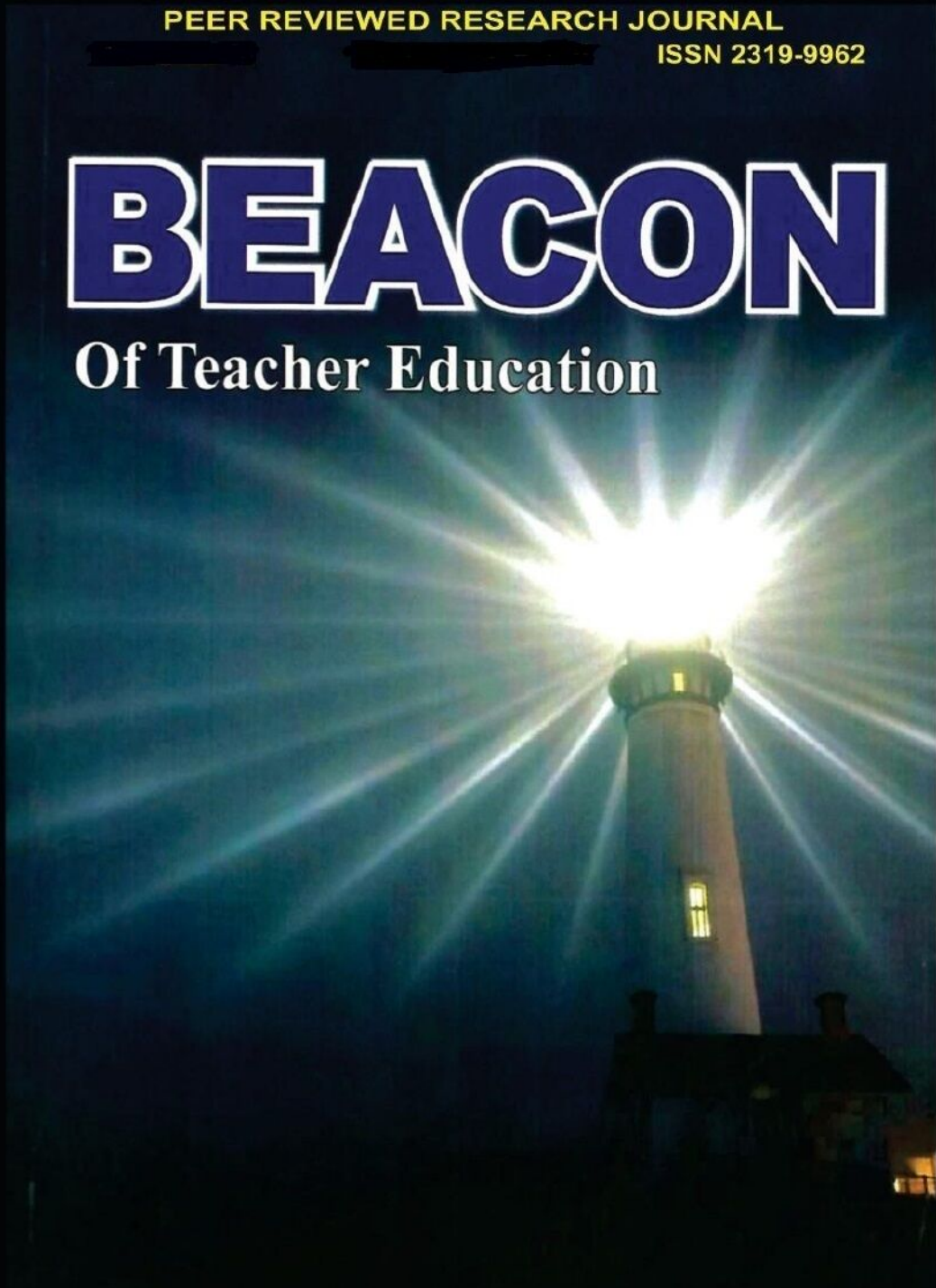


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# BEACON

Of Teacher Education



**Government College of Education (CTE) Panvel,  
Dist. Raigad (Maharashtra), Pin 410 206.**

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**Of Teacher Education**  
**December 2016**

**Dr. Raamaa A. Bhoslay**

Editor

**Dr. Suvidya M.Sarvankar**

Executive Editor

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Dist. Raigad (Maharashtra). PIN.410206

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The views expressed in the articles published are the individual opinions of the respective authors and they in no way reflect or represent the opinion of 'Beacon of Teacher's Education' nor does 'Beacon of Teacher's Education' subscribe to these views in any way.

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Printer publisher and Editor Dr. Raamaa A. Bhoslay, Principal, Government college of Education, Panvel has published and printed this trilingual annual at Aadhar Publication, New Hanuman Nagar, Behind VMV College Amravti.

**Editorial**

I am very happy to successfully publish fifth issue of our magazine 'Beacon'. The word Beacon means to enlighten the path. Hope this Beacon enlighten teacher Education and works as a lighthouse to the teachers and guide them in the right direction.

Teachers, to be effective, need to stay informed about the trends, in both pedagogy and technology, and be confident about trying new approaches and Technologies such as mobile devices, e-Portfolios and [social media \(Web 2.0 tools and approaches\)](#) (e.g., blogs, twitter, wikis and media sharing sites) as they are now relatively familiar and are being used frequently.

E-learning is used prominently with computers and smart phone. Internet's evolution in these past few years have been staggeringly fast. Changes in education system are required due to students demand, techno savvy students, school/ administration Support, and Government support and motivation to use technology. Governments seek opportunities to lower costs of education and increase access which translates into funding for alternative education technology and modes.

This issue is dedicated to the subject 'New Trends In Education'. We got good response from education faculty for this. This issue covers articles related to research done by teacher for the betterment of their student and education in area such as education for blind students, ICT based education, evaluation, multiple intelligence etc

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## **1. Impact of ICT Subject On Computer Efficacy of Std. IX Students of SSC Board Schools**

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### **Abstract:**

The use of technology has become inherent part of life. Organizations, experts and educationists increasingly recognize the importance of Information and Communication Technology (ICT) in support of educational improvement. The students at the school level need to be trained in the use of ICT. Thus Government of Maharashtra in India introduced ICT subject for Std. IX students of Secondary School Certificate (SSC) board offering education in aided and unaided school. This study deals with the impact of this newly introduced ICT course on Std. IX students' computer efficacy. It is an outcome evaluation study based on the response of 1041 students from 21 schools in Greater Mumbai. The findings of the study show that students from aided schools were better on computer efficacy when compared to students in unaided school.

The use of technology has become inherent part of life. Organizations, experts and educationists increasingly recognize the importance of Information and Communication Technology (ICT) in support of educational improvement. Today education is influenced by the technological advances in terms of information and communication technologies. In recent years there has been widespread interest in the implementation of ICT in schools. The students at the school level need to be trained in the use of ICT. State Level Curriculum Committee of Maharashtra State Council of Education Research and Training (MSCERT) have introduced Information Communication Technology (ICT) as a compulsory subject for Standard IX and X in the Secondary School Certificate (SSC) board schools.

Accordingly the ICT subject is offered by aided and unaided schools for Std. IX and X which are following the state board. For this purpose teachers were trained in the ICT subject. In this program students are learning about the theoretical and practical concepts of ICT.

One of the advantages of becoming ICT proficient is becoming capable of using and applying computer technology in learning and subsequently in other situations too. This will help them in building their confidence.

The government is of the opinion that students will become confident after undergoing through this new course in ICT. However, few questions arise. Do the students really feel good about their efficacy in computers? Is there any impact of this course on computer-efficacy of students? The investigator decided to conduct a research study to find answers to these questions.

After reviewing the relevant literature the researcher observed that no evaluative study was done on the newly introduced course. Therefore there was a need to conduct a study of this kind.

### **Statement of the Problem**

The Problem is stated as follows  
"Impact of ICT subject on computer efficacy of std. IX students of SSC board schools"

### **Definitions of the Variables**

**ICT Subject** – It is defined as information and communication technology is introduced as a subject in Standard IX and X of SSC board schools in Maharashtra. The subject comprises of theory as well as practical applications of ICT with reference to the computers and internet.

**Computer Efficacy** – Refers to secondary school students' judgment of their capabilities to use and apply computer technology.

### **Objectives of the Study**

The Objectives are stated as follows

1. To compare students' computer-efficacy before and after the commencement of the ICT subject in Std. IX
2. To compare students' computer-efficacy on the basis of types of school before and after the commencement of the ICT subject in Std. IX.

### **NULL HYPOTHESIS**

The Hypothesis are stated as follows

1. There is no significant difference in computer-efficacy of Std. IX students before and after the commencement of the ICT subject.

2. There is no significant difference in computer-  
efficacy of Std. IX students on the basis of  
school types (aided and unaided schools) before  
and after the commencement of the ICT subject.

#### Research Design of the Study

The **Methodology** of the study is the **outcome evaluation model** of program evaluation has been used which will focus on **effect assessment**. Therefore, the methodology adopted for the present research is the **program evaluation** which comes under descriptive research.

Like basic explanatory research, effect assessment is concerned with cause and effect. The cause is the ICT subject and its effect is computer-  
efficacy. The ICT subject is taught by the school  
teachers trained in the subject. Therefore the paradigm  
for present research is the “*black box model*” (Martyn  
Hammersely, 1993). According to Martin Hammersely  
(1993), this model aptly depicts the research paradigm  
in most evaluation studies. The black box model is the  
situation in which the input is the program, treatment  
or intervention, and output is its effects. The  
connecting process within the box is not readily  
visible. The researcher was not involved in the  
program intervention and thus was not visible to the  
researcher.

Since the ICT course introduced in Std. IX for  
students is a ‘new full coverage program’  
randomization while selecting the respondents was not  
possible, hence the current research seeks to assess  
the effect of the program using the single case design  
in the quasi experimental design.

Thus the research will use the “full coverage  
program”. This will consist of repeated measures of  
effects before commencement of ICT course and after  
the completion of course for same group of respondent  
of Std. IX of SSC board.

Total number of student **respondents**  
considered for the study was **1041**. Computer-  
Efficacy **Scale** by Reema Rahul Sharma (2009) was  
used.

In order to analyze and describe the data statistical  
techniques used are mean and standard deviation and for  
testing the hypotheses t- test has been used.

#### Testing of Hypothesis

**Hypothesis 1** states that there is no significant  
difference in the students’ computer-  
efficacy before and after the commencement of the ICT subject in Std. IX.

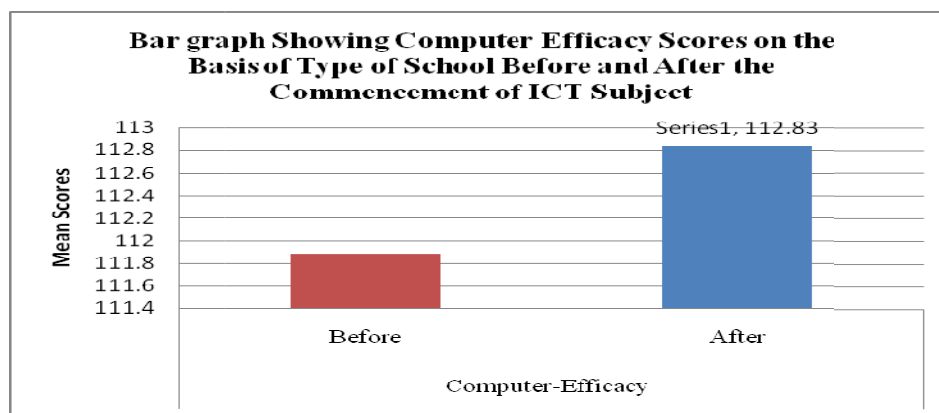
Following table shows the difference in the  
computer-  
efficacy of Std. IX students

**Table I**  
**Difference in the Computer-Efficacy of Std. IX Students Before and After the commencement of the ICT Subject in Std. IX**

Variable		N	Mean	Standard Deviation	t value	P value	Significance
Computer-Efficacy	Before	1064	111.89	12.55	0.45	0.65	NS
	After	1041	112.83	12.55			

From the table it can be seen that the P value for **computer-  
efficacy** of students is greater than  
0.05. Hence, there is no significant difference in the computer-  
efficacy of Std. IX students before and after  
the completion of the course. The null hypothesis is, therefore accepted for computer-  
efficacy. However  
one can observe a slight increase in the mean scores of computer efficacy after the completion of the  
course.

Following graph show the difference in mean score of computer efficacy before and after the  
commencement of ICT Subject.



**Hypothesis 2** states that there is no significant difference in student's computer-efficacy of Std. IX students on the basis of types of school (aided and unaided school) before and after the commencement of the ICT subject.

Following table shows the difference in the computer-efficacy of Std. IX students on the basis of types of school before and after the commencement of the ICT subject.

**Table II**  
**Differences in Computer Efficacy Scores on the Basis of Type of School Before and After the Commencement of ICT Subject**

Variable	Type		N	Mean	SD	t ratio	P value	Significance
Computer Efficacy	Aided	Before	823	112.63	11.50	3.57	0.0004	S
	Unaided		241	109.36	15.36			
	Aided	After	815	112.61	12.11	2.33	0.019	S
	Unaided		226	110.42	13.90			

NS=Not Significant, S=Significant

From the table it can be seen that there is a significant difference in the **computer efficacy** of aided and unaided schools students **before** and as well as **after** the commencement of ICT subject. Therefore the null hypothesis is rejected for computer efficacy. Mean scores indicates that the aided school students were higher on computer efficacy before the commencement of the ICT subject as well as after the completion of the ICT subject. This shows that aided school students' skill and knowledge of computers is better than unaided school students.

### Conclusions and Discussions

The findings of the study show that there is no significant difference in the computer-efficacy of the students of Std. IX after going through the ICT course. It is observed that there is a marginal increase in mean scores of computer-efficacy of students after the commencement of ICT course, though it is not statistical. This means there was not enough impact of the ICT subject on the computer-efficacy of Std. IX. students.

Overall there is not much increase in computer-efficacy of students after studying the ICT subject. This could be because students may not be comfortable working with computers. The number of hours given in the timetable for the subject could be a reason. The might be overlooked by the faculty and the students i.e. they feel it can be done easily. They might find the use of computer and its applications to be difficult.

A significant difference was found in computer efficacy on the basis of types of schools before the commencement and after the completion



of ICT subject. The aided school students were higher on computer efficacy than unaided school students before the commencement and even after the completion of ICT subject. The aided school students are perhaps given more opportunity to do practical work and gain experience as compared to the unaided school students. It was observed that many aided schools are having facilities of using computer and technology for teaching other subjects in the classrooms could be one of the reasons for developing students' efficacy in computer. Unaided schools might consider this subject as students' can do it on themselves. As practical facilities are provided to the students, they are able to use and explore the ICT subject to a greater extent. The students of this age group consider the computer as a good friend and a smart educational tool. They want to know more about the technology so that they can prepare themselves for the world. The technology helps them in solving their several problems, broaden the thinking level and develop interest in students for their subject.

The government, the school authorities and the teachers need to put in more efforts to ensure that students understand and comprehend the subject and also develop the skills in using computers. Efforts should be made to make available and accessible the resources in terms of physical facilities as well as well trained and committed teachers. This will help students in developing efficacy in computer.

#### **Implications of the Study:-**

Present study will help Maharashtra Government to know about achievement of their program i.e. introduction of ICT as a compulsory subject for Std. IX and X. It will help to policy makers and other stakeholders to get the idea whether the introduced course is achieving its objectives or not.

This study is an attempt to understand the student's improvement in computer-efficacy after going through the course. The present study will develop the understanding of student's capability towards access of information and usage of internet. Through this study parents will get the awareness about importance of ICT course in the curriculum.

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## 2. A Study of Attitude of B.Ed. Trainees towards Teaching Profession

Rohan Kamble

### Abstract:

Present paper attempts to study Professional Attitude of B.Ed. trainees towards their teaching profession. Professional Attitude rating scale was developed by Dr. (Mrs.) UmmeKulsum, Bangalore University, (2008). The study involved 50 students B.Ed. trainees from Thane district. Descriptive method was used in the study. The study found that there was no significance difference in Professional Attitude of B.Ed. trainees on the basis of gender and streams.

**Keywords:** Professional Attitude and Gender difference.

### Introduction:

Attitudes play an important role in the teaching that is why there have been different definitions of what an attitude is. Attitude may be defined as the predisposition of tendency to react typically towards a given object situation or value, usually accompanied by feeling and emotions. Attitude may be considered as “Natural” or “Instinctive” from parent. They are learnt through socialization process. Most of Attitude may develop gradually through a longer period of time, but it is different if not impossible to measure the attitude of an individual. Attitude can be directly observed but must infer from overt behavior both verbal and nonverbal. The basic function to teaching is preparing a student to sound judgment and to be able to solve the problems of life.

The study of attitude of B.Ed. trainees will not only help the teacher to select suitable choices for his students but without the study of the students’

attitude the works of the teacher will remain unsatisfactory and the aim of teaching will never be gained. Effective teaching and learning is product of various factors. These factors are directly related to the quality of education in general and to successful classroom instruction particulars, these factors include, teacher background, his/her competencies, pre-service and in-service training, teacher students interaction, efficient use of instructional time and materials and assessment of students achievement, it is imperative, that for better planning of effective and efficient education in our institutions the above factors should be well conceived, properly organized and diligently implemented. Teacher must have knowledge, about attitudes beliefs and skills. These characteristics must be mediated through the individuality of the teacher (Chill, 1984). We have much type of individuals in our complex society like skilled, Semi-skilled and unskilled or labor. Every individual has his own status according to his own ability and capacity. He is to perform a role which is expected of him in an institution and it is an admitted fact that the skilled individuals are very much necessary for smooth running of any educational institutions. India is well below average in educating its masses and as compared to other countries of the world like America, Japan etc. if the teachers lack professional attitude, they will show less effectiveness in their performance.

The education system in India needs revolutionary efforts to improve the situation, one of these efforts may include the improvement of teacher education, so there is burning need to change the

behavior and attitude of the teachers positively to meet the demand of the day. Hence the present study has been taken to find out the professional attitude of B.Ed. trainees towards teaching profession.

#### **Review of Related Literature:**

**Renthali. M & Malasawami** (2015) conducted study on Construction of an Attitude Scale towards Teaching Profession: A Study among Secondary School Teachers in Mizoram. **B. Prasad., & S. Raju**(2013) conducted study on Attitude of student teachers towards their profession. **Trivedi. R.,**(2012) A Study of Attitude of Teachers towards Teaching Profession Teaching at Different Level. **Hussian., & Jamil** (2011) conducted study on “Relationship between the Professional Attitudes of Secondary School Teachers with Their Teaching Behavior”.

#### **Need of the Study:**

Today's B.Ed. trainees are tomorrow's teachers. If their attitude remains negative towards their profession then what we can expect from them. And now B.Ed. course has become 2 years. Now the situation has completely changed due to age of globalization and privatization. Teaching profession considered as noble profession. Attitude of society towards teaching profession has changed. In order to develop right kind of attitude among B.Ed. trainees towards study has really needed in the present context especially in India.

#### **Statement of Problem:**

**A Study of Attitude of B.Ed. Trainees towards Teaching Profession.**

#### **Variable of the Study:**

Professional Attitude

#### **Definitions of the variables**

#### **Conceptual definition**

Attitude may be defined as the predisposition of tendency to react typically towards a given object situation or value, usually accompanied by feeling and emotions.

#### **Operational definition:**

#### **Professional attitude:**

The way and manners opinions views values of B.Ed. trainees towards teaching profession.

#### **Objective of Study:**

1. To study Professional Attitude of B.Ed. Trainees on the basis of gender.

a) Boys b) Girls

2. To compare professional attitude of B.Ed. Trainees on the basis of gender.

a) Boys b) Girls

3) To study Professional Attitude of B.Ed. Trainees on the basis of streams.

a) Arts b) Commerce c) Science

4) To compare professional attitude of B.Ed. Trainees on the basis of stream.

a) Arts b) Commerce c) Science

**Null Hypothesis of Study:** 1. There is no significant difference Professional Attitude of B.Ed. Trainees on the basis of gender.

a) Boys b) Girls

2. There is no significant difference Professional Attitude of B.Ed. Trainees on the basis of streams.

a) Arts b) Commerce c) Science

#### **Methodology:**

The study has adopted Descriptive method because it aimed at studying professional attitude of B.Ed. trainees towards teaching profession in the present context.

#### **Sample of the Study:**

Present study sample has been selected randomly from Education College situated in Thane district.

#### **Tool of the Study:**

Professional Attitude (Kulsum, 2008)

#### Scope and Limitationsof the Research:

In the present study professional attitude of B.Ed. trainees has studied. Data collected from only B.Ed. students not teachers. Data collected from B.Ed. trainees by using descriptive research method. Data collected from 50 SDT kalani college B.Ed. students. No other colleges were involved in the study. **Significance of the study**

- 1.The study may be helpful in judging the positive attitude of secondary school teachers that should be work as criteria to assess the professional attitude along with the academic qualifications.
2. The study may be helpful in knowing the class room teaching behavior of B.Ed.trainees.
3. The results of the study may helpful in improving the professional attitude of B.Ed. trainees.
4. Teaching is considered to be the noblest of all the profession. It is termed as the profession of the

prophets. A person serving in any profession must have Positive attitude and competence in his profession. This study may be significant for knowing to major sessions of teachers training in relation to their attitude towards their profession.

5. It also pinpoints the differences among the attitudes of the teacher with different subjects. The study will provide information about difference in attitude due to gender and streams.

#### Data Analysis:

The present research used Vassar statistical techniques such as t- test and ANOVA. To compare total boys scores and girls scores on variable namely Professional Attitude of B.Ed. Trainees, the 't'test was used. Secondly, to compare faculty's wise scores on variable namely Professional Attitude of B.Ed. Trainees, ANOVA was used.

**Table 1:**

**The following table shows the relevant statistics of comparison of boys and girls scores of Professional Attitude.**

Group	Mean	SD	N	T	P ratio	Significance
Boys	69.67	5.78	06	0.46	0.6473	NS
Girls	68.38	6.60	44			

#### Findings:

The proceeding table shows that t- ratio 0.46 and P ratio 0.6473. 'P' ratio <0.0001 is greater than 0.05 hence null hypothesis is accepted. It is concluded that the mean score of Professional Attitude of B.Ed. Trainees from boys and girls do not differ significantly.

**Discussion:-**There is was no significant difference of professional attitude of B.Ed. trainees on the basis of gender. It means that gender does not have any influence on professional attitude of B.Ed. trainees towards their profession.

**Table 2:**  
**Analysis of Variance for Professional Attitude of Teaching profession**  
**on the Basis of faculty's.**

Source	SS	df	Ms	F ratio	P value	Significance
Between Groups	45.7221	2	22.8611	0.51	0.603780	<b>Ns</b>
Error	2102.4786	47	44.7336			
Total	2139.78	49				

**Groups:** Science, Commerce and Arts.

**Findings:** The proceeding table shows that there is no significant difference in Professional Attitude of Teaching profession on the basis of faculties. Since the F-ratio is not significant, the null hypothesis is accepted for Professional Attitude.

#### **Discussion**

There is was no significant difference in professional attitude of B.Ed. trainees on the basis of streams. It means that streams doesn't change

professional attitude of a B.Ed. trainees towards teaching profession.

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### **3 Research Trends Related to Life Skills at National and International Levels**

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#### **Abstract**

Human being is blessed with different potentialities, yet each individual have differences in some area of work. This can become limitations in other areas. To face the challenges of daily life every one need to have sound decision power, good interpersonal relationship skills, thinking power and belief in oneself. To develop these skills we need to understand the importance and effectiveness of life skills. Numbers of research has been done which are related to training and programme to check the effectiveness of life skills. Majority of researcher reported that the life skills programme is effective, especially for adolescent, teachers and parents. This research paper discusses about research trends related to life skills at national and international levels.

**Key Words: - Life Skills, Life Skills Training, Life Skills Programme, Adolescent**

**Introduction :-**Life skills have been defined as “the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life” World health Organization (WHO). ‘Adaptive’ means that a person is flexible in approach and is able to adjust in different circumstances. ‘Positive behaviour’ implies that a person is forward looking and even in difficult situations, can find a ray of hope and opportunities to find solutions. Life skills

include psychosocial competencies and interpersonal skills that help people make informed decisions, solve problems, think critically and creatively, communicate effectively, build healthy relationships, empathize with others, and cope with managing their lives in a healthy and productive manner.

To understand the importance and effectiveness of life skill, life skills programme and its training need to understand the research work conducted in different aspect of life of students, teachers, parents and society as a whole. Review of related literature helps to understand the pattern of life skill effectiveness.

