The committee has mentioned the primary scope of the Foundation (P14.1.2) which include— funding research in all disciplines across the academic landscape through a competitive, peer-review based process; building research capacity at academic institutions across the country; creating beneficial linkages between researchers, government and industry to ensure that the most urgent national issues are researched; and recognising outstanding research through special prizes and seminars.

Further, the Foundation will provide competitive funding for outstanding research proposals across all the disciplines (P14.1.3). It also has four major divisions to start with— Sciences, Technology, Social Sciences and Arts and Humanities, which will have an associated Divisional Council (P14.1.5) - Private institutions will also get funding for projects. The other research funding agencies like Department of Science and Technology (DST), Department of Atomic Energy (DAE), Department of Biotechnology (DBT), Indian Council of Agricultural Research

(ICAR), Indian Council of Medical Research (ICMR), University Grants Commission (UGC) etc., will also function in addition to NRF.

The idea is very relevant and it would definitely induct a true culture of research into the universities that are by and large devoid of such a culture. We must appreciate the Committee for this innovative idea that would help universities in the country in making a fresh rigorous beginning in this area of research. However, the following few suggestions are made on the functions of the NRF.

Regarding the eligibility for receiving funding (P14.1.9), it is mentioned that the researchers from all educational institutions, universities, colleges and schools, both public and private, as well as from research institutions, will be eligible to compete for funding from the NRF. But, no mention was made about the part-time or full time basis and also not mentioned anything about the eligibility of retired professors from the colleges and universities and if so, the eligibility up to which age.

In the draft report under sub-head P14.2.1, it is mentioned that each Divisional Council of the NRF would make public calls for research proposals every year and that such proposals would be peer reviewed, etc. (p.274). Instead of fixing a date to call research proposals, it is better that submission of research proposals is allowed on a continuing basis throughout the year (Khajapeer, M., 2019). Tying up of

the submission of research proposals by a mandated date would result in delaying the activity of research in general. What is the advantage that is derived by calling research proposals once a year? If the researchers are permitted to submit their research proposals any time and their finalisation is taken up when the respective Divisional Councils meet, the time lag that would be stretched otherwise might get reduced. Therefore, this section (P14.2.1) on calling research proposals should be suitably modified.

The draft policy has not made any suggestion on the consumption of research findings that emerge from such researches done by the universities and the other research institutions with the support of the NRF funds. Unless the research findings are transformed into a practice to serve a particular purpose, research done would not be of any use and investment made in the project will become futile. Even the researchers will not pay much attention and will not take much serious if their findings and suggestions are not being used by the private or public institutions. It suggests that the research findings should be properly harnessed for the purposes of use and thereby to their contribution to the development of the nation. However, in the sub-head P14.2.7, there was a mention that all the intellectual property rights, including publications and patents, of NRF-funded research will

be retained solely by those carrying out the research, while giving the government (including any of its assigned agencies) the license to use, practice, or implement the research or invention (or any of its output) for the public good without payment of any royalty or charge.

The Committee stated on page 276 under sub-head P14.3.1 (a), that the serving, retired or close to retirement faculty at research universities and institutions who are still active in research may choose to serve as Research Mentors at State Universities. Further, there was a mention (P14.3.1b) that there will be no age limit for Mentors; they will be permitted to serve as Mentors and apply for funding for as long as they are active and add value to their institutions. The talents of outstanding retired research faculty in the country are currently severely underutilised; this will be an invaluable opportunity to employ their expertise to expand research culture across the country.

The committee has also specified (P14.3.4) that the NRF as part of capacity building, applicants from institutions where research is only in nascent stages, but who submit research proposals of the level that could potentially be funded by the NRF, will be assisted by one or more mentors at the NRF, who will be specifically commissioned by the NRF for this purpose— to help bring the writing of the research applications up to the quality levels sought by

the NRF, before the application is put through the official review process of Subject Committees. In this context, it is suggested that the NRF may also specify to conduct the training courses on Writing Research Proposals in the research institutions periodically so as to encourage the fresh and budding scholars and faculty members. However, there was a mention in P14.3.5 that the academies can contribute greatly to capacity building for teachers and for researchers; their members can be mentors to university departments and colleges as these institutions seek to improve the quality of their teaching and research.

The NRF will help in playing this linking role between research being conducted in the country and the relevant government entities (both Central and State), which makes it much more difficult for breakthroughs in research and innovation to be implemented for the benefit of society. The NRF will also help link both researchers and the government with industry, in order to increase collaboration and synergy of purpose with respect to research, innovation, and implementation among all three parties (P14.4). The NRF will offer its expertise to ministries for their research needs (P14.4.1)— Research requirements of State Governments will also be met by the NRF (P14.4.2).

The other important feature of NRF will be instituting a system of awards for truly successful research taking

place in the nation, and also organise national seminars and public lectures on outstanding research to encourage the award-winning researchers as well as other scholars (P14.5.1). In this connection, it is a good measure for promoting the research and also disseminating the results of outstanding research for the benefit of the people concerned. Further, it is suggested that priority shall be given

for the action research studies, which will facilitate to solve the problems of marginalised, poor and downtrodden people particularly women. Thus, the establishment of NRF is a boon for all the Higher Education Institutions (HEIs), academies, researchers, governments, industries, etc., and it is also help the researches to facilitate and participate in the development of the country.

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