#### **Review of Related Literature Researches done India**

Patel Shreena (2006), conducted a research skills for life: developing a sustainable life skills education program in Bhavnagar, Gujarat, and concluded that life skills education need to be continuously reinforced and clarified in different ways. It needs to be a collaborative process with life skills instructor, teachers, and parents. Life skills should be added to the school curriculum in India so that the concepts can be strengthened daily. Teachers should be trained in value and life skill education as well as academic subjects.

Where as another research conducted by Yadav Pooja and Iqbal Naved (2009) on impact of life skill training on self-esteem, adjustment and empathy among adolescents and found that, the subjects had scored higher on the self-esteem dimension.

This indicates life skills' training is effective in increasing self-esteem of adolescents. In another research by Bharath Srikala and Kumar K. V. Kishore (2010), conducted study on empowering adolescents with life skills education in schools – School mental health program: Does it work? Study revealed that, the study groups both the sample and the control group did not differ in age and sex or socioeconomic status had significantly better self-esteem, perceived adequate coping, and better adjustment generally, specifically with teachers in school and pro social behavior. There was no difference between the two groups in psychopathology. Randomly selected 100 life skill educator-teachers also perceived positive changes in the students in the program in class room behavior and interaction. Life skill education integrated into the school mental health program using available resources of schools and teachers is seen as an effective way of empowering adolescents.

In another research work done by Netragaonkar Yashpal D. and Khatal Somnath Kisan (2011), on life skill awareness programme and its effectiveness for B. Ed. Students, and found that B.Ed. students became aware about life skills. Life skill awareness programme were found very positive.

M.N. Vranda and Rao M.Chandrasekhar (2011), conducted research on life skills education for young adolescents- indian experience, and found that, in india adolescents are exposed to more information and cultural alternatives than in earlier periods. The adolescent has to prepare for a global successfully adult life of competition and independent function which is possible only through enhancing their psychosocial competencies through life skill training. Where as research by Khera Sandhya and Khosla Shivani (2012) on, a

study of core life skills of adolescents in relation to their self concept developed through yuva school life skill programme, here in this study that the positive correlation between self concept of adolescent and their core affective life skills and between self concept and core cognitive life skills. Hence adolescents having good Self-Concepts have improved both their core affective life skills and core cognitive life skills significantly through yuva slp. similarly in another research conducted by Sharma S (2013), on Measuring life skills of adolescents in a secondary school of Kathmandu: an experience, found that the most of the teachers were not aware of the concept of life skills. Maternal education was significantly associated with higher life skill levels in adolescents. Connectedness and family support were other important factors influencing the level of life skills in the adolescents.

#### **Researches done Abroad :-**

Population Council/Horizons (2003), conducted research on, the impact of life skill education on adolescent sexual risk behaviors, and found that, youth exposed to life skills education are more likely to use condoms, but there was no effect on other key behaviors. Life skills education should equally emphasize all methods of preventing pregnancy and transmission of STIs and HIV. Life skills education should support secondary abstinence, which is already increasing due to other factors. The gap in exposure to life skills education among the different racial groups needs to be further narrowed. In another studies conducted by The Oxford Evaluation Team for the Health and Safety Executive (2003) on an evaluation of the life skills-learning for living programme and concluded that programme was equally successful with

boys and girls, and with children from lower and higher achieving schools. It improves children's alertness to hazards, their knowledge about preventive measures, their skill in dealing with emergencies, and their confidence in dealing with emergencies. In the evaluation overall the differences between the life skills group and the control group were often statistically significant when the levels of performance of the two groups were not very different at all.

Dimitrios E. Papageorgiou and Anna Kavga (2009) evaluation of life skills in students of nursing: a descriptive study, concluded that the students showed large improvement in the following sector such as emotional, thought, relations, study, professional settlement, leisure time and health.

Similarly Bouck, E. C.(2010), reports of life skills training for students with intellectual disabilities in and out of school suggested, that the current educational policy situation (i.e. a predisposition towards inclusive general education placements for students with disabilities and participation in the accountability system for all students), educators who believe in the value of a life skills curriculum will need to be creative in its implementation and look towards transition plan and activities to provide students with the needed training.

Prawit Erawan (2010), developed a life skills scale for high school students through, mixed methods research. this scale is developed based on principles of theory as well as empirical data investigation. The level of life skills is identified into 3 classes including low, normal, and high and the classification of T-scores is done through T-scores divided by the life skills level and

then compared to T-scores. Similarly research done by Opio james (2010) on awareness and application of life skills education in primary schools in post-conflict areas: a case of kalaki county kaberamaido district, the following conclusions obtain that head teachers, teachers and pupils are aware of life skills. The pupils from schools near camps are more aware than pupils from schools far from camps and the boys are more aware of life skills than the girls. The head teachers and teachers in schools far from camps are less involved in the promotion of life skills than their counterparts in schools near camps. Schools especially those far from camps have inadequate life skills manuals.

According to study conducted by Raymond M. C. Chan and Patrick S. Y. Lau (2011) on interrelationships among teacher care, students' life skills development, and academic achievement: implications for school guidance work, Hong Kong and concluded that the students' strength in resisting common risk behaviors and their self-perception of academic achievement would be enhanced when they experienced their teachers as genuinely caring, committed to their academic success, and trusting of their judgment and ability. A positive teacher care is having a significant influence in creating a harmonious school environment for both gender, similarly research by Reza Fallahchai (2012) conducted research on effectiveness of academic and life skills instruction on the freshmen academic achievement, the results showed that the students who had received academic and life skills training gained significantly higher scores in life skills and academic achievement than those with no training, also no significant different between male and female students in the



score of life skills and academic achievement observed.

Lolaty HA, Ghahari S, Tirgari A, Fard JH( 2012),conducted research on the effect of life skills training on emotional intelligence of the medical sciences students in Iran, and found that, the scores of emotional intelligence after life skills training were significantly improved, which itself could lead to academic success, reduced substance abuse, and increased stress tolerance in the students.

Gholamreza G. Bahrami and Fariba Molajabari (2013),conducted research on, the effect of training life skills on mental health of mothers having exceptional children and the results showed training life skills has been effective in decreasing anxiety and depression of the mothers having exceptional children.

### Conclusion from the reviews

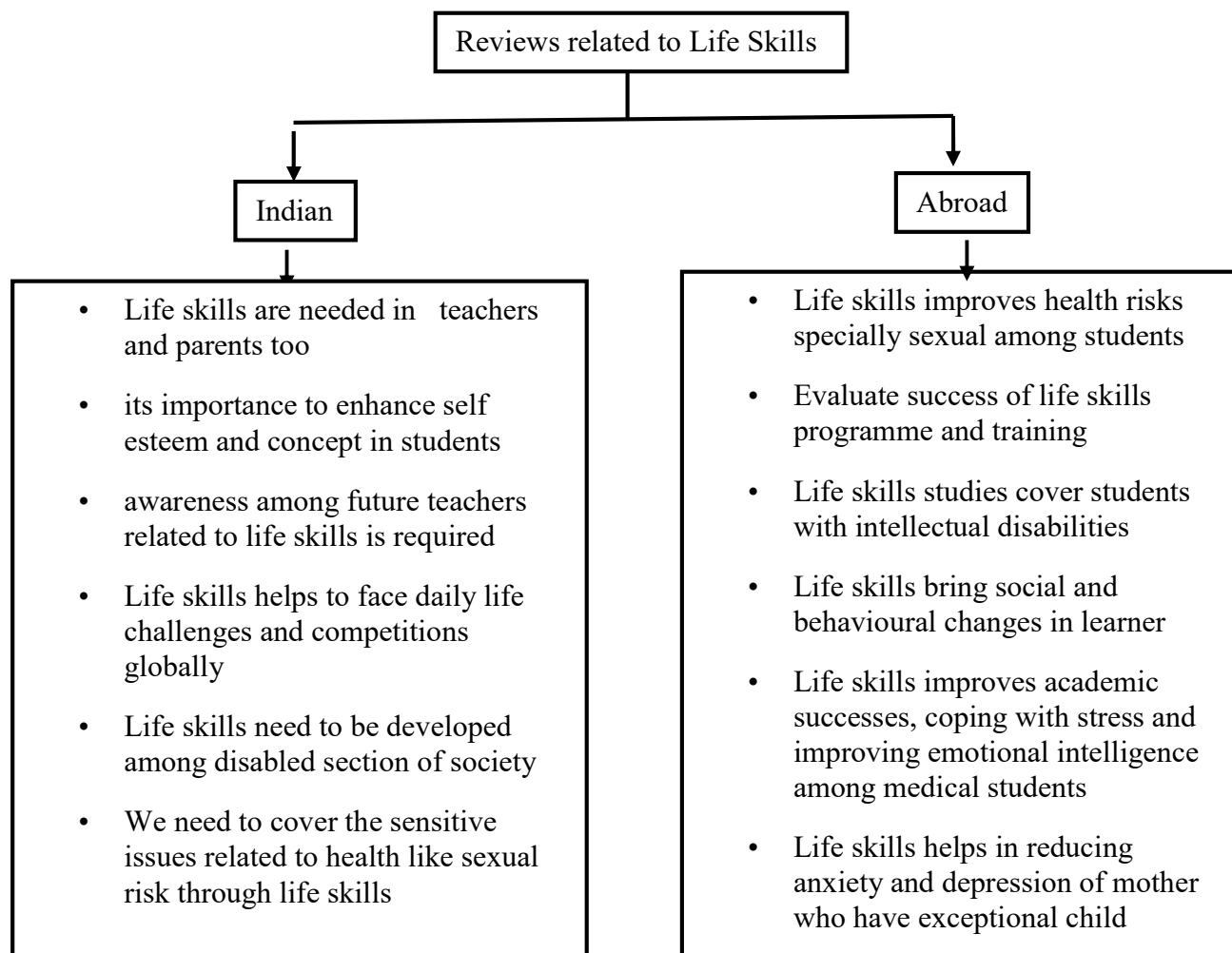
Life skills' training is effective in increasing self-esteem, self concept of adolescents. Life skills help to improve health issues, alertness to hazards, their knowledge about preventive measures, develops skills and confidence in dealing with emergencies. Life skill training helps in resisting common risk behaviors and self-perception of academic achievement. According to above reviews students who had received academic and life skills training gained significant improvement. Life skills training not only helps to improve mental health and decreases anxiety and depression of adolescent but also it helps the mothers having exceptional children. Here is the differences in above given reviews.

### Concept Map of Reviews

Life Skills						
Year	Objectives	Methodology	Tools	Sample	Techniques	Finding
2003 Abroad Indian	Measure the effects of exposure to topics with in the life skills curriculum on sexual and reproductive health knowledge and behaviors among youth,  Develop scale to measure life skills in adolescents	Survey method ,  Crossed sectional survey	Interview  Questionnaires	14-22 year old youth,  Adolescent	Descriptive techniques	substantial effects of exposure to life skill education, no effect on age at sexual debut or partner reduction, use of condom has increased ,  teachers were not aware of the concept of life skills, maternal education and family support influences the level of life skills in the adolescents
2006 Indian	Developing life skills education program	Crossed sectional survey	Observation	Age group from 3to 14	Experimental design	Life skills education need to be continuously reinforced in schools, it should involve life skills instructor, teachers, and parents.
2009 Abroad	Evaluation of life skills,	Survey method,	Questionnaire	Students of nursing	Cross correlation	Students need of improvement,

Indian	Requirement of life skills at primary school level and evaluate school curricula,  Impact of life skill training on self esteem, adjustment and empathy among adolescents	Experimental method	Invention	department s,  Students at primary level, educational life skills specialists and curriculum developer, Adolescent	parametric coefficient,  T –test,  Mean, SD and t value	No specific curriculum for teaching skills, School curriculum need to revise, Students improved on Self esteem, emotional and educational adjustment, empathy and training was effective
2010 Abroad	Awareness and application of life skills among pupils,  Developing life scale for high school students	Crossed sectional survey,  Mixed method	Questionnaires, interview guide and observation	School students, head teachers, teachers,  High school students	Qualitative and quantitative technique,  Correlation coefficient	Awareness and application of life skills among teacher and pupil were good near to campus,
2011 Abroad Indian	Interrelationships among teachers care, students life skills development and academic achievement,  Awareness among B.Ed students,	Crossed sectional survey,  Experimental method	Questionnaires  Life skill awareness test, opinionnaire B.Ed students, life skill awareness programme	Students and teachers,  B.Ed Students,	ANOVA,  Chi –Square test	Teachers care is important in life skills development and in academic achievements,  Life skill programme found effective ,
2012 Abroad Indian	Effectiveness of instruction of academic and life skills on the freshmen academic achievements,  Relationship between core affective and cognitive life skills and self concept of adolescents	Semi experimental,  Survey method	Life skills invention,  Self made test	Adolescent students	Correlation and ANOVA	Life skills training was effective ,  Self concept and their core affective , cognitive life skills found positive among adolescent
2013 Abroad	Mental health	Experimental method	General health question-naire	30 mothers having one exceptional child	ANCOVA	Effective in increasing mental health and decreasing depression and anxiety

### Differences in Indian and Aboard review related to Life Skills



According to Indian reviews research is focused on adolescents and their self-esteem, self concept, adjustments, empathy, mental health, academic performance, their awareness level of life skills and related training. On the other hand abroad review focusing on the impact of Life skills education on adolescents' health and safety related to HIV, life skills training for students with intellectual disabilities in and out of School, improving emotional intelligence and evaluation of life skills programmes.

Need and demand of such life skills program depends on the culture, advancement of that nation demand of the time. For enhancing individual's potentiality and channelizing their energy in right direction we need to conduct more researches related creating awareness of life skills not only in school students but also among different streams of

education and their levels, teachers, parents, awareness need to be developed in rural areas children's too. Life skills programme and training should be included in school curriculum. In abroad researcher are not only focusing on students betterment but they are working towards different elements related to students.

On the bases of above mention reviews Indian researchers need to work on areas like, students of post conflict area, life skills to improve juvenile delinquent children's life, students with special need and to enhance awareness levels of parents and training related to life skills. Teacher should be trained properly, and concepts of life skills need to be continuously reinforced for better results.

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#### 4 Multiple Intelligence an Approach to Facilitates Learning of Fractions

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Abstract :

The aim of the study was to examine the effects of differentiated instruction on students' conceptual understanding of Fractions based on Gardner's multiple intelligence (MI) theory then to move toward developing their own thinking strategies for mastery through practice and problem solving. Multiple Intelligence theory can be adapted to any other mathematical concept or skill. The subjects of this study were a small group of grade V students in private school. Each student started by learning the content in the areas they were strong in, and then using that knowledge to help them overcome the more challenging concepts. They then worked together with students from all of the intelligence strengths to show a greater understanding of the content. Result show after instructions that all these intelligences can be used throughout the mathematics curriculum which enable students to understand it as an exciting way of symbolizing content used around

##### **Introduction:**

Howard Gardner's in his theory of multiple intelligences has given convincing conclusions for all mathematics teachers who are waiting for distinct

instructional methods which encourage depth of understanding by tapping students 'particular inclinations.' If a teacher use traditional testing method for intelligence capacity which is base on linguistic and logical-mathematical abilities, then the particular inclination may not be identifies. So Gardner suggests that intelligence is based on multiple "frames," each consisting of unique problem solving abilities. Everybody use all 8 intelligences in their lives, which is unique at a time but same time children represents mix of intelligence. Now it is to be thought that How and What does multiple-intelligence theory relate and deal with teaching mathematics? It allows teachers to practice eight different possible approaches to mathematical learning and teaching.

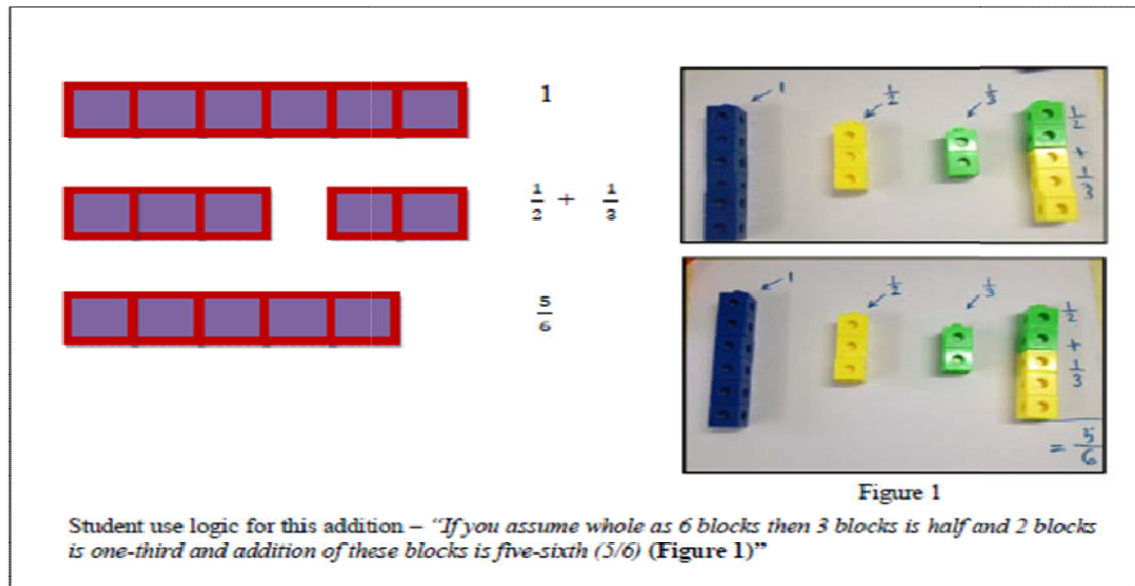
The idea of multiple intelligences is a theory, not a strict educational methodology, it can be applied flexibly and in diverse ways that work for particular students, teachers, and contexts. The following application of this multiple intelligence theory to mathematics instruction focuses on building mastery of *fractions* an example.

##### **MI approach to facilitate learning of Fractions:**

##### **Logical-Mathematical Intelligence**

Logical-mathematical intelligence includes classification, comparison, basic numerical operations, inductive - deductive reasoning, and hypothesis formation and testing. Here children encourages this intelligence to develop an understanding of the three models for fractions and to apply this knowledge to real-life situations. Teachers

usually introduce fractions with manipulative like circular or rectangular pieces of paper and ruled papers, dominoes, fraction disks and jodo blocks . The array model, relates to area, can be illustrated with color tiles, geoboards, pegboards, and graph paper. This intelligence also underlies the development and articulation of thinking strategies. For instance, students can work from known facts to reason about fraction addition problems:



### Naturalistic Intelligence

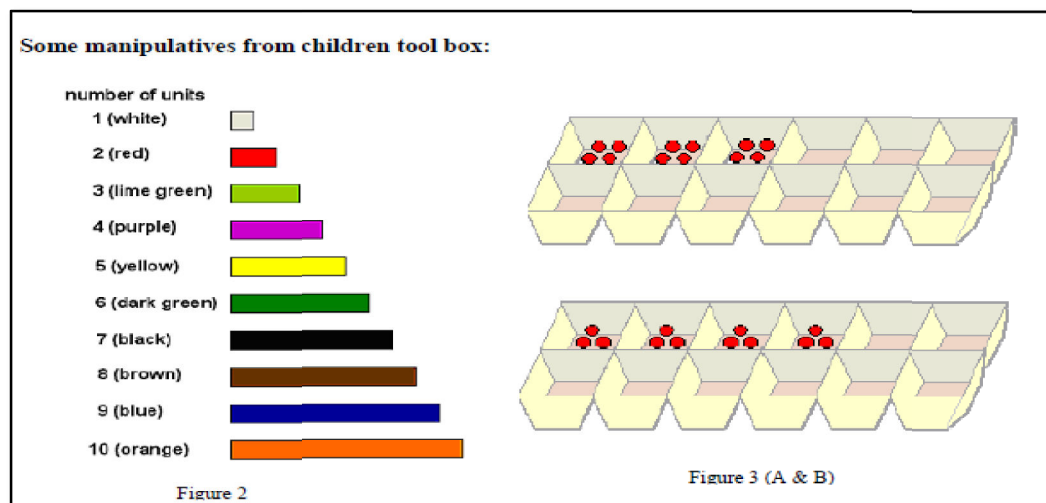
Naturalistic intelligence includes the ability to relate to the natural world with clarity and sensitivity; to recognize and classify living things, natural objects, and patterns; and to use the information gained productively emerge from the “natural” world eg., a kid notices  $\frac{1}{2}$  chapatti having for breakfast. Initial informal fraction experiences appropriately from nature. eg, how many chapatti did you eat in one day? How much part of a chocolate can get if he share with his one sister ? Draw 5 different sizes of could use strips (**Figure 2**) made by students, also can use to teach proper fractions. Students can also use egg carton for learning unit fractions and its comparison. For example, 3 out of 12 places (**Figure 3A**) in the egg carton are filled with eggs implies  $\frac{1}{4}$  of

wasp hives with the occupancy of the individual holes showing equivalent fractions. Teachers and students can create their own problems and examples using fractions in nature.

### Bodily-Kinesthetic Intelligence













Children with strong bodily-kinesthetic intelligence use their bodies in highly differentiated ways to develop and express concepts like making and using manipulative For instance, the equivalent Fraction Challenge game teachers

the egg carton is filled. Similarly, 4 out of 12 places (**Figure 3B**) in the egg carton are filled with eggs implies  $\frac{1}{3}$  of the egg carton is filled,



## Linguistic Intelligence

Linguistic intelligence encompasses a wide range of language skills, from sensitivity to the meanings of specific terms to the ability to use language in a variety of contexts. The teacher may offer a verbal introduction to the exciting uses of fraction in the world, from the kitchen to the workplace. Children can also tell or write their own fractions stories. Following is the example of students made worksheet in their own language.

Date: _____ Name: _____		
<b>What fraction of kids in the playground are boys?</b>  Answer: _____	<b>What fraction of kids in the playground are boys?</b>  Answer: _____	<b>What fraction of kids in the playground are boys?</b>  Answer: _____
<b>What fraction of cars are grey?</b>  Answer: _____	<b>What fraction of cars are grey?</b>  Answer: _____	<b>What fraction of cars are grey?</b>  Answer: _____
<b>What fraction of the pie is shaded grey?</b>  Answer: _____	<b>What fraction of the pie is shaded grey?</b>  Answer: _____	<b>What fraction of the pie is shaded grey?</b>  Answer: _____
<b>What fraction of the rectangle is shaded grey?</b>  Answer: _____	<b>What fraction of the rectangle is shaded grey?</b>  Answer: _____	<b>What fraction of the rectangle is shaded grey?</b>  Answer: _____

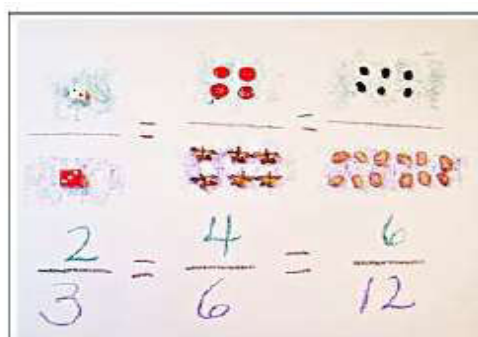


Figure 4

For example, two different types of dry beans, two different colors of buttons, pennies and nickels, etc (Figure 4). Now designate one of the groups to represent the numerators of your fractions, the other group represents the denominators. (Teachers, use the words numerators and denominators instead of top number and bottom number. Many tests that students must take, expect the student to know the correct math terms.) Now make groups of the two items to make fractions. For our example, we are going to make the fraction 16/24. So, we have 16 red buttons spread out on the top part of our work table and 24 blue buttons on the bottom. Next, explain to the child that you are going to make an equivalent fraction that is equal to 16/24 by grouping the buttons of the numerator and denominator. Put both set of buttons into groups of two. Now count the number of groups that you formed and name your new fraction as 8/12. Okay, repeat the process by grouping the buttons into three's. Oops! There is a problem. Grouping by three's won't work. Even though the blue denominator group divides easily into eight groups of three, you get five groups of three with one button left over in our red numerator group. It is easy to see that this grouping does not name an equivalent fraction. One button left over prevents you from forming equal groups. Continue trying all the possible number groupings to find the remaining equivalent fractions that can be named from 16/24. Repeat the process with a different numerator and denominator as long as interest remains high.



## Visual/Spatial Intelligence

Children who have strong spatial intelligence are able to perceive the visual world accurately by creating mind images.

## Interpersonal Intelligence

Interpersonal intelligence encompasses understanding and communicating sensitively with other people. Children can collaborate in short- or long-term mathematics groups like Multiplayer learning games are great for interpersonal learner.

### Fraction Board Game:

**Objectives:** To review fractions with this easy-to-make board game and give practice to children by describing fractions out loud in order to roll the die and move ahead.

**Material require:** One die, a place marker for each player (a bean, coin, etc.), piece of paper, pen or marker, ruler (optional)

**Instructions:** Create your game board. We chose to create a printout featuring series of interconnected cells with visual representations of a different fraction contained in each cell (see picture). However, it's pretty easy to draw a game board using a pen and ruler. Make sure to include a finish line as part of your game board.

#### How to play:

1. Each player should pick out a place marker and put it at the starting point on the game board.
2. Players take turns rolling the die. Each player's roll determines how many cells he gets to move.
3. Beginning in the second round, a player must say the fraction aloud shown inside his marker's space before he can roll.
4. Only one marker may occupy a space. The player who landed there first stays and the other player must return to the start.
5. The first player to reach the finish line wins!

Figure 7

## Intrapersonal Intelligence

Intrapersonal intelligence is the ability to understand oneself—to recognize one's own feelings, set goals, and make relevant decisions. Intrapersonal learners love the challenge of skill-drill games.

### Fraction Frenzy:

**Objectives:** To collect the most matches of equivalent fractions.

**Set-up:** Shuffle cards and place them face down in a pile

**Play:** The youngest player goes first. Ask your opponent for a fraction card that is equivalent to fraction card in your hand. If the opponent has the card, he or she gives it to you and your turn continues. If not, you draw a card from the pile. If you draw your desire card, your play continues. If not, your opponent takes his or her turn. Play continues until all matches are made. If a player runs out of cards, he or she may draw one from the pile.

**Winner:** After all matches are made, each player counts his or her matches. The player with the most matches is the winner.

**Instruction :** Play a game of equivalent fraction concentration with your intrapersonal learner. Use index cards to create several equivalent fractions. Deal them out face down on the table. Take turns turning over pairs of cards. When an equivalent fraction pair is upturned, the player gets to keep those cards. They player with the most cards at the end of the game, wins.



Figure 8



## Musical Intelligence

Pitch, rhythm, tonal quality, and emotional expression are all aspects of musical intelligence. The underlying

**Building a 5-note set of Musical Fraction Bar:**

**Material Require:** approximately 5 feet of class 200 - 3/4 inch PVC sprinkler pipe

	Fractions	Inches	Centimeters	
A	1	14 13/16	37.7	1
B	8/9	13 3/16	33.5	2
C	4/5	11 7/8	30.2	3
E	2/3	9 7/8	25.1	5
F	3/5	8 7/8	22.6	6

- 1) Cut the tubing into the five sections listed on the left.
- 2) Place a 1" × 1" chipboard square (from a cereal box) over one end of each tube.
- 3) Cover each chipboard square with a 2" × 2" square piece of duct tape.
- 4) Wrap about 15 inches of duct tape around the set as shown on the right. Tap on the tops of the tubes with your fingers or lightly strike with a pencil.

**How it works:** This musical activity for reinforcing equivalent fractions requires two beating instruments and two beating surfaces. One person beats out the rhythm of the numerators and the other player beats out the denominator. Beat out 1/2 then 2/4, 4/8 and so on. Remember though, that the tempo of 2/4 will need to be twice as fast as 1/2 because all the beats must occupy the same amount of time as the 1/2 beats.

rhythmical patterns of music are founded in mathematics, and the musical notation system is based on fractions and numerical patterns. In learning fraction, students can use rhythmic groupings of sound to represent problems and solutions. These activities can be either kinesthetic, involving hopping or clapping, as mentioned earlier, or tonal, using the voice or musical instruments. Teacher can make Musical Fraction Bar (Figure 9) with the help of children.

**Musical Fraction Bar**

**Conclusion:**

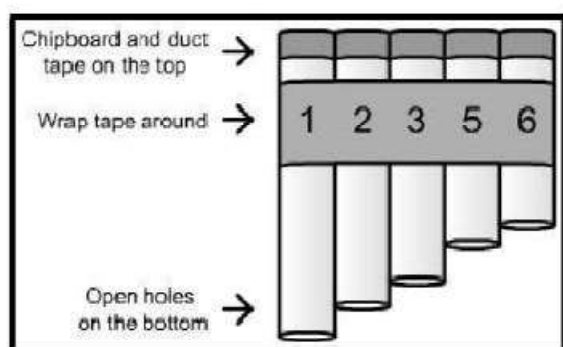


Figure 9

A major significance of this study incorporate MI theory into their mathematics learning that teacher can improve student engagement. This also enable to learn mathematics successfully and enjoyable. This is another tool in teachers pocket, which, when use smartly will make learning mathematics more sustainable.

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## 5 A Study of use of multimedia Based action plan for effective Learning Of upper Primary Students in English Subject

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Ratnagiri.*

**Introduction :** Man is a social animal. He lives in integrity with the society and his social development, Achieving which included as third language, which is development he full field his basic needs through his surrounding compulsory at school level

Long ago the needs of man was limited with food, clothes and shelter. But the increasing needs according to revaluation he fulfilled by educational, economical things and then the new technology was developed. Through educational revaluation he changed whole world. Now a days in the field of education and student's action for learning of English.

science there is a large research work. While man had took care of his health through developing medicines for new device then he developing educational field through various researches in the education. Education is unending, continues process.

**Need and significance of the study:** The teachers have faced many problems in the teaching of English at Higher Primary level and for those problems it is very important and needful, so the need of this research. English subject has unneeded due to 4<sup>th</sup> Standard certificate examination run by state government. The fear and apathy of English languages will be disappear and assuredly he will prominent for learn English with confidence and fearlessly and his learning will be effective.

**Statement of the problem.** A Study of use of multimedia based action plan for effective learning of upper primary students in English subject

### Definitions of Terms:

**Multimedia:** A set of teaching aids based on Audio ,Visual, Audio – Visual, Written, and real things.

**English:** Language of international knowledge and subject. In the present study the planning and implementation of activity will be done through

**Activity :** Activity means planned program for any subject. In the present study the planning and implementation of activity will be done through student's action for learning of English.

are present research for the effective of English languages at 5<sup>th</sup> to 7<sup>th</sup>

1) The Computerized lesson plan.

2) Creation of Video film Related to new Content.

Use of slide projector for creation of meaningful words from big to small

These activities will organize whole program called as action work plan.

### Objectives of the study :

1) To find out the difficulties in the learning of languages at higher primary level.

2) To prepared action work plan for effective learning of English at higher primary level.

### Assumptions of research:

1) The attention of the students because of effective teaching.

- 2) Due to teaching aids the critical content understands easily
- 3) The making of available teaching aids, training sufficiently teaching becomes effective.

### **Scope of Study :**

The present study is related to learner of 5<sup>th</sup> to 7<sup>th</sup> standard at higher primary level in English subject.

### **Limitations :**

- 1) Limited for students of 5<sup>th</sup> to 7<sup>th</sup> standard in academic year 2016 – 17

### **Research Method :**

The study will be completed through experimental method. Experimental method is a scientific method which uses in education research..

### **Research tools – Oral examination – Pretest – post test**

### **Statistical Tools:**

After collection of the data through the test and questioner It will analysed and interpreted by graph, standard deviation, test and which are the statistical tools.

**Findings of the search:** The score of post test is higher than pretest of experimental group. The

mean value of pre test is 24.23 and standard deviations is 3.66 while the mean value is 42.7 and standard deviation is 2.74 in post testing. Means there is a significant difference in achievement.

- 1) Because of treatment the learning skills developed post – test with comparing pre – test.

- 2) There was no any treatment for control group, so in comparison with pre – test score is 1.86 there is no any effectiveness.

- 3) Learning became effective by using the action plan in learning.

- 4) Student takes interest in learning process if action plans available to them.

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## 6 Collaborating with Non Government Organizations: Understanding Learning Outcomes

~Dr. Bhagwan Balani

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protection, living in harmony within oneself and with

Abstract:-

Teacher education programmes need to broaden the curriculum (both school and teacher education) to include different traditions of knowledge; educate teachers to connect school knowledge with community knowledge and life outside the school. Teacher education programmes need to help teachers appreciate the potential of hands-on experience as a pedagogic medium both inside and outside the classroom; and work as integral to the process of education.

**“Try not to become a man of success, but a man of value. Look around at how people want to get more out of life than they put in. A man of value will give more than he receives. Be creative, but make sure that what you create is not a curse for mankind.”** ~ Albert Einstein

These are the values that we need to inculcate among prospective and potential teachers, who at their later stage as community soldiers will act as nation builders. We need to facilitate to our younger generation to realize the importance of giving back to the society. We need to train them to mingle with the underprivileged sections of the society, who need a helping hand. We need to sensitize our upcoming student teachers to participate in social service programme. NCFTE (2010), also has pointed out that teacher education programmes should help potential teachers to develop social sensitivity and consciousness and finer human sensibilities.

Teachers need to re-conceptualize citizenship education in terms of human rights and approaches of critical pedagogy; emphasize environment and its

natural and social environment; promote peace, democratic way of life, constitutional values of equality, justice, liberty, fraternity and secularism, and caring values.

In view of the many-sided objectives of teacher education the evaluation protocol needs to be comprehensive and provide due place for the evaluation of attitudes, values, dispositions, habits and hobbies, in addition to the conceptual and pedagogical aspects through appropriate quantitative as well as qualitative parameters. The community work is also one of the programme that is being conducted by the teacher training colleges to achieve above objectives. The researcher has conducted a study of the reflections of student teachers when they worked in Collaboration with Non Government Organizations. The intent of this qualitative study was to explore the pre-service teachers' perceptions about their own reflections of impact of community work undertaken by them. The researcher has used the qualitative research approach to study the reflection of student teachers while doing the community work. The whole B.Ed. Batch 2014-2015 was divided in small groups of 5 to 6 members in 18 teams to undertake the community work with sixteen NGOs. They were oriented with the objectives of the community work and were asked to establish collaboration with Non Government Organizations working for underprivileged sections of the society. They were given the target to complete the community work in one week/30 hours. They were guided to work with the NGOs with win-win mutual

interest/purpose. They were also guided to write a report to be submitted to the college for the purpose of evaluation and present and share their work through PPT in the classroom.

The observations and outcome of the reflections of the student teachers is described as under:

1. Iskon Food Relief Foundation ANNAMRITA, A mid day programme, a project of Government of India, while working with this group, they wrote in their observations that fund raising is very important task to support the programme objectives. The group members were involved and place at different location of the city to collect the funds in the name Khichdi Drive. In their drive an amount of Rs. 6,00,00.00 was collected from donors in first three days of their community work. They observed that each employees of primal group had adopted a child for food throughout the year. They were amazed to learn that the NGO were supporting the 68000 children all over South Mumbai. They felt that generosity of the donors was the most touching part of their visit.
2. The Human Health Care and Research Foundation an NGO provides proper guidance and sex education to adolescents in school and junior college student in prevention of HIV and AIDS. Group members working with this organization interacted with the community workers and were of the opinion that since adolescent age is the most difficult phase of life, the teachers along with parents should collaborate their efforts to help adolescent students to prevent them from getting infected to HIV or AIDS by facilitating proper sex education as preventive measure.
3. Family Service Centre is a voluntary organization committed to preserve, promote and strengthen the family as a unit. The purpose of this organization is to empower the families the core unit of society, by creating an enabling and supportive environment, providing counselling and developing positive human values. The group members carried out the project in collaboration with the Public Health Centre and were involved in creating awareness among the masses about the T.B. At the end of realized that it is a really a challenging task for the volunteers offering their services at the centre.
4. Shri Rajendra Honeycomb Charitable Trust, a non profit organization works towards upliftment of underprivileged children to ensure fulfilment of their basic right of survival, protection, development and participation. The whole group was involved in making greeting cards, they cleaned children's dormitory, cooked food for kids and helped them in their homework. In their reflection, group members revealed that they were quite happy to devote time to such a noble cause and were able to bring smiles on those innocent children's face. They promised that they were looking forward to return to extend helping hand to such children in their future endeavours.
5. The mission of Vimla Vikas Kendra is to reach out to the poor and marginalized especially the women, children and youth. The activities undertaken by the group members were: Coaching the students, Organization of Football coaching camp, Preparation of Annual Day and Diwali Damaka. At the end they expressed their gratitude to the children they saw in their eyes, the love children showered to them. The pointed

out that every activity conducted was a beautiful experience and they will remember for lifetime.

6. Om Creations Trust runs on the conviction that professional training and support, women born with Down syndrome and other mental disabilities can imbibe professional skill sets and become productive contributors of society. The group members were involved in making handmade chocolates. In their reflections they wrote that it was a great and extraordinary opportunity for them to work with such challenging women. They pointed out that working with such a group has helped them to look beyond their world and felt enriched. The employees of the organization have taught them about innocence and being content.
7. Parivartan Sheel Sansatha works for the weaker sections of the society and takes initiatives for economic development, education and health of people. The group members were involved in creating awareness among the pregnant women and for new mothers about the objectives of mMitra to reduce the infant and mother mortality rate among urban poor people. In the course the group members visited the slums and chawls and organized street plays to create awareness. In their reflections they realized the hard conditions in which slum people live in. They realized their duties towards such citizens and this community work acted as an eye opener to them and they resolute that they would like to work and help people in making the society a better place to live in future.
8. Vatsalya Trust, a public charitable trust mainly works for the upliftment of downtrodden member of society with the emphasis on destitute children and children in crisis. The

main activities carried out by the group were to help the children in wrapping of gifts to be distributed to the kids, preparation of teaching aids for special kids. Overall according to them it was a fulfilling experience to extend a helping hand to young children and they believe that even their small contribution would go a long way.

9. The vision of the Salaam Balak is to create an environment conducive to the holistic development of Street and Working Children, enabling them to become a part of mainstream society. The group members created the informal classrooms and conducted learning experiences integrating games to provide basic education. The experiences gained by the group members were an eye opener to all of them. On the basis of observations, they concluded that, “Beyond the attractive and decorative stalls that line the Chowpatty beach are hands, eyes and hearts that silently shout for help, for need and for a true life, waiting.
10. Pratham is an innovative learning organization created to improve the quality of education in India. As one of the largest non-governmental organizations in the country, Pratham focuses on high-quality, low-cost, and replicable interventions to address gaps in the education system. The group members supplemented their efforts in helping the officials at Mumbra Centre educating very young children of slums. Shradha Cheritable Trust fights autism and mental disabilities with love and creativity. This trust is involved in creating and selling tastefully designed and internationally appreciated eco-friendly products, which provides means of livelihood and support for less fortunate

individuals. The group members participated along with the trusts volunteers in teaching students art and craft work. In their reflection, they concluded that it is indeed a noble idea to give adults a chance to live a dignified life and whenever we get an opportunity we must grab it.

11. The main task of Welfare of the Stray Dogs is to ensure the best possible care for stray dogs by taking a pragmatic, effective and solution-oriented approach. They services have impacted 70,000 stray dogs with like sterilization, immunization, on-site first-aid and adoption. The group member accompanied and assisted the Nurses to treat animals. The volunteers were also involved in creating awareness among the school children towards stray animal welfare. In their concluding remarks the groups members opined that 30 hours community work opened a new work to them and they pledged to be lifelong volunteers for W.S.D.
12. Manav Jyot Public Charitable Trust works for Health & Family Welfare of underprivileged section of the society. The group members helped the NGO in packaging the bundles of cloths and medicines to be distributed to the poor. In their reflections they have learnt the different aspects of humanity and they have learnt a lot about themselves.
13. Pragati Pratishthan works for spreading the awareness about cleanliness and hygiene. The volunteers cleaned the surrounding areas like Sundar Galli, Hans Road, Dagdi Chawl as cleanliness drive.
14. Make a Wish foundation India is dedicated to making every eligible child's wish come true. This foundation grants the most cherished wish

of children between the ages of 3 and 18 years, living with life-threatening illnesses, irrespective of their socio-economic status, caste, race and religion. The volunteers visited the Hospitals and interacted with the children to know their wish to be fulfilled. They assisted the members of the foundation in fulfilling the wish process and documenting the same.

15. The mission of LEAD is to provide the less-privileged children with education, knowledge, skills, values and facilities that will enable them to compete in the mainstream environment and live with dignity in the society. The group members conducted the various workshops at Gansoli New Mumbai, to help children to acquire literacy, numeracy, creativity and communication skills and enjoy learning. While studying and analyzing on the descriptions of the experiences & reflections reported by the student teachers, it is evident they refreshed and re-conceptualized their role as responsible citizen. They truly got the experiential learning lessons by participating in this endeavour with a special emphasis on living in harmony within oneself and with natural and social environment, promoting peace and harmony, living a democratic life, obligating constitutional values of equality, justice, liberty, fraternity and secularism, and caring values in their actions. That even small collaborations, if are undertaken at local level can benefit an individuals and institution in achieving the goals. Based on the experiences gained from success stories of this endeavour, I will strongly recommend to the teacher training institutes to collaborative with the NGOs to achieve the common goals.

## **7 Strengthening School Based Experiences in Teacher Education Programme in the Light of Newly Revised Two Year B.Ed Programme**

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### **Abstract**

The professional quality of teacher educators will determine the quality of the training of teachers. The professional level at which teachers are prepared would, in turn, determine the quality of school education. Again, teacher educators have to be fully familiar with the school realities, social environment and community expectations to realistically perform the challenging tasks before them. On the professional side, teacher educators need to be actively associated with policy formulations, implementation strategies and monitoring of programmes.

***“Education is the most powerful weapon which you can use to change the world.”~ (Nelson Mandela,***

Education and training of teacher educators has to focus attention on the new role of teacher educators, on the problems which reflect the emerging global trends in education and the overall needs and aspirations of the people. It has also to deal with specific problems confronting teacher education institutions and to make teacher education more responsible and responsive. It has to encourage teacher educators' continuing professional growth also. In addition, there are certain practical problems as well. For instance, What would be the requirements in respect of the core education courses and for the organization of procedures and practices in the institutions? Answers to several of such issues have to be sought in the very rationale of providing professional education. A comprehensively identified

list of objectives for the programmes of preparation of teacher educators would be to:

1. Develop competencies and skills needed for the preparation of teachers and teacher educators;
2. Enable them to organize competency-based and commitment-oriented professional programmes;
3. Enable them to develop pedagogy relevant to the education of teacher educators;
4. Acquire an understanding of the needs and problems of teacher educators and teacher education institutions;
5. Develop skills related to management of teacher education institutions;
6. Develop competencies of curriculum development and preparation of learning and evaluation materials;
7. Enable teacher educators to acquire capabilities to organize in-service continuing education programmes;
8. Enable them to organize need-based and commitment oriented on the job training;
9. Develop competencies for evaluating educational programmes and teaching learning materials;
10. Develop the capacity of examination, analysis, interpretation, elaboration and communication of educational ideas;
11. Relate education and the national needs and develop critical awareness about Indian realities;
12. Enable them to understand the relationship between Indian ethos, modern technology and education;



13. Promote the global perspective of educational development with special reference to the developing countries;
14. Enable them to undertake meaningful educational research;
15. Develop capacities to reinterpret Indian heritage, culture and values to meet the requirements of the present-day Indian society;
16. Develop capabilities for self-directed and life-long learning;
17. Enable them to appreciate and adopt emerging communication technology and innovative practices in the Indian context.

Colleges of Education have to play a vital role in improving the standards of the system of education by preparing competent and effective teachers {fit for teaching in 21st century in secondary schools as per the needs and aspiration of secondary schools.} Unfortunately quality of Colleges of Education has remained with a few exceptions, either mediocre or poor. Preparation of qualified and able teaching personnel in the 21st century is one of the most significant functions of the Colleges of Education. The efforts have to be more localized depending on the environment to improve the quality of teacher education across the country. Every institution has to become the base for change and quality improvement. The rate of expansion of the knowledge appears to be increasing and teaching has enhanced access to information worldwide. Education for 21st century therefore needs to enhance and individuals ability to assimilate, evaluate and apply the available information. Globalization is affecting the economy, culture and information, internationalization, mobility of individual communications, and media. This is a challenge to the system of education as well as the teachers. Thus

globalization in 21st century calls upon Colleges of Education to change their roles to meet the future demands of the secondary schools and society.

The Colleges of the Education are the main source of providing trained teachers to secondary schools. That way colleges of Education act like a production house for the secondary schools and secondary schools act as customers of Colleges of Education. Since the secondary schools demands are increasing due to globalization and in the changing scenario in secondary school education.

The Justice Verma Commission (JVC) appointed by the Government of India at the behest of the Hon'ble Supreme Court of India, submitted its report in 2012. The Commission made several recommendations for revamping the system of teacher education in the country, such as introducing integrated teacher education programmes of longer duration, enhancing the duration of existing teacher education programmes and upgrading the status of teacher education by making the entire system as part of higher education. To translate the vision of JVC into reality, the National Council for Teacher Education (NCTE) revisited its regulations, norms and standards for various teacher education programmes and notified new Regulations on 1st December, 2014. As per the Regulations the duration of the B.Ed. programme has been enhanced from one year to two years.

School based experiences are rightly regarded as the most important components of any teacher education programme as it provides the student teachers a platform for linking theory to the real classroom situation. It involves full time work in a school aimed at gaining intensive experience in planning, teaching, engaging other school activities, preparing instructional support materials and performing all

those duties that a regular teacher is expected to do. The field experience helps in expanding the competencies and skills which are essential for a teacher to serve as a facilitator of learning. A survey was conducted on 217 secondary school teachers teaching in Mumbai, New Mumbai and Thane districts. The purpose of the survey was to seek teachers' opinion to strengthen the school based experiences in the preparation of prospective school teachers. The findings of the study are listed as under:

**Suggestions for Strengthening School Based Experiences in Teacher Education Programme:**

1. Discourage teaching theory in isolation but connect it to the real life situation and adopt more practical approach to concretize learning. Give more weightage to the practicum part over theory and make internship programme more comprehensive by including the day to day teaching learning experiences by providing hands on experiences to promote experiential learning on the part of the student teachers.
2. To promote critical analysis of content and subject matter among student teachers that will lead to content development and enduring understanding among student teachers.
3. The student teachers should be given the direction to select two of the practice teaching lessons based on newly added content in the form of upgraded research findings in their respective field.

**Development of skills to correlate and integrate the theory into practice:**

1. The B.Ed. colleges shall make an attempt to help student teachers in understanding the application of educational theory in the real classroom situation. For example while teaching them various experiments in psychology, they should be taught how to correlate

the educational implication of psychology experiments in real classroom through practice teaching lessons. The theories of learning should be taught by clarifying its application in the real classroom.

2. Use short educational films and documentaries to strengthen the foundational knowledge and understanding of educational theories and make it more interesting by holding debates and discussions on viewed educational films and movies, which will help them in understanding the practical application of the theory.
3. Introduce the new form of socialize classroom techniques in the form of conducting brain storming sessions, models of teaching and promote cooperative teaching among the student teachers.
4. The student teachers should be taught the art of learning, 'learning, how to learn.' The training programme should be designed to promote self learning on the part of student teachers.
5. The student teacher must be taught to set small goals that can be achieved in a specific time limit so that small achievement goals can be achieved by them. For example, set a time limit to develop a mastery over skill of explanation, help them in setting a goal, planning an action to achieve that goal.
6. The student teacher needs to be trained how to do time management and multitasking for their professional preparation as educational practioners.
7. The student teachers should be taught how to do the content management. How to cover the entire syllabus without compromising on the quality of transmission of content as stipulated in the syllabus by ensuring systematic year and unit planning in advance even before the commencement of academic year.

8. The student teachers should not be taught only to complete the deadlines but they should be taught how to think out of the box, for example mentoring other student with buddy system and promote peer learning.

9. The B.Ed. colleges can introduce the new modules which may include the counseling sessions and remedial teaching skills among the student teachers. This will help the student to overcome the difficulties faced in learning and will also act like a counselor to students to help overcome their difficulties.

10. The B.Ed. colleges should introduce the interactive sessions to discuss the highly rated essays, its composition, structure, body, organization of content, expression of thought, styles of writing, organization of content etc. These interactive sessions will help student teachers in understanding the skills related to effective essay writing. Even the criteria to judge the quality of the written essay should be discussed in detail in the form of discussing the marking schemes and way of giving written feedback to enable school students and teacher students to understand the basis of writing essay with better quality and bench marking of writing essay can be enhanced.

#### **Enriching Pre-practice teaching programme:**

- i. Borrow teaching ideology and rationale from different International boards to equip the student to be competent to teach in International schools at local as well as global level. Give rigorous training to the student teachers in simulated situation so that they can practice the new methodology to be implemented during practice teaching programme.
- ii. The B.Ed. should include more modules to enhance the verbal communications skills among the student teachers with emphasis to practice teaching lesson and with job placement.

#### **Utilizing school teachers as resource for training new student teachers:**

1. Invite school teachers to conduct the session to orient the student teachers how they can maintain the discipline in the class as assistant teacher.
2. Invite the subject expert teachers from schools frequently so that student teachers can be taught different methods of teaching in their respective subject.

#### **Involving alumni in training process:**

1. The B.Ed. colleges shall involve its alumni in organizing training programmes in secondary schools.
2. The alumni can play a very significant role in pointing out common pitfalls which students may experience during practice teaching and internship programme.

#### **Making Internship Programme more comprehensive including all school activities:**

1. All B.Ed. colleges shall work in collaboration, exchange their programmes and work for mutual benefit.
2. The B.Ed. colleges and practice teaching school together shall provide student teachers the exposure to handle the day to day school activities at managerial level so that leadership qualities can be identified, encouraged and enhanced.
3. Use more technology in handling the content in day to day practice teaching programme, may be in the form of using interactive boards, power point presentation and/or computer assisted instructions.
4. The B.Ed. colleges shall make it mandatory to conduct an Individualized educational programme in the form of case study during practice teaching programme, so that student teachers can develop the hands on skill of case study method effectively. In doing so the student teachers will also develop the

skill of solving the problems faced by the learners with learning disabilities and differentiated learners.

5. The student teachers should be oriented in such a manner by B.Ed. colleges so that while practicing in schools, they shall imbibe the qualities of a teacher working as an assistant teacher to a school teacher. For example, classroom management techniques, rapport with class etc.

6. More training programmes should be offered to make student teacher techno-savvy, the practice school should provide technological resources and other support material to student teachers in their practice teaching and internship programme.

7. Involving student teachers in planning and conducting all school activities.

8. Take regular suggestion and views of alumni through alumni meet and use alumni resources to improvise the quality of training programme.

9. The student teachers should be allowed to help the school teachers for arranging sports, annual programmes, exam supervision etc. This will benefit the schools in getting the help of student teachers in conducting school programmes smoothly. Likewise, student teacher will also benefit by getting an experience.

10. The student teachers should be taught how to use project method and evaluate the process and product of the project undertaken by school children.

#### **Strengthening rapport with practice teaching schools:**

1. The practice teaching schools and B.Ed. colleges should communicate with one another through synchronous and asynchronous modes of communication so that communication does not become barrier for effective collaboration between these institutions.

2. B. Ed colleges and secondary schools should be attached through video conferencing to interpolate the knowledge in terms of diverse curricula and philosophy of education of different boards for mutual benefits.

3. There should be a mechanism, where in student teachers have directed access to the school programme.

4. B. Ed colleges and secondary schools can mutually sit together and chalk the teacher training programmes in preparing student teachers so that both the institutes benefit the most keeping in mind the welfare in terms of learning on the part of student teacher.

5. Take the feedback from school teachers about the quality of practice teaching programme on regular basis this will help B.Ed. colleges to improvise the quality of practice teaching programme.

6. Use more technology as teaching aid to display the instructional material.

#### **Conclusion**

The B.Ed Colleges are in the process of completing the third semester of two year B.Ed programme. If above suggestions are implemented with the spirit of enhancing the overall quality of school based programmes, we are sure that B.Ed colleges will be able to enhance the total quality of teacher training programmes offered by their colleges.

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## 8 Continuous Comprehensive Evaluation

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### Abstract

Evaluation is an indispensable component of education. It helps us to know, how well we have done and where we need to improve. There was no scope of improvement, ignorance of the qualitative aspects and promotion was based on year end exam in traditional approach of evaluation. CCE has been introduced to overcome the weakness of the traditional approach of evaluation. CCE stands for Continuous comprehensive Evaluation. It is school based assessment of students in which they are being assessed continuously throughout the year and it also covers the co-scholastic areas like life skill, work education, visual and performing Arts, attitude and values, games, yoga etc. **Continuous Evaluation** includes regular and periodic assessment of the pupil which includes Formative and Summative assessment. The 'comprehensive' component of CCE takes care of assessment of all round development of the child's personality. It includes scholastic and co-scholastic aspects of pupil's growth.

**Key words** – CCE, Formative Assessment, Summative, role of teacher, grading system

Education refers to change pupils behaviour in desired direction. Evaluation is an essential element to measure the student progress. It is an integral part of teaching process. Evaluation is the process of determining the extent to which educational objectives are achieved by pupils.

Evaluation is an indispensable component of education. People always evaluate their activities to know the effectiveness of the effectiveness of the task and activity. It helps us to know, how well we have done and where we need to improve.

The traditional approach of evaluation includes only quantitative aspects of child's learning. Which tells us how much we have learnt. There was no scope of

improvement, ignorance of the qualitative aspects and promotion was based on year end exam. CCE has been introduced to overcome the weakness of the traditional approach of evaluation.

CCE stands for Continuous comprehensive Evaluation. It is school based assessment of students in which they are being assessed continuously throughout the year and it also covers the co-scholastic areas like life skill, work education, visual and performing Arts, attitude and values, games, yoga etc.

**Continuous Evaluation** includes regular and periodic assessment of the pupil which includes Formative and Summative assessment.

❑ **Formative assessment** is carried out at beginning of the instruction and during the course of instruction which provides continuous feed back to students and teachers as well. The learner can improve their performance and teacher utilizes the feed back to improve the teaching learning process by modifying the instructional strategy. In other words, it is diagnostics and remedial in nature. The tools of formative assessment are class work, home assignment, quizzes, group activity, project, open book assignment, conversation skill, presentation skill, etc. and each subjects must have only one paper pen test under Formative Assessment.

❑ **Summative Assessment** is carried out at the end of term which measure how much the students has learnt. The pupils usually assigned Grade according to set scale of grading. The purpose of SA exam is to make judgments about the pupils' performance. It is a paper pen test which includes objective type question, MCQ, short answer, and long answer question.

**Each academic is divided in to two terms :**

**First term\_---** FA 1 (10%) + FA 2 (10%) + SA 1 (30%) = 50 %

**Second term --** FA 3 (10%) + FA 4 (10%) + SA 2 (30%) = 50 %

**Comprehensive Evaluation** The ‘comprehensive’ component of CCE takes care of assessment of all round development of the child’s personality. It includes scholastic and co-scholastic aspects of pupil’s growth.

\*Scholastic aspects comprises subject specific area.

\*co-scholastic areas are as follows:

\*Life Skills, Work Education ,Attitudes And Values ,Co-Curricular Activities ,Health And Physical Education

### Grading system

#### **Grading scale for scholastic Measurement**

Grade	Marks range	Grade points
A1	91-100	10.0
A2	81-90	9.0
B1	71-80	8.0
B2	61-70	7.0
C1	51-60	6.0
C2	41-50	5.0
D	33-40	4.0
E1	21-32	3.0
E2	00-20	2.0

### scale for co-scholastic areas

Grade	Range	Grade points
A	4.1-5.0	5
B	3.1-4.0	4
C	2.1-3.0	3
D	1.1-2.0	2
E	0.1-1.0	1

Domains	Grade points in Co-scholastic Areas/ Activities
Life skills	3X5=15
Work Education -	1X5= 5
Visual & Performing Arts	1X5= 5
Attitude & Values	4X5=20
C0-curricular activities	2X5=10
Health & Physical Education	2X5=10

Overall performance is based on achievement in the scholastic as well as co- scholastic areas and co-curricular activities. Grades can be upgraded under scholastic area in one or two subjects as per the grade points achieved under co-scholastic areas and co-curricular activities as given below 1.If the student achieves 53 to 65 grade points will get benefit by getting upgraded to the next higher grade in two subjects of scholastic area

2.If the student achieves 40 to 50 grade points will get benefit by getting upgraded to the next higher grade in one subject of scholastic area.

### **Role Of Teacher**

It is big challenge for the teacher make appropriate judgment about pupil's performance. The school based assessment system has created a pressure of accountability and placed greater reliance on the professional judgement of teachers. In present scenario pupils are not an empty vessels. So teachers has to connect new experience with the knowledge carried by the students .

\*Teachers should allow students to learn at their pace and let them follow their own way of learning

\* Memorization Should be de-emphasized and encourage thought process activities.

\*Class room learning should be linked with the learning which happened outside the classroom.

\*Teacher should use variety of tool and techniques to cater the diverse need of the student.

\*Integrated approach of learning Should followed .

\* Remove biasness and reduce subjectivity.

\*Careful selection of the tools and techniques for the assessment of the student is needed.

\*Negative statements should be avoided while providing feedback to the stuents and parents.

\*Avoid labeling astudents dull , weak, slow, poor intelligent and making comparison between students.

\*Variety of ways should be used to collect information about students learning and progress.

\*Teacher should share the assessment criteria with students and provide specific feed back.

\*Teacher should enhance knowledge about different tool and techniques to make CCE reliable and successful.

### **Role Of Institution**

1 Orient parent about the CCE pattern

2 Continous interaction with parents with regard to the students' performance.

3 There should be balance between scholastic and co-scholastic areas.

4 Project work should be given in groups and completed under direct supervision of teachers in the classroom and projects of all the subject should not be given at the same time.

### **What CCE Is.....Or Is Not**

- ❖ Testing the students' frequently or weekly is not CCE but assessing students in a cyclic manner is CCE.
- ❖ Assigning excess homework and project is not CCE but a collaborative work in agoup and balancing of projects and home work is CCE.
- ❖ Developing fear among parents and students is not CCE but a continuous interactionwith parents about students progress is CCE
- ❖ Minute observation of the students behaviour is not CCE but to encourage and motivativate the students to keep positive attitude is CCE
- ❖ No scope for coordinating with other school subject teacher in assessment of the students is not CCE but an honest and objective judgment without bias is CCE.

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## 9 New Trends In Methodology

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### Abstract

The purpose of this paper is to assess the traditional methods of teaching as well as multimedia teaching and to suggest other useful teaching methods that can be attempted in imparting knowledge to the students. Basically teaching must include two major components sending and receiving information. In due course, a teacher tries his/her best to impart knowledge as the way he understood it. So, any communication methods that serve this purpose without destroying the objective could be considered as innovative methods of teaching. The use of innovative methods in educational institutions has the potential not only to improve education, but also to empower people, strengthen governance and galvanize the effort to achieve the human development goal for the country.

### Introduction

Education is a light that shows the mankind the right direction to surge. The purpose of education is not just making a student literate but adds rationale thinking, knowledgeable and self sufficiency. When there is a willingness to change, there is hope for progress in any field. Creativity can be developed and innovation benefits both students and teachers.

“Education is the manifestation of perfection already in man” – (Swami Vivekananda) Education is a light that shows the mankind the right direction to surge. If education fails to inculcate self-discipline and commitment to achieve in the minds of student, it is not their fault. We have to convert education into a sport and learning process has to generate interest in the students and motivate them to stay back in the institution than to run away from it. Education should become a fun and thrill to them rather than burden and boredom. It is an integral part of their growth and helps them become good citizens. The computer and the internet's evolution these past few years have

been staggeringly fast. Most of the popular forms of media like TV, radio, and print are slowly being nudged from their pedestal by the internet. Everything seems to have changed drastically these couple of years. Luckily, educators are starting to change with the times. The trend in education these days is that learning institutions should try their best to keep up with the recent advances in technology to better teach their students. Students perform better when they have the opportunity to tell their teachers what things in the classroom needs improvement. Contrary to the old belief that students are too young to know what they need, education systems now give the students the opportunity to give pointers to their teachers on how they can better deliver their lessons so that the students can understand.

Educators are not looking at their class as a collective; they see them as different individuals with different needs, which is why some students lag behind the others when it comes to the lectures. Educators can help these students keep up by giving them personalized attention.

These are just some of the recent trends in education system. These are promising signs that show the educational system in the country is improving and no longer stagnant. New methods of teaching have the purpose to improve the quality of education and involve students in educational process. Innovations mean a progress and development. The subsequent methods suggested in an extension to the traditional methods of teaching.

**MIND MAP** Mind maps were developed in the late 60s by Tony Buzan as a way of helping students make notes that used only key words and images, but mind map can be used by teachers to explain concepts in an innovative way.. Mind Maps can also be effective mnemonics and remembering their shape and structure can provide the cues necessary to



remember the information within it. They engage much more of the brain in the process of assimilating and connecting facts than conventional notes. The key notion behind mind mapping is that we learn and remember more effectively by using the full range of visual and sensory tools at our disposal. Pictures, music, color, even touch and smell play a part in our learning armory will help to recollect information for long time. The key is to build up mind maps that make the most of these things building on our own creativity, thinking and cross linking between ideas that exist in our own minds.

**TEACHING WITH SENSE OF HUMOUR–“HUMOUR AN EFFECTIVE MEDIUM OF TEACHING”** Everyone loves a teacher with an infectious sense of humor. Teaching is a challenge. Learning is a challenge. Combining both effectively is a challenge. Being humorous is a challenge. However, laughing is easy. We are convinced both by experience and research that using humor in teaching is a very effective tool for both the teacher and student. Humor strengthens the relationship between student and teacher, reduces stress, makes a course more interesting and if relevant to the subject, may even enhance recall of the material. Humor has the ability to relax people, reduce tension, and thereby create an atmosphere conducive for learning and communication. In conclusion, humor not only plays an important role in the healing process but is also very important in education.

**Epilogue:** Across the world, information technology is dramatically altering the way students; faculty and staff learn and work. Technology is also changing the classroom experience. With the tablet technology allow professors to make notes on charts and sheets and send them directly to their students' PCs and he will get a feedback from each student. From the above, we can make out that the Information and communication technology has made many innovations in the field of teaching and also made a drastic change from the old paradigm of teaching and learning. In the new paradigm of learning, the role of student is more important than teachers..Nowadays

there is democratization of knowledge and the role of the teacher is changing to that of facilitator. We need to have interactive teaching and this changing role of education is inevitable with the introduction of multimedia technology and the spawning of a technologically-savvy generation of youths.

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## 10 Effectiveness of Co-teaching

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### Abstract

The Co-Teaching technique is latest and most widely used technique in western countries. Recently Co-teaching has become integral part of B.Ed course in India. From June 2015 B.Ed. course became of 2 years, and concepts like Shadowing of Teacher and Co-teaching have been newly introduced as their practicum activity. As both the concepts were totally new every Teacher Education Institute used their own strategy. There was no uniformity in implementation.

This research paper tries to find out impact of Co teaching on teacher trainees by using Experimental method. It also tries to find out utility of this technique from trainee's point of view by interviewing them. For this purposeful sample of 34 trainee teachers has been taken.

### Introduction

Change is integral part of our life. We change for our betterment and development. B.Ed course in India is also undergoing changes. First is it has become of two years and few new concepts like Shadowing of Teacher Theme based Learning Literacy awareness program and Co-teaching are introduced in their practicum part. Confusion was observed among pupil teachers and even teacher educators. No clear guidelines are given hence every Teacher Education Institute used their own strategy. There was no uniformity in implementation as far as concept of Co-teaching was concerned. It was assumed that Co

teaching is nothing but sharing the class along with school teacher.

Pupil teachers were hesitant and were not ready, confident to give Co-teaching lessons, also school administration and subject teachers could not welcome the idea as they did not find it useful.

The issue and concept needed careful handling. Pupil teachers needed proper orientation

Hence researcher decided to orient her pupil teachers in an Experimental manner. Researcher collected information about Co teaching.

### What is Co-teaching

Co-teaching is a concept where both educators on the co-teaching team are responsible for differentiating the instructional planning and delivery, assessment of student achievement, and classroom management.

### Characteristics of Co-teaching

- Two or more co-teachers in the classroom.
- Capitalizes on specific strengths & expertise of co-teachers.
- Provides greater teacher/student ratio and brings additional 1-1 support for students in the classroom.
- All approaches have benefits and cautions associated with their use.
- Students are heterogeneously grouped by mixed abilities and interests.
- Shared responsibilities.

- Requires trust, communication, planning time, and coordination of effort.

#### **Various approaches to Co-teaching:**

There are four major approaches to Co-teaching.

- 1) **One Teach, One Support:** In this approach one teacher has the primary responsibility for planning and teaching, while the other teacher moves around the classroom helping individuals and observing particular behaviors.
- 2) **For example, one teacher could present the lesson while the other walks around or one teacher presents the lesson while the other distributes materials.**
  - Students receive individual help in a timely manner
  - It's easier to keep students on task because of the proximity of the teacher. •
  - It saves time when distributing materials. •
  - As a process observer, the supporting teacher can observe behavior not seen by the teacher directing the lesson.

2) **Parallel Teaching:** In parallel teaching, the teacher and student teacher plan jointly but split the classroom in half to teach the same information at the same time.

For example, both teachers could be explaining the same math problem-solving lesson in two different parts of the room. If the room had two computers, each teacher could use a computer to model the use of the Internet or a new piece of software to half of the class. Each half of the class could be involved in a literature study group during a novel study. Some advantages of this approach are:

- Preplanning provides better teaching.
  - It allows teachers to work with smaller groups.
  - Each teacher has the comfort level of working separately to teach the same lesson.
  - Splitting the class allows students to be separated who need to be.
- 3) **Alternative Teaching:** In alternative teaching, one teacher manages most of the class while the other teacher works with a small group inside or outside of the classroom. The small group does not have to integrate with the current lesson.
- For example, a teacher could take an individual student out to catch him/her up on a missed assignment. A teacher could work with an individual or a small group for assessment purposes or to teach social skills. A small group of students could work together for remedial or extended challenge work
- Working with small groups or with individuals helps meet the personal needs of students.
  - Both teachers can remain in the classroom so one teacher can informally observe the other modeling good teaching.
- 4) **Station Teaching:** Both teachers divide the instructional content, and each takes responsibility for planning and teaching part of it. In station teaching, the classroom is divided into various teaching centers
- For example, one teacher could present the lesson while the other walks around or one teacher presents the lesson while the other distributes materials. Some advantages of this approach are:
- Students receive individual help in a timely manner

- It's easier to keep students on task because of the proximity of the teacher.
- It saves time when distributing materials.
- As a process observer, the supporting teacher can observe behavior not seen by the teacher directing the lesson.

### **Explanation of Problem**

The Co-teaching technique is latest and most widely used technique in western countries. It is new to us and slowly learnt by teachers. Researches in this area are very scant. It has been proved by researches that this technique can be used for all subjects and mainly in special schools. It becomes essential to enable trainee teachers thoroughly understand the technique so that they can use it as future teachers.

### **Logical justification of the study**

Researches on 'Co- teaching' are few in our country. The concept is very new. Recently Mumbai University has included this topic in the syllabus of B.Ed. A holistic approach to the problem could present a more comprehensive picture of the 'Co-teaching' in B.Ed. colleges. Therefore the researcher thought it is necessary to undertake a holistic study on Impact of 'Co- teaching'.

The need for this study is imperative so as to bring to light the extent to which B.Ed students learn from Co teaching. The study would also try to bring into focus whether the B.Ed. colleges teach or organize 'Co-teaching' only for name sake.

The study of this type is needed to bring into focus the best management practices of 'Co- teaching' in colleges. This in turn would make it possible to offer

suggestions to improve the management of 'Co-teaching' in colleges of Education. Therefore the present study is intended to give guidelines to colleges in the establishment and working of successful 'cooperative Learning'.

Finally the study would also try to bring into focus the comparison between controlled group of students and experimental group of students learning some concept of Co- teaching

### **Objectives**

1. To study the impact of Co-teaching on experimental group,

To compare the achievement of student taught with traditional method and by using Co- teaching.

### **Hypothesis**

1. There is no significance difference between the means of total achievement score in the pre test and post test experimental group.

### **Research tool**

1. Pre test and post test for evaluating summative performance
2. Interview schedule for student.

### **Scope and limitations of the Study**

#### **The scope of the study**

1. The scope of the study is vast. All those who are teachers, and future teachers (trainee teachers)
2. This study is related with the preparation for 'Co-teaching' in all school subjects of B.Ed. course.
3. This study is related with 'Co-teaching' for topics in all method.

	Mean	Standard Deviation	't' value	Significant level
Pre test	49.06	10.04	2.472	significant at 0.05 & 0.01 level
Post test	70.79	7.4		

The delimitation of the study

1. This study is restricted to trainee teachers of Government B.Ed. College Ratnagiri
2. This study is restricted to around 34 students of one B.Ed College.
3. The results of the experiment are restricted to such B.Ed colleges where such environment exists for Co-teaching.

#### Sample

Researcher has purposefully selected 34 trainee teachers of various methods from Government College of Education Ratnagiri.

**Methodology:-**In the beginning researcher administered pre test on trainee teachers checking their knowledge about Co-teaching, its need and utility after their first Co-teaching lesson (here the group is controlled group), then same group was oriented with information about Co-teaching its various approaches with help of ppt and videos. After the training students were asked to give two more Co-teaching lessons and then post test was administered (now the group has become Experimental) and their performance is observed.

#### Statistical technique used

1. Mean, Standard Deviation
2. Probability Associated with student 't' test

#### Hypothesis 1

There is no significance difference between the means of total achievement score in the pre test and post test of the group

*Table showing the mean and standard deviation of marks in pre test and post test of experimental group*

#### Interpretation

Above table reveals that mean of the controlled group at pre test is 49.06 and that at post test is 70.79 this means there is average hike of 21.73 marks.

Probability associated with student 't' value of the pre test and post test is found to be 2.472 which is significant at 0.01 level and 0.05 level, it is concluded that there is significant difference between marks in pre test and post test of experimental group

**Findings:-**There is significant difference between marks in pre test and post test of (experimental) group

#### Conclusion from Interview and observation schedule

1. The learners were active in the learning process.
2. Trainees worked in groups collectively by capitalizing on one another's resources and skills
3. Trainees asked one another for information, monitoring one another's work,
4. Learner could exercise greater choice over what they study, or at least what they prioritize.
5. Positive Interdependence shown by the 80% groups
6. They develop communication skills.
7. Concepts which were not clear got clarified in the group

8. Pupil teachers started selecting appropriate approach of Co teaching according to the content
9. Weak students develop confidence and better communication skills.
10. Trainee teachers learnt a lot from their expert (school teacher) Co teacher.
11. Students started reflecting on their Co teaching lessons.

## 12. Suggestions

1. Co teaching is the learner-centred philosophy that makes possible both a learning culture and better teaching. Therefore the trainee teachers must learn Co teaching
2. Co teaching can complement and support almost any organization.
3. Co teaching once learnt practically will be useful to them to implement in schools as future teachers.
4. Co teaching will enrich trainee teachers as they are practicing teaching along with expert teachers.
5. It is suggested that all teacher Education Institutions must organise orientation program for trainee teachers before they go for Co teaching
6. Orientation of expert subject teachers about Co teaching is also essential

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## II “Get ready to build..... Play will help you”

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### **Abstract:**

This article describes importance of play because it is practice for being grown-up. Children at play learn to pay attention and to stick with a job. They learn to face problems and solve them. Play helps them learn what is right and wrong. They learn to be good sports, honest, and not to cheat. Children develop their imagination when they play. While playing, children will learn to take turns and share. They will act out their feelings, listen and talk to playmates, and follow rules. They will try leading and following. They will start to understand themselves and others. Play helps them know what they like and what they don't like. During play they can pretend what it's like to be someone else, like a firefighter, doctor, mother, or teacher. There is a growing body of research that shows a link between play and the development of cognitive and social skills that are prerequisites for learning more complex concepts as children get older.

**Key Points:** *importance of play, all round development, educational excellence.*

### **Introduction:**

*“You can discover more about a person in an hour of play than in a year of conversation.” - Richard Lingard,*

**With increasing emphasis at school on developing academic skills in children at younger ages,** is the idea of play merely a throwback to another time when we did not have as much information about how children learn to read and acquire math skills? Is

play a luxury? Is it worth it to sacrifice playtime in order to make sure that children learn. There is a growing body of research that shows a link between play and the development of cognitive and social skills that are prerequisites for learning more complex concepts as children get older. For example, play is linked to growth in memory, self-regulation, oral language, and recognizing symbols. It has been linked to higher levels of school adjustment and increased social development. Play has also been linked to increased literacy skills and other areas of academic learning.

Children learn about art, science, math, music, nature, animals, and people when they play. It helps children learn and grow in a way that helps them feel good about themselves. Children enjoy play. It is easier to learn when we are relaxed. We remember things we have done when the things were fun. Even when play is hard, children are excited when they discover that they can control their bodies and actions. Good play offers children success.

**Importance of Play In Children Life:** Play is important because it is practice for being grown-up. Children at play learn to pay attention and to stick with a job. They learn to face problems and solve them. Also plays help them learn what is right and wrong. They learn to be good sports, honest, and not to cheat. Children develop their imagination when they play. All these skills will be important when children become grownups. It helps children learn about people. While playing, children will learn to take turns and share. They will act out their feelings,

listen and talk to playmates, and follow rules. They will try leading and following. They will start to understand themselves and others. Play helps them know what they like and what they don't like. During play they can pretend what it's like to be someone else, like a firefighter, doctor, mother, or teacher.

**Play and Physical Development:-**Children have a lot of energy. They need lots of chances to play physically in order to burn up energy, and then they sleep and eat better, so they will continue to grow. Children of school age keep on growing. When children play they learn to use muscles. Gross motor play involves the large muscles. Fine motor play involves use of smaller muscles. Large muscles like those in their arms and legs get stronger and work better as children run, hop, and climb. Small muscles in fingers and toes become more controlled. The ability to balance comes with the practice of walking along curbs, climbing trees, and monkey bars, and playing hop scotch. When children run, jump, roll, throw, catch, or swing they are building muscles. They burn energy that makes them tired and hungry. Play improves strength, endurance, and balance. Body coordination improves when children play in physical ways. It also helps children sleep and eat better. Also children can learn about the meaning of things in the world. Games help children learn what words mean, like "stop" or "go." Play with sand and buckets help children learn what "full" or "empty" means. They learn to collect and use information. They learn about time. They discover how things feel and taste.

**Play and Mental Development:-**When children play they learn to use their minds. An important child psychologist, Jean Piaget, who studied how children develop, has helped us understand a lot about how

children learn. They learn through their senses, by tasting, smelling, seeing, feeling, and hearing different things wherever they are playing. They learn size, color, texture, and weight. Counting in early childhood leads to skills in reasoning and logic in later childhood.

Games and play should be hard enough to challenge a child, yet easy enough to prevent failure and long term frustration. Children become bored with toys and games that are too easy. The challenge of making something work, figuring out problems (like where a puzzle piece goes), and building or rearranging something helps children grow. Children do a lot of experimenting when they play. They discover for themselves that dirt tastes terrible. While playing they learn that some toys are heavier than others, that a ball bounces, and boats float. They learn the names of colors and that some things will hurt them. They learn to imitate what others do and how sharing works. Children like to think hard about what they are doing and try out their own ideas. They can solve the problem of building blocks so they will stand high. Finding the pieces of the puzzle that belong in certain places and dressing and undressing a doll are pleasant problem-solving activities.

Play helps minds and bodies work together to finish a task. Children's creative imagination is used when they make things from materials on hand. A child can decide what to do with blocks, sand, paper, water, boxes, paints, crayons, paste, rhythm instruments, kits or supplies for playing store, or costumes for dress-up. The real fun of playing comes from doing something with things. Simply watching others do things or watching a mechanical toy does not provide the child with creative enjoyment.



### Play and Social Development

How children relate to other people is called social development. People who have studied children's play noticed that children relate to people in different ways at different ages. **Early Play (Infant)** Most of an infant's play is with parents and other family members. Babies like this play and the good feeling it brings. You can sing to babies, move their hands and feet, nuzzle their tummy, and the babies will smile, laugh, and coo. When baby is a little older, simple game like peek-a-boo are fun. Babies especially like the good feelings that come from being talked to and held close. **Solitary Play (Toddler)** The toddler enjoys playing alone. At this age there is little play with other children of the same age, though they may walk around each other.

### Play and Emotional Development:

Drawing, painting, and music encourage self-expression. Play helps children feel good as they learn to control their actions and bodies. They are happy when they learn to enjoy the beauty of colors, the rhythm of a melody, or the action of games. Playing with dolls, stuffed animals, or carpenter tools also may help them express anger or hurt. They often work out feelings in play that they dare not show in everyday living. Children act out their hopes and fears in creative play. When children are encouraged to tell their own stories, paint their own picture, act out their own feelings, or build their own pretend world, they are better able to hold onto their own hopes and dreams. Without that support, dreams may fade. Ambition and self-approval may decline. Snuggling up to children, gently patting or stroking them can give children a feeling of security. When someone is not around to play with a child, a familiar blanket or a furry toy animal will comfort the child.

### How Can teacher Help Children Play?

Before you begin to play with children there is one important thing you will need to remember: when they play, you are learning, too. Watch and listen. Observe how they use past experiences in today's play. Watch how they interact in a group. See their joys and sorrows. Learn what they think is important by observing their play. Study how they think and plan. See their skills. Figure out their personalities. Whether you are mother, father, sister, brother, friend, or babysitter, there are many things to remember about your part in children's play.

✓ **Be Informed:** Study and read about child development. Provide the right toys and activities at the right state of development. Know what to expect. Know what might happen and what to do. For example, learn how to respond to a child's wrong answer or to losing a game.

✓ **Be A Good Example:** Children will imitate many things to do. Enjoy play and have fun. Play fair is enthusiastic and kind. Show how to share and take turns. Also play should be safe. Provide plenty of space. Check toys and creative materials for safety.

✓ **Be Prepared to Meet Needs:** If children are ready for group play, see that same-age friends are available. Provide chances for indoor and outdoor play. Provide materials for active and quiet play. Move to the child's level when playing. You should be able to look eye-to-eye, which may mean sitting on the floor or lifting them.

✓ **Be a follower:** At times, it's best if you encourage children to choose the kind of play. Ask only once if they want to play something. Don't rush or insist. First, you will need to observe children at play. Second, you may play with them, but remember to follow, not lead. Do it their way. Third, you may

show them a new way to play what they are already playing. If a child is playing with one doll, introduce a second doll and begin a conversation. Finally, sit back and observe what the child does with this new idea. Play only as long as the child is interested.

✓ **Be Creative:** Provide creative materials.

Encourage make-believe. Try to do things in new and different ways. "What if..." is a good starting place? Let boys play with dolls, and girls play with trucks.

**Conclusion:** Today, many children do not have enough play opportunities at home because of TV, videos, and the computer. They interact with toys that are not conducive to building imagination and interesting dramatic play themes. In many instances, pretend play with siblings and neighborhood children is not available. There are more adult-organized and directed activities than in the past.

*"You can't stop the future, you can't rewind the past, and the only way to learn the secret is to press play ."* - Jay Asher,

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## 12 Parameters for Enhancing Quality in Higher education – Students' Perspective

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### Abstract

*There is an unprecedented demand for and a great diversification in higher education, as well as an increased awareness of its vital importance for socio-cultural and economic development, and for building the future, for which the younger generations will need to be equipped with new skills, knowledge and ideals. The younger generation have their own perception in selecting the best college for higher education. Which are those parameters, what type of challenges lay ahead, and how to cope up with these challenges are the core concern of this paper. This study focuses on perception of adolescents with respect to selection of colleges for higher education.*

*Higher education includes, "all types of studies, training or training for research at the post-secondary level, provided by the universities or other educational establishments that are approved as higher education by the competent state authorities. Everywhere higher education is faced with greater challenges and difficulties related to financing, equity of conditions at access into and during the course of studies, improved staff development, skills based training, enhancement and preservation of quality in teaching, research and services, employability of graduates, establishment of efficient co-operation and equitable access to the benefits of international co-operation. At the same time, higher education is being challenged by more opportunities relating to technologies that are improving the ways in which knowledge can be produced, managed, disseminated, accessed and controlled. Equitable access to these technologies should be ensured at all levels of educational system.*

*The higher education colleges is more focussed on industry requirements and sculpting of professional skills in students, so that they can take up challenging role in different institutions or corporate sector. This*

*requires enrolment of quality students who really have such talents, and at the same time quality faculty members, who can facilitate in building such knowledge and skills among the students. However though colleges are keeping with the needs of the society to meet the challenges post by students, certain perceptions by students in selecting or choosing colleges would be an eye opener. Hence this study was undertaken by the researcher.*

*Students who pass out from degree colleges look out for better avenues in terms of pursuing higher education which would help them to develop their market value in view of the competitive world. This research study was conducted with a view to study those perceptions of students, in selecting higher education colleges, and also their understanding or experience in chosen colleges, based on certain pre-decided parameters.*

*The tool used for the study was questionnaire and informal interview. Incidental sampling of students were used in the study. The students who were pursuing their graduation, with a keen interest of pursuing post graduate education were selected as sample. The size of the sample were 150 students studying in degree colleges in and around kalyan using survey method. The researcher used questionnaire as the major tool of the study. The items in the tool was classified under different headings, to study the perceptions. A qualitative analysis was done by the researcher.*

*On analysing the questionnaire following were the recommendations from students' perspective :*

**Teaching quality :** *Recruitment of more experienced teachers with industry background was perceived by the students for enhancing quality in education.*

**Pedagogy** : Adoption of blended approach by the teachers, with more case studies, scenario analysis, etc.

1) **Industry Interface** : Priority for regular arrangement of leadership talks, more involvement of students in capstone projects to stimulate their academic and intellectual experience.

2) **Placement quality**: Tie-ups with companies, register with companies for campus visits, involve potential companies' CEOs and top bosses in leadership talks, and also educate students that placement quality is not measured in terms of pay package alone.

3) **Infrastructure**: Systematically dedicate investment on capability building with a long term perspective. Emphasize more on shared services like, cloud based software and databases etc. also emphasize on e-resources.

4) **Brand identity** : Invest on increasing institutional visibility in multi-faceted industry-relevant and socially relevant projects. One pervasive approach is to create news for the institute everyday and focussed in newspapers. At least weekly news which have potential positive impact should appear in newspapers. Introduction of student exchange programs with national and international level of students. Different schemes to be started in the institution with the motive of attracting foreign students.

5) **Reputation of society/trust**: Arranging work-shops on entrepreneurship development, skill development initiatives, sustainability education etc.

6) **Location** : Investment on best possible available facilities to improve the quality of students. For ex: Wi-Fi campus, campus equipped with best medical facilities, campus with supermarket facilities, free regular connectivity with the nearest cities, drop in and pick up facilities for students while they travel out of campus.

7) **Governing body and their reputation**: Regularly restructuring the governing body by carefully selecting members known to the society, emphasize more on industry representation, ensure representation of faculty members and alumni etc.

8) **Alumni network**: Investment on alumni meet, nomination of alumni in different committees of the institute and value their suggestions.

Believing that, in this context, the solution of the problems faced on the eve of the 21<sup>st</sup> century will be determined by the vision of the future society and by the role that is assigned to education in general, and to higher education in particular.

**The challenges ahead**: Considering that a substantial change and development of higher education, the enhancement of its quality and relevance, and the solution to the major challenges it faces, require the strong involvement not only of governments and of higher education institutions, but also of all stakeholders, including students and their families, teachers, business and industry, the public and private sectors of the economy, the media, the community, professional associations and society as well as a greater responsibility of higher education institutions towards society and accountability in the use of public and private, national and international resources.

The need of the hour to enhance quality in higher education is to use technology to conduct online workshops for critical thinking of the students. Research is another area which needs to be enhanced. A teacher plays a crucial role in the development of students. A teacher instructs students, prepare lessons, grade students, assess and evaluate students' progress in classrooms etc. A techno savvy classroom gives an opportunity to teachers and pupils to explore new methods of teaching and learning separately.

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### **13 New Trends in Methodology “Concept mapping in the Classroom” An Innovative Trend**

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Classroom teaching practices are at the core of a teacher's work the beginning of the 21st century, teaching practices based on socio-constructivist theories became popular in educational. These theories are, to a certain degree, supported by empirical research: instructional methods based on socioconstructivist ideas (i.e., examining a learner's psychological processes within the context of the learning process) – for example, student-oriented practices and cognitive activation – are associated with student motivation and conceptual understanding. Creating thinking through different tactics. For getting better results in the process of teaching-learning the students should be able to exercise correctly their power of thinking. They should think in a proper way for arriving at the fruitful solution of the faced problems. They must be able to acquire knowledge and understanding about the things, apply it further in useful situations. under the premise that professional practices based on socio-constructivist theories examined are considered innovative and beneficial for student learning and non-cognitive outcomes, the results suggest that the main driver for advancement is developing a large repertoire of classroom teaching practices as well as taking collective responsibility and working co-operatively to improve instruction. Thus, the conception of instructional quality as diversity of practices also reflects teachers' self-perception. . The teacher is the crucial person & play important role I n education system if the teacher is trained skilled & committed one and use various learning strategies then the whole education system in her/his setup will produce quality education and enlightened

citizen which contribute for the development and program of the nation.

**“Concept mapping in the Classroom” An Innovative Trend**

Classroom teaching practices are at the core of a teacher's work. At the beginning of the 21st century, teaching practices based on socio-constructivist theories became popular in educational. These theories are, to a certain degree, supported by empirical research: instructional methods based on socioconstructivist ideas (i.e., examining a learner's psychological processes within the context of the learning process) – for example, student-oriented practices and cognitive activation – are associated with student motivation and conceptual understanding. However, empirical research also suggests that these factors are not sufficient to foster learning. Cognitive outcomes may also require clear structuring of lessons and good classroom management. Therefore, three dimensions of classroom teaching practices are identified that reflect all of these aspects: structuring, student orientation and enhanced activities.

Two types of co-operative hands-on activities were distinguished: the exchange of material, and teaching jointly as a team. While the former can be expected to be common in most countries, teaching jointly as a team requires a higher level of co-ordination and reflection. Holding a shared vision refers to individuals in a group having common goals and a common mind-set to work for them. Having a clear focus on student learning implies regularly evaluating whether this goal has been achieved, which can be realised through the performance of systematic assessments .Reflective inquiry takes place when teachers have detailed and critical discussions about their teaching practices and their experiences in classrooms. Professional learning activities within schools, such as team supervision, are one setting where such reflection can take place Classroom teaching practices

Using multilevel latent profile analysis, this report shows that teachers can be separated along their

overall frequency of using the three dimensions of teaching practices rather than their specific preference for one dimension or another. In each country, three profiles were detected: one group of teachers reports frequent use of structuring, student orientation and enhanced activities, while another group reports rarely using any of the three practices and one group falls in between. In all countries, the highest percentage of teachers was found in the profile with the lowest means for all three teaching practice dimensions while the lowest percentage of teachers fell within the profile with the highest means for all three dimensions. Hence, only a minority of teachers constitute the profile that reports a comparatively diverse and frequent use of classroom teaching practices.

**Creating thinking:-** In our day to day speech, we label the term ‘thinking’ indiscriminately to different kinds of psychological activities. For example, when I say, during an informal introduction, that I am thinking of the days when I was a student at a college, I am using the term thinking for a proper psychological term which is recollecting, when a child think of a big toy for himself he is simply imagining. Also when looking at a distant vague object, one says; I think it is aeroplane, or car or bus which is interpretation of one’s perception.

We can say that thinking is mental activity with regard to psychological objects.

We may think about a thing or an event even when it is not actually manipulated observed by us.

Creating thinking through different tactics. For getting better results in the process of teaching-learning the students should be able to exercise correctly their power of thinking. They should think in a proper way for arriving at the fruitful solution of the faced problems. They must be able to acquire knowledge and understanding about the things, apply it further in useful situations.

#### Concept Mapping in the Classroom

Concept mapping is a type of structured conceptualization which can be used by groups to

develop a conceptual framework which can guide evaluation or planning. (Trochim, 2003)

Concept mapping is a technique that allows you to understand the relationships between ideas by creating a visual map of the connection

#### Visual Organizers

##### □ Mapping

##### □ Graphic Organizers

##### □ Webbing

##### □ Concept Mapping

##### □ Learning to think.

##### □ Learning to learn.

□ These are the essential skills for student success. Research in both educational theory and cognitive psychology tells us that visual learning is among the very best methods for teaching students of all ages how to think, and how to learn.

□ Visual learning techniques - graphical ways of working with ideas and presenting information - teach students to clarify their thinking, and to process, organize and prioritize new information. Visual diagrams reveal patterns, interrelationships and interdependencies. They also stimulate creative thinking.

□ Concept mapping is a technique that allows you to understand the relationships between ideas by creating a visual map of the connections.

#### Visual learning techniques help students

Clarify thinking. Students see how ideas are connected and realize how information can be grouped or organized. With visual learning, new concepts are more thoroughly and easily understood. Reinforce understanding. Students recreate, in their own words, what they've learned. This helps them absorb and internalize new information, giving them ownership of their ideas. Integrate new knowledge. Diagrams updated throughout a lesson prompt students to build upon prior knowledge and internalize new information. By reviewing diagrams created previously, students see how facts and ideas

fit together. Identify misconceptions. Just as a concept map or web shows what students know, misdirected links or wrong connections reveal what they don't understand. Formats for Class Activities

1..Problem solving

2.. Decision making

3. Projects

4. Writing

5. Investigative Learning

6. Types of Graphic Organizers

7. Webbing

8. Concept mapping

9. Matrix

10 .Venn Diagrams

11. Comparison

12. Matrix

13. Flow Chart

Uses in the Classroom

- Develop an understanding of a body of knowledge
- Explore new information and relationships
- Access prior knowledge
- Gather new knowledge and information
- Share knowledge and information generated
- Design structures or processes Writing, web pages, presentations, constructions
- Practical applications in your courses:
- Handy way to take notes during lecture.
- Excellent aids to group brainstorming.
- Planning your studies and career.

•Providing graphics for your presentations and term papers

• A way to outline your term papers and presentations.

• Refine your creative and critical thinking.

• Preparation (define the problem)

• Generation of statements

Structuring of statements

Six Step Process

Preparation (define the problem)

Generation of statements

Structuring of statements

Representation of statements in the form of  
a map

In conclusion, under the premise that professional practices based on socio-constructivist theories examined are considered innovative and beneficial for student learning and non-cognitive outcomes, the results suggest that the main driver for advancement is developing a large repertoire of classroom teaching practices as well as taking collective responsibility and working co-operatively to improve instruction. Thus, the conception of instructional quality as diversity of practices also reflects teachers' self-perception. The teacher is the crucial person & play important role I n education system if the teacher is trained skilled & committed one and use various learning strategies then the whole education system in her/his setup will produce quality education and enlightened citizen which contribute for the development and program of the nation.

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## 14 Emerging Issues Related To Quality Research In Education

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### Abstract:

In the days of globalization an internet technology, it is required that the research Scholars are trained well and the research is conducted in a pragmatic framework. The pedagogy of research needs to be harmonized with the research environment so as to develop a research culture. The research supervisors instead of criticizing and finding fault with the system should come out openly to create a research culture.

### Introduction:

Research means investigating ideas and uncovering useful knowledge. It is personally rewarding and socially beneficial. Research quality is an issue (related to the study of knowledge). By quality knowledge is meant the knowledge gathered by appropriate tools and analysed without bias. The quality based knowledge is important to librarians (who manage information resources), decision-makers (who apply information), jurists (who judge people on evidence) and journalists (who disseminate information to a broad audience) and above all to the human beings for furtherance of development. That is why it is hammered on the scientists and analysts to create reliable information. The education scientists are therefore urged with concern that they should create such knowledge so as to draw out policies to shape the future generations.

There are five major aspects that can bring change in quality of research in the discipline of Education.

The **first** and foremost thing is that let us accept the existing realities of the world.

Privatization has entered educational system, where the emphasis is on production and priorities are result oriented. Commitment of Private Institutions to business has to be accepted. This has an implication that more people will opt for research at Ph.D. level. Obvious reason is that there are more job opportunities in the private sector than the government institutions. Again the chances of promotion are ample in the private institutions than the government system.

The existing teacher education colleges or the University departments of education in the government aided sector may not be able to accommodate all the aspirant researchers and enthusiast supervisors. The obvious resultant would be mass production of Ph.D.s. Question is “Does Mass production Necessarily Mean the End of Quality?” the answer to this question may be both “Yes” and “No”. “Yes” in the sense that when large number of researches are taken up, the quality control measures become weak and monitoring does not remain feasible. On the other hand “No” to the said question means that if the process of discovering knowledge is streamlined, the mass production of Ph.D. or research dissertations will add to knowledge generation activities. There is a need to make the grammar of research quite simple and free from pedanticism. Several terms in research grammar should be well defined so that the researchers understand the meaning easily. The issues related to research grammar like research design, sampling process, hypothesizing or statistical designs have to be made streamlined in such a fashion that the



researchers do not remain confused. Along with quantitative research, qualitative aspects of research should also be made part of the research process. The research questions should be prompted through the process followed by the researcher. Analysis and Interpretation should be made part of the routine teaching-learning process so that thinking becomes habit of the researchers. Like language grammar, research grammar should also be continuously hammered in the classrooms of Education discipline so that researchers get accustomed to the formalities of research methods. The objective should be to produce knowledge by quality research process and inculcating thinking process in the researchers. The role of thinkers today is to mould the existing system with vision to help the discipline of Education grow with the professionalism so as to produce quality research.

**Secondly**, the need of the time is to prepare road map for research issues so as to delve in to specialized areas of research in education. The researchers have to be trained to perceive the problems and find solutions. The existing scenario of education in the country as well as that of the world should be made clear to the researchers. The teaching learning system as well as curriculum in the discipline of Education should be designed in such a way that the researchers are sensitized to the problems of education.

Research process and research problems in education should be such that these solve societal problems from different angles. For example, the society in India at present is being faced with problems like violence in schools, sex linked problems at primary stage of education, aspiration of parents that their child should lead the class in every activity, going for tuitions even at pre-primary level, etc. It is the duty of researchers in education to find

solutions to these problems. Providing research answers to such problems and giving theoretical base to issues like these will help add quality to research.

The answer to such problems is not simple. It involves knowledge of sociology, psychology as well as economics. Therefore **thirdly**, it may be pointed out that the researchers should be made to explain the issues from various points of view : economics angle, political angle, administrative angle and social angle. The researchers in education have to be oriented to various disciplines so that they can explain their findings properly. Knowledge of various disciplines will help building theoretical base of educational problems and workable solutions will emerge out of these. A research providing solutions to the societal problems is quality research.

**Fourth** aspect to achieve quality in research is to change pedagogy of research. At present, the researchers are provided basic theoretical knowledge of research process at the Masters level and later they get in touch of the supervisors who without putting the researchers to learning research process help them in selecting problems and conducting research.

Most of the research problems of the researchers usually match the research thesis of the supervisors (Singh 2008). Further, the pedagogy of research in most of the cases remains up to counseling by the supervisor. There is a need to change this pedagogical process. The institutions will have to take up the challenge by formally introducing inter-scholar and teacher-scholar interaction. Regular seminars in the institutions on research need to be initiated where all research scholars and interested faculty should discuss research problem, methodological issues of research, various implications of findings etc. Each of the sessions in the seminars should be prolonged and

well debated and followed by individualized feedback on performance in the seminar. Here, the supervisors have to be careful and should receive feedback for their scholars open mindedly. The interactive sessions may be extended for having view of the outside fraternity (if possible/available). The ideas of the outside faculty are also reflected in research publications. The researchers should be asked to plan their research in such a way that the research can bring out two or three publications. The feedback received from the editors of the research journals will be most beneficial in improving quality of research. Peer review (Critical assessment by qualified experts, preferably reviewers, who do not know author's identify) enhances research quality. This does not mean that only peer reviewed documents are useful (much information is distributed in working papers or reports), or that everything published in professional journals is correct ( many published ideas are proven false) but this process encourages open debate about issues (Lee and Kamler 2008). Unfortunately, Indian research journals rarely reply back to the researchers for their publications. Even the research journals published by apex bodies of India rarely send back the research papers with feedback to the researcher. There is a need to upgrade research journals in Education.

**Fifthly**, the research institutions should identify their thrust areas or the areas of specialization wherein the research issues would be identified. It should be left to the research scholars to know their areas of interest and then identify the institutions where they would like to get registered for research. The thrust area identification will provide specified pedagogy of research which will be easily understood by the researchers and reputed

institution will come forward to supply a manpower thoroughly oriented in research techniques. Further, the concentration of research in the selected areas will help in the formation of group of researchers who develop in to the teams pursuing common goals. These teams and the inter-team and intra-team interactions will provide major input to bring quality improvement in research.

#### **Conclusion :**

In short, it may be mentioned here that most of the universities and institutions in the country and world over are concerned about quality of research. One consequence is that doctoral students are now being encouraged to publish during (and as part of) their candidature. While thesis publication practices are relatively well established in the sciences, but students and their supervisors in the social sciences are facing new pressures to produce a range of peer reviewed publications by the time dissertation research is completed. In the days of globalization an internet technology, it is required that the research Scholars are trained well and the research is conducted in a pragmatic framework. The pedagogy of research needs to be harmonized with the research environment so as to develop a research culture. The research supervisors instead of criticizing and finding fault with the system should come out openly to create a research culture.

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## 15. A study of Effectiveness of Constructivist Approach for Enhancing Achievement in Chemistry among 9<sup>th</sup> Std Students.

*-Amol Rajaram Kamble*

### Abstract

The study is focused to find out the effectiveness of constructivist approach for enhancing achievement in chemistry among 9<sup>th</sup> std students. The investigator used randomized pre-test/post-test design in which the samples

are randomly assigned subjects to experimental and control group. The samples of the present study are consisting

of 60 Standard IX students of High school. Out of 60 students, 30 students were chosen randomly for Experimental group and 30 students for Control group. The achievement test was prepared, standardized by the investigator and administered to the samples in the pre test and post test.

The main findings of the study are; there is significant difference in the post test scores of control and experimental group. The achievement scores of the samples in the experimental group are better than the control group and it proved that constructivist approach is an effective teaching strategy than the chalk and talk method for the achievement in Chemistry.

**Keywords:** constructivist approach, achievement in Chemistry

### Introduction

Science is the pursuit and application of knowledge and understanding of the natural and social world following a

systematic methodology based on evidence. Science refers to a system of acquiring knowledge through observation and

experimentation to describe and explain natural phenomena. Chemistry is one of the core subjects of science and it has

the composition, structure, properties, and reactions of matter, especially of atomic and molecular systems. The main aim

of the science education is to make a meaningful understanding of Science theories, concepts, equations, laws, principles

etc. Teaching Science focuses on providing students with opportunities to get an experience and to develop their

cognition. Learning is the product of self-organization and reorganization of existing ideas. This learning is possible through different approach, strategies and methods.

### Need and Significance of the Study

The constructivism provides a perspective on teaching and learning science in classrooms, with a view to improving the effectiveness of science teaching in enhancing students' learning. The core view of constructivists on learning science suggests that students construct their knowledge strongly influenced by social environments. They learn science through a process of constructing, interpreting and modifying their own representations of reality based on their experiences.

Therefore, constructivists acknowledge social dimension of learning such as the classroom and learning community whereby students make meaning of the world through both personal and social processes.

### Objectives of the Study

To find out the level of achievement in Chemistry between control group and experimental group in the pre test.

To prepare a lesson plan to teach atomic structure for the samples in the control group.

To prepare a constructivist approach lesson plan to teach atomic structure for experimental group.

To find out the level of achievement in Chemistry between control group and experimental group in the post test.

To find the significant difference in the mean scores of achievement in Chemistry between control group and

experimental group in the post test.

### Hypothesis of the Study

1. There is significant difference in the mean scores of achievement in Chemistry between control and experimental group in the pretest.

2. There is significant difference in the mean scores of achievement in chemistry between pre test and post scores of the samples in the control group.

3. There is significant difference in the mean scores of achievement in chemistry between pre test and post of the samples in the experimental group.

4. There is significant difference in the mean scores of achievement in Chemistry between control and experimental group in the post test.

#### Summary

1. There is no significant difference in the mean scores of achievement in Chemistry between control and experimental group in the pretest.

2. There is significant difference in the mean scores of achievement in chemistry between pre test and post scores of the samples in the control group

3. There is significant difference in the mean scores of achievement in chemistry between pre test and post of the samples in the experimental group.

4. There is significant difference in the mean scores of achievement in Chemistry between control and experimental group in the post test.

#### Educational Implication of the study

The study helps the teachers to understand and implement the constructive approach in teaching chemistry and to help the students to have mastery level of learning. Teachers may get awareness of using the different methods, approaches, strategies to teach chemistry subject in an interesting manner. The teachers will realize the chalk and talk method will not bring the expected or fruitful result in the achievement of chemistry.

#### Conclusion

The study proved that the constructive approach influences in the learning and achievement of chemistry among the standard IX students. When the students wanted to have a mastery level of learning, the chalk and talk method alone will not be useful. There are other approaches, strategies to be adopted by the teacher to enhance the learning and attainment especially in Chemistry. This can be done through constructivist approach of teaching. Hence, the study suggests the science teachers to adopt and implement constructivist approach in teaching Chemistry.

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## **16 study of factors Affecting drop in results of high scoring S.S.C. vernacular students in H.S.C. examination in Vile Parle Region**

*Mandar Gopinath Sawant*

### **Abstract**

The study aims to determine the influences of language proficiency on academic performance of Higher Secondary School Certificate Examination. Data was collected from 30 students from various vernacular medium schools who had appeared for H.S.C. Exam from Vile Parle region a western suburban area in city of Mumbai, India. Statistical analyses revealed a significant affects to academic performances. There is observed trend that many students from vernacular students who score well in S.S.C. examination struggle to achieve the same grades in H.S.C. Exams. An ex-post facto, non-experimental approach was used in this research.

The students from non-English medium schools (i.e. from vernacular school) might have difficulties understanding lectures and interacting with their teachers due to lack of English proficiency (Ramsay, Barker, & Jones, 1999; Selvadurai, 1998). The study has found definitive link between the lack of linguistic skills in the language of teaching and learning and that of answering, on the scores of the vernacular students in the H.S.C. Exam. It takes longer for vernacular students to reach academic norms when answering in English than to acquire interpersonal communication skills required for day-to-day conversation. Thus language proficiency might be a key factor in their academic success.

This research was conducted to investigate the relationship between self-perceived English language proficiency and academic performances of students

from vernacular schools, with a hope that it will provide insight for teachers, parents and administrators who wish to promote vernacular student's academic success.

**Introduction:-**The H.S.C. examination are the most crucial exams after the S.S.C. examination, students' performance is important. This paper attempts to highlight the most common factors behind below par performances of students from vernacular medium and implications drawn, which leads to some recommendations for future practices.

The Maharashtra State Board conducts HSC Examinations in the state of Maharashtra through nine Divisional Boards Located at Pune, Mumbai, Aurangabad, Nagpur, Nasik, Kolhapur, Amravati, Latur and Ratnagiri. The Board conducts the exams twice a year and around 14 lacs students appear for the exams. There are over 7000 Higher Secondary Schools or Junior colleges in the state of Maharashtra.

### **Research Method**

**Research Design and Instrumentation:-**An ex-post facto, non-experimental approach was used in this study to examine the relationship between English language proficiency and academic performance of vernacular students enrolled in a junior college in Vile Parle located in western suburbs of Mumbai City,. A standardized self-reported questionnaire was developed and utilized to collect data. In addition to some basic demographic questions, the instrument included items on English language proficiency.

Students were asked to rate their English language proficiency using a 4-point Likert scale: 1 (poor), 2 (average), 3 (good), and 4 (excellent). They were also asked to indicate whether they had academic difficulties in understanding English, specifically in reading, writing, listening, and speaking. A 4-point Likert-scale was used for these items as well: 1 (always), 2 (often), 3 (sometimes), and 4 (never). The questionnaire included an item on the number of languages spoken as well. Participants indicated whether they studied mathematics and science subjects in English or their native language. Participants' academic performance was measured by their H.S.C. Examination scores. In addition, participants were also asked to indicate how they felt their English language skills affected their academic achievement.

**Participants and Data Collection:-**Researcher obtained an approval from the Acharya A.V.Patel Junior College, Dadabhai Road, Vile Parle west, Mumbai, India where the study was carried out. The college had around 287 students in out which the 38 students who had from Marathi and Gujarati Medium where selected. Thirty-eight surveys were randomly distributed, out of which three were returned and five were incomplete. Therefore, the sample consisted of randomly selected 30 vernacular students. The sample was about one tenth of the overall vernacular student population at the participating institution. Participation in the study was voluntary. Participants were given *informed consent forms*, which provided information regarding the study, including the contact information of the principal investigator. Participants were given five days to complete the surveys and return them

together with signed informed consent forms to the principal investigator.

#### Data Analysis

SPSS (2008) statistical software package was utilized to analyze data. Students' academic performance measured by their GPAs was the outcome (dependent) variable, while self-rated questions about language proficiency and language difficulty, and the number of languages spoken were independent variables. Descriptive statistics of the sample and ANOVA inferential statistics were applied to analyze the data. In addition, multiple regression analysis was utilized to determine which independent variables were the best predictors of international students' academic performance.

**Table 1**

**Frequency of Having Difficulties in Writing, Reading, Listening, and Speaking**

Variable	Categories	n (%)
Difficulties in writing	Always	7 (23.3 %)
	Often	4 (13.0%)
	Sometimes	15 (50.0%)
	Never	4 (13.3%)
Difficulties in reading	Always	2 (6.7%)
	Often	3(10.0%)
	Sometimes	17 (56.6%)
	Never	8 (26.6%)
Difficulties in listening	Always	4 (13.3 %)
	Often	8 (26.6%)
	Sometimes	16 (53.3%)

	Never	2 (6.60%)
Difficulties in speaking	Always	6 (20.0 %)
	Often	7(23.3%)
	Sometimes	15 (50.0%)
	Never	2 (6.60%)

### Results

Out of 38 students questionnaires received 30 were expected as complete and analyses were conducted based on these responses. There were 16 (53.3%) females and 14 (46.7%) male students. Descriptive statistics were computed to learn about the characteristics of the sample. Participants were asked whether they studied mathematics and science subjects in English or their native language. For 24.0% of them (8 participants) responded that they had studied the subjects of science and mathematics in English and 76.0% indicated that they had these subjects in native language other than English. Participants were also asked to rate their English Proficiency level: 26.6% rated their English Proficiency as excellent, 53.3% rated their English Proficiency as good, while 17.1% rated as average. When asked whether English as the language of instruction limits their academic achievement, 58.8% said yes, and 41.2 said no.

Since all the subjects selected had low scores in their H.S.C. Examination as compared to their scores in S.S.C examination, in order to raise the performance of the vernacular students it is essential to understand the importance of proficiency in the language of instruction. On going communication between administrators, target subject group i.e. the students from vernacular mediums, and faculty members, the

teachers will encourage these students to master English language. There a time gap between the S.S.C examination and start of the eleventh grade academic activities because of delayed online admission process. This time should be utilized to hone the language skills and master the language of instruction. Ongoing communication with non-vernacular students would support the integration of the vernacular students in mainstream student life in junior college environment. The vernacular students thus will feel isolated and their social adjustment will be easier.

This study has several limitations. Firstly it was limited to one institution. Secondly it was only limited to vile parle region. Thirdly this study examined the relationship between self-perceived language proficiency and academic performance of International students. It recommended for further studies to include a larger sample size and more than one institution in order to satisfy the want of larger sample size.

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## **17 New Trends in Methodology and Training of teachers for acquiring skill of facilitating through constructivism : An innovative practice**

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### **Abstract**

The national curriculum framework 2005 recommend that curriculum should help learners to become constructors of knowledge and emphasizes the active role of teachers in relation to the process of knowledge construction. It emphasizes that students construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences

### **Introduction**

#### **Role and Importance of teachers in construction of knowledge by students**

Albert Einstein said, I never teach my pupils; I only attempt to provide the condition which they can learn. This is an apt sentence, in the light of facilitation and constructivism, to elaborate the role of teacher as he has to make suitable situations and create appropriate for the students to explore new knowledge on their own. Teacher in a constructive classroom has to perform various roles. Therefore, teacher's role is multi-dimensional. The teacher as a facilitator encourages and promotes their students. Principles of self learning As the teacher is the major source of learning. So the researchers to try small experience in her student teachers through educational transaction how would do teacher as a facilitator encourages and promotes their students.

#### **To plan and implication of the innovative practice:**

**Objectives:-**To provide training to the student teachers about training of teachers for acquiring skill of facilitating through constructivism.

**Target group – 42 B.Ed students.**

**Research method -single group experimental Training regarding role of a teacher as a facilitator :** a session conducted included following points

#### **Facilitator –**

Diverse ways and means are available for self learning times in mode. In today's knowledge explosion. Teacher is not mere dispenser of information now he is the one of who encourages and supports learners in their active learning.

To facilitate means-

1. To make easy
2. To make easier, assist the progress.

#### **A facilitator**

- Makes learning process easy and helps the students
- Helps the student be comfortable by creating congenial attitude.
- Arranges classroom activities
- Provides clues to the learners
- Handles the class smoothly.
- Creates proper learning environment in the class.

#### **Characteristics of teacher as facilitator**

- Neutrality
- Flexibility
- Resourcefulness
- Learning structure provider
- Professional outlook
- Cultivator of shared responsibility



These characteristics have to be nurtured among the student teachers through teacher education program. but it will be miserable to expect current behaviorist teacher education program to do so instead of to facilitating through constructivist approach.

Facilitative Development program –

The program has following activities –

- Group discussion on various role of teachers
- Brainstorming session on problems and challenges in education and its solutions
- Story writing and telling sessions.
- Role play on student –teachers good interactions
- Draw picture and give name reference to creative experience
- Listing of research subject through their own experience
- Simulation and games on area of teaching learning environment while educational transaction
- To use some strategies will be demonstrated –
- collage
- social graph,
- closing circle
- Reciprocal learning
- Critical exploration
- Think pair and share
- Cognitive apprenticeship
- KWL charts

#### **Finding:**

The student teacher increasing understanding about Constructivism

The student share their ideas freely

Student teachers increasing their teaching approaches

The constructivist view of learning can point towards a number of different teaching practices. It usually means encouraging students to use active technique i.e. experiments, real word problem solving, to create more knowledge and then to reflect on and talk about what they are doing and how their understanding is changing. The teacher makes sure he or she understands the students pre-existing conceptions. And guides the activity to address them then build on them. Constructivist teachers encourage students to constantly assess how the activity is helping them gain understanding. By questioning themselves and their strategies, students in the constructivist classroom ideally become “expert learners”. This gives them ever broadening tools to keep learning. Will a well-planned classroom environment, the students learn, “HOW TO LEARN”.

## 18. Need of SWOT Analysis for the Quality Education

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### **Abstract:-**

Quality is not something that is bestowed by others; it is attained and maintained as a result of ceaseless efforts. Quality of a product may be good for one but not for another because it does not serve the purpose and for that here is need for analysing. SWOT analysis is an important tool for analyzing teaching -learning and overall education process. It is recommended to carry out a SWOT analysis after taking any academic decision to implement or improve before planning takes place. The results of a SWOT analysis will help focus on the process and finding critical points during the transfer of good educational practices. Quality has become a defining element of education in the 21st century in the context of new social realities. In this context, quality and excellence should be the vision of every higher education institution including teacher education. The advancement of a country can be judged by the standard of higher education existing in that country. Acquisition of quality and excellence is the great challenge faced by all higher education institutions. This paper is mainly focus on how the aspect of SWOT analysis is helpful for the quality education.

### **Introduction**

Quality has been defined by several management experts. The dictionary meaning of quality is 'the degree of excellence'. Deming is of the opinion that quality is a positive concept. Product or service which helps someone and enjoys good sustainable markets is of good quality. Seymour opines that —quality is continuous improvement. Quality and excellence are often used synonymously. In a sense, they trigger the same response when they are experienced. Quality is not something that is bestowed by others; it is attained and maintained as a result of ceaseless efforts. Quality of a product may be good for one but not for another because it does not serve the purpose and for that here is need for analysing.

One of the most straightforward frameworks and approaches used for analysing strategic positions, for a particular artefact or process is the SWOT analysis. SWOT stands for strengths, weaknesses, opportunities and threats'. It is perceived that SWOT analysis and overall strategic planning may enhance certain internal and external activities and ensuring a fit between the external situation of a particular process (threats and opportunities) and its own internal qualities or characteristics (strengths and weaknesses). SWOT analysis is frequently used in environmental management as a diagnostic method to identify key factors influencing the success or failure of an organization's project (Masozera et al. 2006; Geneletti et al. 2007; Lozano and Vallés 2007). The standard application of SWOT analysis is based on a template, which provides the necessary heuristics to examine the future prospects of an organization. The achievement of the organization's goals & potential to accomplish its objectives is judged against both inner (i.e., that pertain to the organization itself) as well as outer (i.e., environmental) aspects that may be mobilized in order to accomplish the goals of the organization. Inner aspects are termed 'strengths', while outer aspects are called 'opportunities'. In an analogous manner, barriers can be found within the organization (termed, 'weaknesses') or in the environment surrounding the organization ('threats'). The result of the SWOT analysis offers insights concerning the trajectory of the organization categorized in 'strengths' that should be supported (i.e., inner potential), 'opportunities' that have to be sought (i.e., environmental prospects), 'weaknesses' that must be overcome (i.e., inner barriers), and 'threats' that ought to be alleviated (i.e., environmental hindrances).

In general terms SWOT analysis is being used for:

- Explore possibilities for new efforts or solutions to problems.

- Make decisions about the best path for a strategic-focused initiative
- Identifying opportunities for success in the context of threats and weaknesses which may open new directions and choices.
- Determine where change is possible.
- SWOT may identify what works well and what does not and provide the context and data for taking appropriate actions in order to change a current situation.
- Adjust and refine plans mid-course.
- A new opportunity might open wider avenues whilst a threat might close a service that existed in the past.

### How to do SWOT Analysis?

The use of SWOT Analysis as a planning tool has been expanded beyond its initial use in business, and it is now commonly used as an initial step in the planning process by public agencies, academic institutions, and other organizations. A SWOT Analysis can be useful in marketing of new services and new programs, assessing the value of new projects and new ideas, and any other situation requiring a decision. A SWOT Analysis looks at and defines the strengths and weaknesses of the internal environment of the organization or organizational unit, as well as the opportunities and threats within the environment external to the organization or organizational unit. The SWOT analysis tool is useful for delineating information important to making decisions about allocation of resources in the competitive environment that institutions and organizations operate within. A SWOT analysis is become only one tool that can be useful in planning. Other factors need to be considered in creating a strategic plan (e.g., political, cultural, economic, structural aspects of the university, community, state, etc.).

### Process in Developing a SWOT Analysis

1. Clearly define the objective of the analysis, the purpose of the analysis, the decisions that the information from the analysis will help you make.
2. The object of the analysis can be a new product, a program you want to offer, a service you want to develop, a research project idea, a plan for

allocation of scarce resources, an aspiration goal for your unit, any desired end state.

3. The four aspects of the SWOT analysis have been defined in a number of ways, but for our purposes the following explanations seem useful:

	Positive	Negative
Internal	<b>Strength</b>	<b>Weakness</b>
External	<b>Opportunity</b>	<b>Threat</b>

**Strengths** – attributes of the unit/department/college/university that likely will be helpful to and have a positive effect on the achievement of the desired end state (the object of the analyses as defined above). Strategies to capitalize on these strengths can be developed.

**Weaknesses** – attributes of the unit/department/college/university that likely will have a negative effect on achievement of the desired end state. Strategies to minimize the effects of these weaknesses can be developed.

**Opportunities** – conditions external to the unit/department/college/university that likely will have a positive effect on achievement of the desired end state. Strategies to exploit these opportunities can then be identified.

**Threats** – conditions external to the unit/department/college/university that likely will have a negative effect on achievement of the desired end state. Strategies to defend against these threats can be identified.

### Quality in Education:

Quality has become a defining element of education in the 21st century in the context of new social realities. Quality makes education as much socially relevant as it is personally indispensable to the individuals. In this sense quality becomes the

defining element of education. In this context, quality and excellence should be the vision of every higher education institution including teacher education. Acquisition of quality and excellence is the great challenge faced by all higher education institutions.

### **Quality Management in Teacher Education:**

In any educational institution there are three aspects to be managed-academic, administrative and financial. Besides these there are the human and physical resources to be managed to their optimum level. In other words management of input-process-product is of utmost concern of the system of teacher education. If every component is of good quality then the final product i.e. the teacher will be perceived as fulfilling the needs of the consumers

Applied to the field of Teacher Education, quality refers to the totality of features and characteristics of the student teacher acquired as a result of the teachers education programme. If the expectations of the schools, students, parents and the society are met that indicates that the right type of teachers have been prepared by the teacher education institutions. Teachers should achieve the best of potential already in them. However, if the following questions are answered by the educational institutions in general they will be able to achieve quality.

1. What key outcomes have we achieved?
2. How well do we meet the needs of our stakeholders?
3. How good is our delivery of education processes?
4. How good is our management?
5. How good is our leadership?
6. What is our capacity for improvement?

SWOT analysis is an important tool for analyzing teaching -learning and overall education process. It is recommended to carry out a SWOT analysis after taking any academic decision to implement or improve before planning takes place. The results of a SWOT analysis will help focus on the process and finding critical points during the transfer of good Educational practices.

Indian higher education is one of the best and the second biggest in the World after U.S.A. India is anticipated as one

of the Nations to lead the future scenario. During independence there were 20 Universities, 500 Colleges with 2,40,000 students. Today there are more than 300 University level Institutions and 13,000 Colleges with approximately 10 Million students. There are more than 4,30,000 teachers engaged in teaching in these Institutions. When we compare the higher education with the other developed and leading developing countries we find that only 7.5% of Indian youth in the age group of 17 - 23 years are studying in the institutions of higher education whereas 15.22% of the youth access to the higher education in many other countries. Compared to India many of the institutions of higher education in abroad have excellent infrastructure, resources, faculty developing programs and research but the same cannot be said about the institutions of higher education in India. In this paper, an attempt has been made to comprehend the present status of the higher education system through the SWOT analysis. SWOT analysis is a qualitative tool which by identifying the strengths, weakness, opportunities and threats to the Indian higher education makes an overall assessment of the Indian Universities education system.

### **CONCLUSION**

In general there are many quality gaps in framing policies and executing them through national level educational bodies, are identified in the analysis of the quality of Indian higher education. The quality of higher education should encompass four components therefore four E's:-

1. Existence of infrastructure, human and learning resources.
2. Extent of use
3. Effectiveness of the management process and
4. Effect of the inputs

The advancement of a country can be judged by the standard of higher education existing in that country. Only certain universities and colleges are playing vital role in the development and modernization and also producing men and women of excellence. In order to improve the existing situation, all the colleges and universities should be evenly distributed with necessary facilities, for both teaching and research. To facilitate this, UGC and AICTE can enforce academic audit in the educational institutions. Besides the head of educational bodies are to be selected by merit. The

student bodies are to be involved in academic decision-making. Industries should be included in the curriculum planning and there should be a close interaction between industries and educational institutions with regard to the industrial field training, project allotment and in other areas of academic requirement.

***"Good management is the art of making problems so interesting and their solutions so constructive that everyone wants to get to work and deal with them."***

***—Paul Hawken, Natural Capitalism***

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**19 Memory Model of Learning : An effective solution for Mathematics Teaching****Dr. Pramod. D. Joshi***Associate Professor,  
Govt. College of Education, Panvel***Dr. Maheshwar G. Kallave***Assistant Professor  
Department of Education  
Dr. B. A. M. University, Sub-Campus Osmanabad***Introduction:**

In the beginning of the 20<sup>th</sup> century, the education expert John Dewy put forth his thoughts/ ideas on how should the teaching process are, in order to make the learning process effective. This led to researches for making the learning – teaching process effective. But on taking a retrospective of the various researches made in the field of education, it was later found that the researches on the process of learning exceeded those conducted on teaching out of the learning – teaching process. In today's world where we are experiencing tremendous explosion of information, many concepts need to be learnt in a short span of time. Therefore question naturally arises before the teachers as to how to teach effectively in order to make it teaching effective. In order to teach effectively, some basic theories are very much called for. But such theories are not put until now. Therefore, models came to be used as a substitute to theories in education field. Among these models, various models for different factors were proposed with the intention of creating an atmosphere conducive to learning – teaching.

In this research, the memory model belonging to Information processing family of models was put to use in teaching the subject of Mathematics and thereby the effectiveness of the model of memory was examined.

**Memory Model:**

The memory model of teaching a learning process has been developed by Marry Lorayne and Jerry Lucas. They wrote one book on this aspect which is "The Memory Book." The objectives of the memory model are: to enhancing attention to what is to be learned to develop senses involved in attending to strengthen the associations we make between the new material and things that have previously been earned. The stages of the model are Syntax Social System Principles of Reaction Support system Application Outcomes or Instructional and Nurturing Effect. The syntax of memory model of teaching has the phases: phase I: Attending to the Material Phase-II: Developing Connections Phase III: Expanding Sensory Images Phase-IV: Practicing Recall The most important outcome of the model is to make the memory permanent in the mind of the learners.

**Methodology of Research:**

For the current research, experimental method was used. School was selected by non - probability sampling method while students were chosen by probability sampling method. For teaching the subject of Marathi, some chosen units from the text book of Std. ninth were selected. Two groups were formed on the basis of equal group design and one group was taught by conventional method whereas the other group was taught by the memory model. Thereafter achievement test of both these groups was taken. For this purpose, conventional method of teaching was taken to be the independent variable for controlled group and for experimental group, the memory model was designed and the scores in the achievement test were considered to be the dependent variable.

**Objectives:**

1. To get acquainted with the current learning achievement of Mathematics subject for std. 9<sup>th</sup> students.
2. To prepare a memory teaching model design for selected part in the subject of Mathematics

3. To teach the subject of Mathematics with the help of memory model
4. To study the effectiveness of the teaching done with the help of memory model on students' learning achievement level.

**Assumptions:**

1. Most of the lessons in the subject of Mathematics at secondary level are done by conventional method of teaching.
2. At secondary level, teachers don't teach by taking the help of teaching models.
3. Some of the lessons from the text book of Std. Ninth at secondary level can be taught by taking the help of the memory model.
4. Students' learning would improve provided teaching would be done with the help of models.

**Hypothesis:**

On teaching by conventional method of teaching and by teaching by the memory model, appreciable difference is not found in the achievement of students

**Conduct of Research****Comparison between the means of the Experimental and Controlled groups in the Pre-Test**

Mean of Experimental Group	Mean of Controlled Group	Difference in the Means of these Two Groups
<b>11.3</b>	<b>11.8</b>	<b>0.5</b>

**Inferences**

In the above table the mean of the controlled group is 11.8, whereas the mean of the experimental group is 11.3. On observing the means of these two groups, a difference of 0.5 is seen between them. This difference is negligible. From this, it becomes clear that

both these groups are equivalent. Whatever difference is seen in their means is the result of the variations in the factors in sampling.

For finding out the effectiveness of the teaching done by the memory model, controlled and experimental groups were formed.

**Comparison between the means of the Experimental and Controlled Groups in the Post-Test**

Mean of Controlled Group	Mean of Experimental Group	Difference in the means of these Two Groups
<b>12.5</b>	<b>15.7</b>	<b>3.2</b>

**Observation**

From the above table, it becomes clear that – The mean of the controlled group of the post-test is 12.5. The mean of the experimental group of the post-test is 15.7. The difference between these two means is 3.2.

**Inferences**

On comparing the means of the experimental and controlled group, it is found that the mean of the experimental group is found to be higher by a value of 3.2 than the mean of the



controlled group. This difference in the mean is seen because of the teaching done by using the memory model.

**Percentage of the Marks of the Experimental and the Controlled group in the Post-Test**

Group	No. of students	Total Marks	Marks Obtained	Percentage
Experimental	20	400	327	81.75%
Controlled	20	400	261	65.25%

**Observations**

From the above table, it becomes clear that – In the post – test, the experimental group scored 81.75% marks whereas the controlled group scored 65.25% marks. The difference in the percentage of marks obtained between the experimental and the controlled group is 16.50%.

**Inferences**

From the above table, it becomes clear that the experimental group scored 16.50% higher marks than the controlled group. Based on this observation, it can be inferred that the teaching done by using the memory model is found to be better than the conventional method of teaching.

**Testing of Null Hypothesis**

Type of Group	Controlled Group	Experimental Group
No. of Students	N1 = 20	N2 = 20
Mean (M)	M1 = 12.5	M2 = 15.7
Standard Deviation (SD)	Sigma 1 = 2.22	Sigma 2 = 2.72

**Comparison between the means of the experimental and controlled groups in the post – test**

Experimental Group	Controlled Group
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M 2 = 15.7	M1 = 12.5
Difference in their means $D = M2 - M1 = 15.7 - 12.5 = 3.2$	

**t - Value**

Group	df	Mean	SD (Sigma)	DM	Calculated 't' value	Table 't' value	
Experimental	19	M2 = 15.7	SD2 = 2.72	3.2	3.7	0.05	0.01
Controlled	19	M1 = 12.5	SD1 = 2.22			2.09	2.86

From the above table, it becomes clear that the value of 't' is higher than those values of 't' from the table at 0.05 level and 0.01 level. It means that the difference in the means of the experimental and the controlled groups is valid at 0.05 and 0.01 confidence levels. Therefore, by rejecting the null hypothesis, positive hypothesis has to be accepted.

**Inferences**

1. The teaching done by the conventional teaching method doesn't prove to be much effective.
2. On teaching students by conventional method of teaching, students can't grasp mathematical problems fully.

**3.** By putting the memory model of teaching in practice, teaching becomes more interesting as well as effective.

**4.** Since students themselves play vital role in the memory model of teaching, their understanding of the subject matter becomes effective.

**5.** Through the memory model of teaching, a number of competences of students such as identifying social problems, to play various roles in the society, to observe a wide range of problems and roles, to arrange the stage etc. get developed.

**6.** Through the use of memory model, the learning – teaching process becomes easy.

7. The knowledge acquired through the use of memory model is retained for a longer period of time in students' memory.

8. Students' participation is found to be more in the memory model as compared to the conventional (lecture method) teaching.

9. The teaching done by the memory model is effective than the conventional method of teaching.

#### Recommendations:

1. Teachers should acquire information about various methods and models of teaching.
2. The teachers should teach a unit by preparing class notes after selecting a unit from the subject of Mathematics as per the model at the very beginning of the year.
3. The teachers should make use of the memory model while teaching units in the subject of Mathematics which are based on logical and reasoning problems. The teachers should seek direct participation from students in teaching the subject of Mathematics.
4. They should provide guidance and encouragement to teachers for using the memory model in teaching.
5. The Govt. should include some specimen class notes based on each model in Teachers' Handbook.

6. The Govt. should organize camps, revision classes, training classes etc. in order to spread awareness regarding teaching models amongst teachers.

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## **20 NEW TRENDS IN EDUCATION : SPIRITUAL INTELLIGENCE –AS A PART OF THE TEACHER EDUCATION ”**

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### **Abstract :**

The role of teacher will inevitably have to change in view of this paradigm shift. Teachers also need guidance in dealing more adequately with sensitive issues including bias and conflict. In such a scenario, Teacher educators have an important role to play in the society as transformational leaders impacting future educational leaders. This paper is an inquiry in to the dimension of spiritual wellbeing in relation to teacher education and calls for the need to cultivate emotional and spiritual intelligence, morality, and ethics alongside the cultivation of any other type of intelligence. It focuses on innovative practises in realms of teacher education useful in developing spiritual intelligence in educational leaders of tomorrow.

### **Introduction:**

Spiritual intelligence can and must be part of the teacher education curriculum. Students must also learn that when the application of knowledge is for exploitive and cruel purposes, it is a misuse of spiritual intelligence. Teacher education calls for education of the whole person-a prospective teacher who has to impact many lives as he will progress in his career as a teacher. A society with high spiritual intelligence contributes to the harmony and betterment of the nation. A fundamental shift is taking place in philosophical paradigm of education - from seeing the world in a mechanical way to a new paradigm mediating our understanding of the world

by language, beliefs, values and ways of being. This reflects a shift toward the exploration of spiritual concerns.

The role of teacher will inevitably have to change in view of this paradigm shift. Teacher Education institutions should prepare more effective teachers for this new role to be performed. The spiritual intelligence is necessary for discernment in making spiritual choices that contribute to psychological well being and overall healthy human development. In fact, from the aspect of National Policy on Education, spiritual intelligence plays an important role within the realm of education and contributes towards overall development of the nation. In accordance with New Policy on Education, 1986 and modified in 1992, education is viewed as fundamental to nation's all round development - material as well as spiritual.

### **Spiritual Intelligence:**

A new dimension of human intelligence has been presented by Dana Zohar and Ian Marshall and linked the term "SQ" that stands for **Spiritual Intelligence** : SQ becomes the fundamental basis of effective usage of EQ and IQ as being argued by people. It is also been denoted by people as the intelligence of the soul. One's IQ comes from the reasonable and logical thinking while EQ derives from the associated habit-bound and pattern awareness emotional thinking.

**“spiritual Quotient (SQ) is the ultimate intelligence; this is the intelligence used to solve problems of meaning & value.” - Dana Zohar and Ian Marshall.**

Emmons (2000) defines spiritual intelligence as "the adaptive use of spiritual information to facilitate everyday problem solving and goal attainment". Vaughan (2002) considers that Spiritual intelligence is concerned with the inner life of mind and spirit and its relationship to being in the world. Although many definitions have been proposed, King (2008) described Spiritual intelligence as a set of adaptive mental capacities based on non-material and transcendent aspects of reality, specifically those which are related to the nature of one's existence, personal meaning, transcendence, and heightened states of consciousness. King further proposes four core abilities or capacities of spiritual intelligence:

1. **Critical Existential Thinking:** The capacity to critically contemplate the nature of existence, reality, the universe, space, time, and other existential/metaphysical issues; also the capacity to contemplate non-existential issues in relation to one's existence (i.e., from an existential perspective).
2. **Personal Meaning Production:** The ability to derive personal meaning and purpose from all physical and mental experiences, including the capacity to create and master a life's purpose.
3. **Transcendental Awareness:** The capacity to identify transcendent dimensions/patterns of the self i.e., a transpersonal or transcendent self of others, and of the physical world (e.g., non-materialism) during normal states of consciousness,

accompanied by the capacity to identify their relationship to one's self and to the physical.

4. **Conscious State Expansion:** The ability to enter and exit higher states of consciousness. e.g pure consciousness, cosmic consciousness, unity, oneness and other states of trance at one's own discretion as in deep meditation, prayer, etc

Spiritual intelligence refers to various skills and abilities that empower you to live in harmony with your highest values and move unswervingly towards your life goals.

- with a **Heart** that is open and flexible,
- with **Enthusiasm**,
- with **Awareness** of your present experience and of the presence of the divine,
- with **Respect** for and service to others and the world, and
- guided by the **Traditions** of your highest values and ethics.

### **Integration Of Spirituality In To Teacher Education**

Spiritual intelligence involves discernment, domain mastery, facilitation of spiritual thought, and creative expression through art, music, and other symbolic maps (theology and doctrine). Problem-solving and application to decision-making and life situations is an indicator of spiritual intelligence.

- Zohar & marshall (2000) have proposed seven practical steps to better Spiritual Quotient (SQ) include:
  - Become aware of where I am now

- Feel strongly that I want to change
- Reflect on what my own centre is and what my deepest motivations are.
- Discover and dissolve obstacles
- Explore many possibilities to go forward
- Commit myself to a path
- Remain aware that there are many paths.

How does the teacher educator foster spiritual intelligence in students . He is in a unique position to facilitate domain proficiency. There is no substitute for learning well. Students must learn to internalize the domain; it's symbolic elements, rules, and notation. According to Vaughan (2002), refining any form of intelligence requires training and discipline, and spiritual intelligence is no exception.

#### **Problem -based learning (PBL),**

Teacher education includes techniques whereby teachers are able to function beyond textbooks and also able to design teaching materials that can emphasize the affective domain ,plus decision making and problem solving skills. Emmons (1999) asserts that persons who demonstrate a capacity for heightened consciousness of transcendence possess spiritual intelligence. Spiritual intelligence empowers the individual to cope with and solve problems while demonstrating virtuous behavior such as humility, compassion, gratitude, and wisdom. Thus, he describes spiritual intelligence as a cognitive ability to envision unrealized possibilities and transcend ordinary consciousness through applying basic thought processes that have both temporal and existential meanings.

#### **Learning in groups (cooperative learning.)**

According to Jacobs and Ratmanida (1996), learning in grouping is more affective to stimulate

and strike the values such as motivation, confidence, interest to study, as well as cooperation. Teacher education institutions have a system of tutorial groups wherein every tutorial group holds a meet weekly and conducts morning assemblies to teach the students to uphold moral values and their devotion towards God. According to Goleman (1995), to gain success at school the students should have the confidence, curiosity, intentionality, self control, relatedness, capacity to communicate, and the ability to cooperate. These traits are all aspects of spiritual intelligence. The development of spiritual intelligences is more subjective and abstract. Thus, the contribution and the involvement of the tutorial group -in -charge is very important in realizing this aspect.

#### **Conclusion :**

According to Vygotsky (1978), the mutual construction of knowledge is fundamental to the development of human cognition. The social construction of knowledge also occurs in the classroom in teacher education. "If we regard truth as something handed down from authorities on high, the classroom will look like a dictatorship. If we regard truth as a fiction determined by personal whim, the classroom will look like anarchy. If we regard truth as emerging from a complex process of mutual inquiry, the classroom will look like a resourceful and interdependent community. Our assumptions about knowing can open up, or shut down, the capacity for connectedness on which good teaching depends." Teacher educator allows his students to construct knowledge by sharing previous experiences mutually and inspires them to use constructivist approach and adopt experiential strategies in their teaching during teaching practice. In this way he also trains his students in student

centered methods which they will incorporate in their teaching as future teachers.

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## 21 Effect of Yoga on personality development of B. Ed. Students

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**Abstract :** If God appears on the earth and asks a school boy/ girl, what do you want? I want nice dress, School bag & sweet sweets. If God asks same question to a young adult, what do you want? I want a smart phone. Why do you need a smart phone? It'll help me to contact my beloved & I'll be happy then. If God ask the same question to an old man, He will respond that daughter in law is not taking care; I do not want to live with my son & his family. I wish to rent new bungalow & we will live in happy. Finally if God ask another person what do you want? I wish to stop quarrel between me and my wife, If God reask why you want to stop quarrel? He answers that I want to live in peace. The demands are relative & varies from person to person, beautiful spouse, luxurious Bungalow besides a filmstar, Luxurious Car, Improved & pleased relationship, Permanent job, Money, ultramodern amenities, trendy lifestyle, name & fame??? After getting this and that I will be happy.

**Introduction** After getting all & all If God asks to the richest of the rich & poorest of the poor what do you want? Answer will be ending to happiness, satisfaction and peace. God can fulfill your needs and cannot fulfill your greed. People are becoming greedy, selfish, corrupt, ego centric, Eat drink are becoming life routines of younger generations. No one is completely happy with the self & others. Worldly pleasures & Materialistic desires are creating individual and social unrest. Happiness, satisfaction, Ananda, Permananda internal, not external. It understanding Ko Ham? Who am I? understanding the ultimate divine significance of life. Understanding the paths of manavdharma. It is resolving conflicts within than outside, it is keeping secure distance from MAYA. People are in search of happiness, satisfaction & heavenly pleasures. It is true that Heaven & Hell are not geographical places but states of individual mind. Peace Education & health is more internal and concerned with purity of mind, purity of thought, and purity of deed. It is understanding spiritual dimensions of life than material dimension of life. Our education system fails to resolve the problems of survival, agitation, crime extremism and degradation. Health & physical Education, MAYA, Manavdharma, Curriculum, Yoga Education, B.Ed. Course, extrinsic, Pedagogy, holistic personality development. Materialism. Ashtanga yoga, Asanas, Pranayama.

**Objectives:** (1) To conceptualize nature, functions of Health & Physical Education (2) To explain the methodology and pedagogical skills of P. E/ yoga (3) To

examine the effects of yoga workshop to maintain good health of B. Ed. Students.

### Methodology

The researcher is the Yoga teacher who had been teaching Yoga to B. Ed. students since 2007. He is working as an Assistant Teacher for Patanjali Yogvidyapeeth, Haridwar and conducting Yoga sirs for Trainee Teachers, Gramsavaks & masses in Gargoti Village. He provides sustainable yoga training through Ashtanga yoga philosophy of maharshi patanjali as well as yogvidyapeeth curriculum of Viswasrao Mandlik Guruji & wholeistic yoga practice which benefited to cure many physical & psychological disorders of trainee teachers & masses. However he decided to quantify and qualitatively magnify the effect of Yoga practice on healing psychophysiological disorders and healthcare and personality development of B. Ed. Students. The main aim of this study is to train students for daily practice on important Asanas (sitting postures, standing postures and sleeping postures) Pranayama and beginning and concluding Prayer. The researcher observed that many student teachers were suffering from seasonal diseases, lifestyle diseases, dilatory diseases, stress, Anxiety, depression, undue career fear, Anger, insecurity in life, inferiority complex, lack of decision making power, unnecessary care, study problems, concentration problems, homesickness, cold & fever, headache, migraine etc. Overall Yoga practice through yoga sirs helped students to maintain peace of mind and body.

**(I) Introductory Phase** In the present study researcher delivered lectures on Ashtanga yoga to 27 B. Ed. students



through orientation encompassing History of yoga, Aspects of Yoga, Types of Yoga & ancient Indian Yogic practices etc. The researcher had studied the present status of student's health, daily Exercise and dilatory habits & health consciousness by using Health card, Yogic testing method, Stress test, M. I. Fruits of My life Tree test etc. The obtained data had been categorized and general as well as particular Postures (Asanas), Pranayama, items had fixed for two weeks yoga sibir (workshop). The researcher demonstrated Asanas & pranayama and helped students to practice yogic exercise as per the schedule.

## (II) IMPLEMENTATION PHASE

In this phase the researcher conducted one week yoga sibir in first term & second term of the course. Duration of Yoga training was one-half hour per day from 8.00 a.m. to 9:30 a.m. Students are trained to practice yoga everyday on their own. The researcher took weekly and monthly follow up. Students had regularly practiced asthanga yoga. During yoga sibir researcher recorded the changes & progress of health by asking questions & self experience after the practice of a particular Asana and pranayama on general disorders and particular health disorders. Finally the P. E. Test, health status experiences & psycho physiological response had been qualitatively observed & recorded. The Topics covered through this workshop were:

### Major Findings

1 Heavy B. Ed curriculum, tremendous competition, uncertain career opportunities, tension of completing practical, tension of viva-voce, were the causes of stress of students. Breathing technique, relaxation technique & Savasana helped students to reduce stress & tension. Yoga helped to resolve conflicts within and outside.

2 Some students were the patients of piles, joint pain, back pain, muscular problems who showed considerable decrease in these physiological problems

3 Students expressed that Savasana, Yognidra, relaxation techniques helped to achieve shanti to the mind & body.

4 It is experienced that Tratak helped to achieve concentration on studies of subjects.

5 it is revealed that Anulomvilom Pranayama completely cured the problem of migraine & headache of female students.

6 Yogic practices helped to develop intellectual capacity & made students physically active alert & responsible human being.

7 The allied effect of yogic practice was found on academic achievement of students.

8 Yoga helped to improve decision making power of B. Ed. Students

9 Yoga improved the relationship among students, it developed compassion and cooperation as a basic human value among the students

**Conclusion** Yoga is a holistic science which promotes perpetual development of personality integrating all aspects such as physical, mental, emotional and spiritual. It has the potential to heal body at every level. It is the well known science of self development. It is the science of joining Atman & permatma, individual & the cosmos, it brings unification of thought and action, organization and respiration. Yoga is the oldest science discovered & practiced by Maharshi Patanjali before 5000 years in India. Maharshi Patanjali developed this art of complete living called Asthanga yoga. The Government of India and the Honourable prime minister of India, Narandra Modiji in a address at United Nations proposed to practice this golden science all over the world. Prime minister emphasized to accept yoga for the

harmonious development of society, nation and the whole world. The Govt. proposed the proposal in the General assembly of United Nations in the 69<sup>th</sup> session of United Nations, the general assembly adopted by acclamation draft Resolution a/69/L.17 with a record of 177 countries cosponsoring it on 11 th December 2014 . The Resolution granted to celebrate International day of Yoga on 21<sup>st</sup> June each year. The Central Government, all the State Governments, Department of Education and all masses of India celebrated international yoga day on 21th June 2015. More than 177 world countries had celebrated this day by practicing Yogasanas & pranayama all over the globe. The credit of popularizing Yoga as a science to heal deadly diseases goes to Baba Ramdevji Maharaj of Patanjali Yog Vidyapeeth, Haridwar. The world from Egypt to Norway & Belgium to Japan has been practicing Asthangyog as per the auspicious guidance of Baba Ramdev maharaj in the Yogsivers all over the world. Corers of people in the world cured their diseases and made their life happy& peaceful.

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## 22 Concealed Digital Evaluation System

*Ms. Jayshree Premji Shah*

Technology can make lifelong learning a reality. It is becoming progressively sophisticated, which has several positive effects, though on the other hand the complex technology makes some learners feel uncomfortable. Evaluation is a systematic determination of a subject's merit, worth and significance using the criteria governed by a set of standards. It is a necessary evil as it helps to ascertain the degree of achievement in regard to the objectives of results of any such action that has been completed.

**Key words:** Concealed, Digital, Evaluation, System.

Currently, there are various types of evaluation systems available. Mostly the evaluation of exam papers is done manually for subjective type and optical mark recognition assessment is being used for objective type. Slowly the evaluation process is undergoing a change with the development of technology in this field. The modern evaluation is becoming the foundation of the efficient and cost-effective.

Initially the evaluation of exam papers was done manually for subjective type and optical mark recognition assessment is for objective type evaluation is followed.

The proposed system completely automates the evaluation system. Answers script evaluation done at present by manual method is at times inaccurate due to time constraints, large volumes of evaluation, monotony due to reading the same questions and answers repeatedly and also due to stress.

### Need :

The proposed system helps in

1. Paperless examination evaluation system
2. Free from the mood swings/ incomplete manual evaluation.
3. Immediate and accurate Results. Marked answer sheets can be made available to candidates immediately.
4. Eliminating incorrect totalling, unchecked questions and incorrect awarding of marks as errors will be indicated.
5. Reducing manual workload, paper management, costs, effort and time.
6. Improving reliability and impartiality.

**The procedure for is as follows:**

1. Answer scripts are bar-coded and then scanned with help of high speed scanners. The scanned answer scripts are then uploaded onto the server.
2. Uploaded answer scripts are then sorted out according to their subject code and scheme.
3. Evaluator logs in through his username and password given to him. After login the Evaluator gets the answer scripts according to his subject.
4. The Evaluator selects the answer script and starts evaluating.
5. All questions attempted by the students are corrected irrespective of the number of questions required.
6. Software selects the best of the questions i.e. those with maximum marks.
7. Software then calculates the total marks and returns the same to the Evaluator.
8. Finally the results will update according to the specifications.

### Scope of Work for Computer based Evaluation:

This has been categorized in four broad phases:

#### A. Pre-Evaluation Phase

1. Designing the evaluation plan and evaluation process
2. Complete Security management processes (Physical and IT and servers etc.)
3. Evaluator handling process
4. Other related processes involved for evaluation
5. Training of Head Examiners /Examiners and confidential staff
6. To prepare and provide documentary manuals for all processes for safe and secure Conduct of Evaluation, to be followed along with rules for contingency and exception.
7. Handling emergency Procedures.
8. The software should have role base security mechanism and proper industry standard authentication like Digital Signature, biometric, etc. and authorization mechanism should be implemented in the system.
9. To provide and setup secured software for Authoring and completing evaluation process.
10. Answer Books in sealed packets will be handed over to the service provider for Proper accounting of Answer Books and slips and processing leading to Computer based Evaluation.
11. Scanning should be done without cutting the spine of the Answer Booklet by employing the Book

Scanners. All the pages of the booklet should be accounted for and identified with the booklet ID number.

***Document scanners with ADF (Automatic Document Feeder) are not allowed for scanning.***

12. The scanned answer books to be securely made available in the evaluation centres by the service provider.

13. Answer Books to be opened in presence of the representative of the institution.

14. Answer books are required to be handed over to the authorized person of the institution once their scanning is completed in the same packet and same order they were handed over to the service provider's representative.

15. To provide suitable assessment scoring system or software as per the requirement of the institution.

16. Sufficient number of scanners and required expertise manpower should be provided so as to complete the entire work within 10 days. However the scanning activity may begin as and when the exams are in progress (if required from the 3rd day of examination).

17. The evaluation progress subject wise/ Evaluator wise on a daily basis to be made available to all the concerned authority.

#### **B. Evaluation Phase**

1. To securely transmit, download, install and implement evaluators / evaluation details received from institution.

2. To provide unique username/ password to the evaluators at the evaluation center.

3. To arrange/provide adequate displays and provide required instructions/ information to the evaluators at the evaluation Centre.

4. To maintain complete log of all activities of evaluators during the course of examination to enable complete audit ability of the evaluation process.

5. To calculate marks obtained by each candidate as per requirement of the institution.

6. A device system for monitoring and supervision of evaluation Center activities (Evaluator level) by the competent authority.

7. To transfer/export the data in encrypted format including raw scores data from local server to Central Server keeping view sensibility of the data as referred to Information Leak Detection and Prevention.

#### **C. Post Evaluation Phase**

##### **To share the evaluation results**

Supply of tabulated marks and all reports generated through the software in form of hard and soft copy as per format approved by the institution.

##### **Features required in e-Valuation Software**

1. Provision for automatic back up of evaluated answer books.

2. User account management i.e. addition, modification and deletion of examiner and head examiner.

3. Answer book management i.e. mapping of answer books.

4. One time Security setting for setting of password.

5. Provision for marking of question by examiner as evaluated, optional, mark for review or not attempted.

6. Evaluated check box to ensure that examiner has visited each and every page of an answer script.

7. Examiner comment box for each question.

8. Provision for zooming in/out of answer scripts for proper viewing.

9. Provision for skipping of an answer script by an examiner if the same is in different medium or not properly scanned, with regulatory remarks.

10. Provision for reviewing of any answer script by the head examiner.

11. Provision for viewing of evaluated answer scripts by the head examiner.

12. Real-time based dashboard for monitoring of activates/progress of work at higher level

(i) Daily and consolidated examiners' attendance

(ii) Daily and consolidated Head examiners' attendance

(iii) Daily and consolidated Subject-Medium wise examiner details

(iv) Daily and consolidated Subject-Medium wise head examiner details

(v) Skipped Answer script Details (till date)

(vi) Overall Subject-Medium wise Evaluation (till date)

13. Providing password to each and every examiner and head examiner on one time basis

14. Date wise working hour's report of Examiners and Head Examiners

15. Availability of answer scripts, question paper and marking scheme on the computer nodes of each and every head examiner and examiner.

16. Enabling of security settings for head examiners authentication.

17. Provision for forgotten Password and secret question settings.

18. Annotation of each and every question and page of answer scripts.

19. At the end of the day, marking reports of every examiner to know the number of answer scripts evaluated per day and the time taken to complete the given assignment.

20. Provision for subject/medium wise selection of answer script.

21. Provision for configuration of multi-lingual question paper.

22. Examiners and Head Examiners feedback.

23. Provision for day wise re-evaluation based on evaluation feedback.
24. Setting of minimum time of evaluation of an answer script to avoid fast and possibly inaccurate evaluated answer script.
25. Setting of limit/ceiling for maximum no. of scripts to be evaluated by an examiner.
26. Mandatory provision for evaluation of 10% answers scripts by the Head Examiner.
27. Provision for view of answer scripts after the completion of evaluation
28. Provision for review of answer scripts subject and medium wise by the Head Examiner of the subject and medium to which he/she is mapped for limited to 10% of the allotted subject.
29. Printing of answer script(s) with annotation
30. Provision for auto uploads of marks file.
31. Evaluator and Reviewer hands-on Training
32. Provision of revisiting the Answer Script on the same day by Evaluator
33. Provision of Control on Evaluator / Review logging time in the system to prevent misuse of evaluations
34. Step-by-step Marking of a question
35. Provision of display of timer to evaluator for monitoring of time taken to evaluate an Answer book
36. Any kind of deviation in achieving the fixed target would be notified to the institution.

#### **BOON OR BANE:**

1. It is a huge cost saving system. There is saving on stationary, travel, dearness allowance for Evaluators and the other personnel. Also cost involved in the movement of answer scripts is also saved.
2. In the predigitalised era, there were chances of error in coding and decoding, tabulation and compilation of marks and also in compilation of results.

This system is unique and has less than 0.01% margin of error unlike the conventional system where the margin of error is high. It enables in eliminating mistakes to a large extent and completely eliminates the need for retotaling.

3. Scanned copy is sent to Evaluators as a result of which they need not come all the way to the correction Centres. They can correct in the leisure of their college staff rooms. They will just be having a PDF document and allot marks accordingly.
4. The technology is so sophisticated that the chance of losing sheets, while cutting the thread for scanning does not arise at all. Any Evaluator will look for full answer sheet and if he doesn't find the complete sheet, he will definitely revert back to concerned authorities.
5. The system helps in curbing mal-practices connected with the present manual correction system.

Finally, occurrence of errors is not due to technology, but due to human error and negligence in using technology

## 23 Development of Awareness a Environmental Concepts among School Students through Constructivism

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### Introduction

'Love of nature' is not a modern phenomenon. It existed from things, so said Plato. Human being loves nature and nature in turn nourished him. Man serves and society in turn protect them is inherent. These basic precepts envisage the protection of environment and preservation of humanity. Environment gives us abundant & diverse flora & fauna of the planet. In this scientific era for the ultimate development of environment from the very grass root level i.e. from infancy to adulthood level through various instrumental structure such as through home itself, from school, from society etc.

This study is based on such thinking about children's knowledge and conception about the environment. The conception and assumption of children's are unfortunately, often ignored when developing curricula or lessons of various subjects. Children in the primary grade levels indeed come with their own conception of what the environment is and what it involves. Often however, we as educators do not have a ready sense and access to the learners' conception and assumptions about the environment.

This study also sought to understand what the origins of children's awareness & conception are and what factors seem to sustain these conceptions. It can also be observed that most of the environmental degradation that occurs today is the result of the failure of our society and educational system to provide citizens with the basic understanding and finally, from a constructivist perspective, the importance of paying attention to children's conception cannot be over-emphasized. Constructivism is one learning theory, whose basic tenets include among others;

1. Introduction of a real life-problem by the learner or the educator to solve.
2. Learner r-centered instruction facilitated by the teacher.
3. Productive assessment and demonstration of learner process.

Constructivism in teaching & learning for developing awareness about environment establish what the children's knowledge & conceptions of such critical concept as environmental protection, pollution, conservation & recycling are? Environmentalist **John**(2004) support the importance of paying attention to pollution & finding solution to the problem. Next on the priority list of environmental concept & problem is conservation. **Magadlela**(2004) environmentalist of sound Africa, argued that conservation is the most importance.

Similarly **Medha Patker** also supports the importance of paying attention to conservation & finding solution to the problem by indication that conservation can & must play a central role in the future ,If we are to survive & thrive within our existing resource limitations. **Cherif**(1995) mention the fact that recycling is cheap & certainly healthy for human & other species.

### Significance of this investigation:

Children who are unable to express in their own word, how for an example recycling of waste material happens & what its economic implication are. Young children need to know some of these concepts because knowledge of environmental concept & issues is necessary to maintain environment quality.

Environment awareness & responsibility is a key factor that has to be taught in our school so that children can make the right choices to protect the environment. Many children who are unable to express environmental concepts ,words, how for an example recycling of waste material happens & what its economic implications are ?etc

This is true with other environmental issues such as plant, water& animal conservation, pollution, recycling & environmental degradation could lack of understanding be due to the fact that teaching has not been based on children's own thinking about the different environment phenomena? Has knowledge

been reduced only to school knowledge in environmental education without having challenged the children's everyday understanding? If we as educators want to help children obtain extensive knowledge of the environment, we ourselves must know more about children's ideas about different phenomena in order to learn more about their starting point of learning. Only then shall we be able to create teaching & learning situation in which children's ideas will be challenged. It is for this reason that researcher opted this research about children's knowledge, awareness & conception about the environment. To develop better citizenship through environment education through this research 'Teacher/researcher is trying to built&shape our surrounding based on environment , We would lead a healthier tomorrow to our children's increased awareness, resourcefulness & enterprise.

This will also help teachers to bring local environment challenges into the classroom for discussion & problem solving by various means such as 'Drama, Role play, Project Work etc. instead of just rote memorizing about environment topic from the school children.

#### Title of the Study

### DEVELOPMENT OF AWARENESS ABOUT ENVIRONMENTAL CONCEPTS AMONG SCHOOL STUDENTS THROUGH CONSTRUCTIVISM

#### Operational Definition of the Terms

Study :The time devoted & attention pay to gaining knowledge of an taken subject

Awareness : Understanding of subject concept its utilities.

Sustainable : Keeping in mind future need maintaining the available resources and its fruitful uses.

Environment: The combination of external physical condition & social intellectual condition for development & survival of individual

#### Assumption

- 1) Awareness program will help for effective measurements of use of sustainable development of environment.
- 2) Students will become active because of various small environmental project work

#### Hypothesis:

There is no significant difference in the awareness of sustainable development of environment before and after the arrangement of program of the awareness of sustainable development of the environment.

#### Variables:

- 1) **Dependent Variables**- Students grasping and gaining marks in test.
- 2) **Independent Variables**- Awareness program for sustainable development of environment
- 3) **Intervening Variables**- Previous knowledge, program duration.

#### Scope of Research:

This research is related to sustainable development of environment which encompasses all concepts related to environment.

#### Limitations of Research:

- This study is limited only for primary students of 5<sup>th</sup> Standard.
- Only 30 students of 5<sup>th</sup> std are involved in this study.
- This study is limited to C.R.S. school at Govandi.
- This study is limited to English medium school only.

#### Research Method:

Development: Improvement shown in the thought for over all uses of resources. In this Study researcher adopted experimental method. In this study confirmation or rejection of hypothesis is necessary, creating awareness of

sustainable development of environment among 5<sup>th</sup> Std student was the vital part of the research, so researcher prefers experimental methods and experimental design for the present study.

### Research Design:

Pre-test Post-test single group design is used in this study.

### Research Sample

One primary school of English medium in Govandi was selected by purposive sampling method. 15 girls and 15 boys were selected by purposive sampling method. Only 30 students were present in all activities.

### Research Tools:

To carry out this study on the awareness and conceptualising sustainable development of environment among school children following tools have been used

- 1) Interview 2) Observation 3) Questionnaires

All these 3 tools developed by researcher and established their reliability and validity. Researcher organised pilot study on a group of 10 students.

### Environmental Activities:

A Researcher designed various environmental activities and then finalised 6 environmental activities with the help of experts for development of awareness among 5<sup>th</sup> Std students about sustainable environment.

Following are environmental activities confirmed and implemented by researcher:

- 1) Maintaining the Balance
- 2) Environmental effects of Biodegradability of plastic bags
- 3) We can change the world challenge
- 4) Look and return
- 5) Compost corner-Recycling process
- 6) Reality testing-Ideas that focus on environmental sensitivities

With the help of students co-operation, interest and enthusiasm researcher conducted above activities in a school as per scheduled time.

### Resources used for Activities:

Information collected from internet, various books related to environment education, cuttings from newspapers, diagrams, charts, role plays, dramatization, experts, competitions, news of environmental friendly gifts, etc. are the resources used in this study.

### Research procedures:

This study is conducted in 3 phases:

- 1) Preparatory phase  
In this phase, researcher has collected information about various environmental concepts. Researcher made planning and pre-preparation about environmental activities. Researcher prepared data collection tools and established its validity and reliability under the guidance of experts.
- 2) Implementation phase:  
In this phase researcher implemented the above environmental activities in a school on 5<sup>th</sup> Std student. Before implementation researcher has completed required pre-preparations
- 3) Post phase:  
After completion of all environmental activities of awareness program, researcher conducted tests and collected data from students.

### Data collection procedures and strategies:

After permission granted by school, researcher conducted above activities in the said school and collected data from the students with the help of questionnaire. At the time of administration of activities, researcher noted down some observations. Researcher analysed collected data and drawn some conclusions.

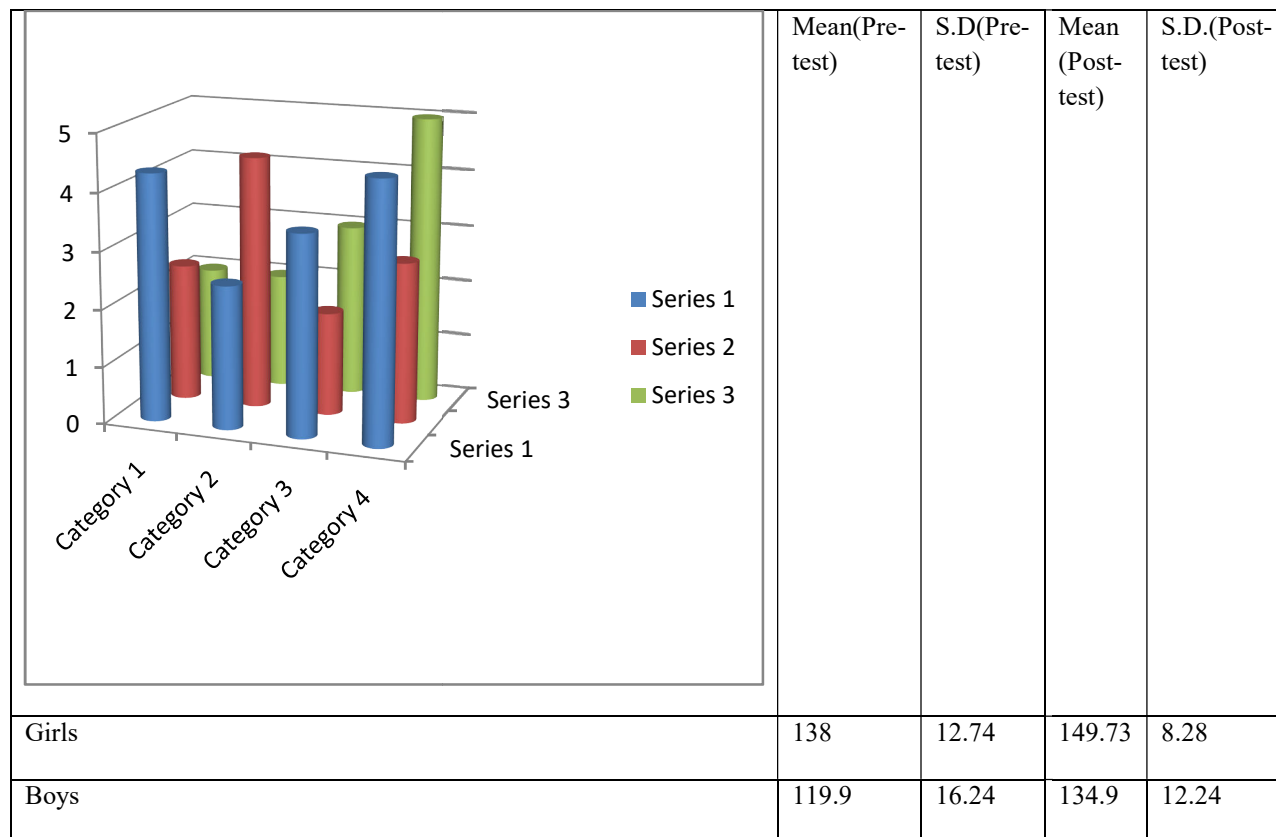
### Data Analysis:

To come at the end result of the pre-test and post-test, researcher has used various statistical tools and



techniques such as Mean, S.D, and 't' test. The analysed data presented in the following table:

Table showing Mean and S.D. of pre and post test of boys and girls



#### Analysis:

In pre-test Mean of girls score is 138 whereas boys obtained 119.9 average score in pre-test. In post-test the score was increased, it is 149.73 in case of girls and 134.9 in case of boys. In pre-test the S.D. of girls pre-test was 12.74 and in case of boys it was 16.24.

In post-test S.D. of girls and boys was 8.28 and 12.24 respectively.

#### Conclusion:

The average marks obtained in case of boys as well as girls were increased in comparison of pre-test. Its only because of effectiveness of awareness development program.

Table Showing hypothesis testing

Table Value		t-value of post-test	
Degree 0.05	Degree 0.01	Girls	Boys
1.70	2.467	2.99	2.86

At the end of the study the null hypothesis was rejected. There is no significant difference in the

effectiveness of awareness of sustainable development of environment program. So the

development program prepared by researcher was proved effective.

**General Findings:**

- 1) Comparing the girls and boys pre-test and post-test Mean scores, it was seen that, girls scored higher than the boys. It was found that girls score was increased by 11 whereas boys score was increased by 15.
- 2) Both girls and boys are better in their EE development program.
- 3) Students expressed positive views with environmental protection during interview discussions.

**Recommendations:**

- 1) The information taught at the school should be aimed at increasing sensitivity and awareness about environmental issues.
- 2) Teacher should organise Activities such as cleaning campaigns, recycling, tree plantation in schools and communities.
- 3) Parents should learn and develop environmental habits and hobbies and

activities by which they teach their children environmental friendly future citizens.

- 4) Teacher should also make available the situation in order to develop children's knowledge and conceptions about the environment.

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## 24 Impact of Whatsapp in Social issues Awareness

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### Abstract

Today mobiles have reached to a wide population. Mobile Learning comprises of learning that takes place through mobile. We can use WhatsApp on mobile or computer. Purpose of this research is to find impact of WhatsApp in social issues awareness. For this research 80 students teacher were selected from two B.Ed. colleges in Mumbai and Panvel. The data was collected with the help of a questionnaire. Researcher found that because of WhatsApp the student teachers sharing and discussing the richest range of resources and use mobile for sharing information and discussing social issue beside communication purpose.

**Key words:- WhatsApp, Social Issues**

### Introduction

Mobile is one of the fastest mode of communication. Every student has mobile and well versed with the use of mobile. Mobiles can be used for e-learning.

E-learning is considered to be a new concept covering a variety of applications, learning processes and learning methods. It includes a variety of technological applications, processes, audio and video. A well-structured learning environment must facilitate the user in connecting different tools to build, share and improve his/her level of knowledge with a variety of learning models. WhatsApp can be used a connecting tool to facilitate e-learning.

Students use mobile communication based text messaging and instant messaging. Majority of the educational institutions are willing to use both text and instant messaging for educational purposes. The

use of instant messaging for educational purposes and its popularity and support for mobile devices within the student population are great and that the majority of students benefit from texting through mobile learning devices.

WhatsApp was incorporated in 2009 by Brian Acton and Jan Koum, both former employees of Yahoo!. WhatsApp Inc., based in Mountain View, California, was acquired by Facebook in February 2014. By February 2016, WhatsApp had a user base of over one billion, making it the most popular messaging application today.

According to Wired Magazine contributor Cade Metz, WhatsApp Messenger is a proprietary, cross-platform, encrypted instant messaging client for smartphones. It uses the Internet to make voice calls, video calls, send text messages, documents, PDF files, images, GIF, videos, user location, audio files, phone contacts and voice notes to other users using standard cellular mobile numbers.

Thus, the researcher hopes to examine the potential of WhatsApp, an instant messaging client, for learning

### Need of the Study

Almost everyone, including students, have a mobile. Frequently, both parents are working through the day thus making cell phones vital to communicate with their kids since a young age. Cell phones serve many purposes today, including being a portable computer that handles all out personal data. Thus, researcher intended to use cell phones for something productive

by using it as a teaching aid. Researcher hence chose the medium of WhatsApp to harness the productivity potential of cell phones.

#### Objectives of the Study

The purpose of research is to gauge the productivity potential of cell phones for educational discussions. For this, the researcher had the following specific objectives in mind as mentioned below:

1. To know how educational discussions take place via Mobiles and subsequently WhatsApp.
2. To know the views of student teacher on Mobile and subsequently WhatsApp as a medium of learning.

#### Scope and Limitation of Study

Following are the scope of the study:

1. This study is about how educational discussions take place via Mobiles and subsequently WhatsApp.
2. This study includes views of student teacher on Mobile and subsequently WhatsApp as a medium of social issue awareness.

Following are the delimitations of the study:

1. This study is restricted to two B.Ed. colleges in Mumbai and Panvel.
3. This study is restricted to student teachers using WhatsApp as a medium of social issue awareness.

#### Methodology

To achieve instructional objective researcher followed the following steps:

1. Researcher chose some topics of social importance such as internet addiction, health and hygiene, hacking, use of social media, Facebook etc. for discussion.

2. Researcher created WhatsApp Groups of student teachers, decided the objectives of group and instructed the student teachers not to post anything not related to the allotted topic of social importance for discussion.
3. Researcher then collected information about the views of student teachers regarding use of WhatsApp with questionnaires.
4. Researcher analyzed the collected data and drew results subsequently.

#### Sample

The researcher selected two B Ed colleges in Mumbai and Panvel. From this 80 student were randomly selected for research.

Tools used:-

Data was collected with the help of Questionnaire and messages posted by student- teacher.

Questionnaire

Questionnaire was drafted to collect views of student teacher regarding educational use of mobiles and subsequently WhatsApp.

#### Findings: -

1. Portability: A mobile is easy to use. Anyone can carry mobile easily anywhere.
2. Accessibility: It is fairly user-friendly and accessible too. Everyone, from kid to senior citizen should be able to handle a mobile on average. Special training for handling a mobile is not required.
3. Cost: Cell phones are affordable to the masses. Underprivileged can have access to mobiles fairly easily with free WIFI and net pack.
4. Instant Messaging: Using WhatsApp, students and student teachers and teachers

can easily communicate with each other instantly. WhatsApp Groups were useful to keep them updated and more resourceful and in touch with social activities.

5. Mobile as a device to discuss social issue: All student teachers actively discussed social issues via mobile as a teaching aid. Student teachers resourced different clips, pictures, sounds related to issue allotted. Mobile could be used positively, and productively, for the teaching learning process
6. Student's participation: All students participated actively. Discussions related to the social issues were positive and open with free exchange of the thoughts and ideas.
7. Difficulty faced by student teacher: Initially student teachers were not comfortable or habitual to use WhatsApp for the teaching learning. Initially the discussions were not focused on the social issues as the student teachers kept conversations more casual and forwarded span and/or unrelated messages on the Group as they did with other WhatsApp groups.
8. How Researcher tried to overcome these difficulties: The researcher instructed and policed the student teachers not to deter from the social issue allotted time and again.
9. Nature of Messages: Student-Teachers messaged and forwarded videos, diagrams, audio clips, text messages, cutting of newspaper article, information related to the social issue. Links to prominent newspapers, websites and related research papers were circulated and then debated upon.

10. Was there an increase in confidence: Most of the student teachers were aware of the functions and utilities of mobiles but they knew more about the same after the study.

11. Other uses of WhatsApp suggested by student teachers:

- Taking photographs of different school activities and sharing them.
- Informing students about changes in schedule of lectures and activities instantly via WhatsApp.
- Sending important links, pictures or materials

12. Any other suggestion for effective use of WhatsApp: Motivate teacher to use mobiles as a teaching aid when appropriate.

### Conclusions

1. Students teacher liked to learn and discuss about a subject or a social issue via WhatsApp
2. Student-teacher actively participated in discussions and debated upon related videos, audios, diagrams.
3. Student-teachers were happy to use mobile and WhatsApp for learning.
4. Learning and teaching could be more effective if aided with mobile.

Mobile phones and WhatsApp could add a completely new dimension to the teaching and learning process due to accessibility and their commodity status. WhatsApp being a proprietary, cross-platform, encrypted instant messaging client for smartphones which uses the Internet to make voice calls, video calls; send text messages, documents, PDF files, images, GIF, videos, user location, audio files, phone contacts and voice notes to other users

using standard cellular mobile numbers is highly popular with people who own a smartphone. WhatsApp thus has potential for being learning tool 24 hours a day and creation of an environment for discussion and exchange on serious issues or topic which may not be possible in a classroom environment otherwise.

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२५ “बी.एड.अभ्यासक्रमाच्या तृतीय सत्रातील छात्रसेवाकाळ उपक्रमात येणा—या अडचणींचा शोध घेउन उपाय योजना सूचविणे.

श्री.एस.ए.सोनवणे

सहा.प्राध्यापक

शा.अ. महाविद्यालय पनवेल

मो. ९९८७०८९५०

#### सारांश:

बी.एड. अभ्यासक्रमात छात्रसेवाकाळ सरावत्मक अनुभूतीसाठी विशेष महत्वाचा मानला जातो.शाळांमध्ये सेवा करण्यापुर्वीच एक वैशिष्ट्यपूर्ण अनुभवकृती छात्रसेवारूपाने विद्यार्थ्यास प्राप्त होते. मुंबई विद्यापीठाच्या द्विवर्षीय बी.एड. अभ्यासक्रमात एकुण चार सत्रांचा समावेश असून प्रथम सत्र वगळता इतर सर्व सत्रात छात्रसेवाकाळाचा समावेश केलेला आहे. छात्रसेवाकाळाचे योग्य नियोजन व पुर्तता करण्याची जबाबदारी महाविद्यालयांची असते अनुभव संपन्न छात्रसेवाकाळाच्या नियोजनात महाविद्यालय,शाळा,शिक्षक,विद्यार्थी, छात्रअध्यापक यांना समस्या निर्माण होउ शकतात अशा समस्या सोडविण्याच्या उद्देशाने प्रस्तुत संशोधन हाती घेतले होते प्रश्नावली, पदनिश्चयन श्रेणी व निरीक्षण या सारख्या तंत्रांनी वस्तुस्थिती दर्शक माहिती सह शिक्षक, छात्रअध्यापक यांचेकडून प्राप्त करण्यात आली होती. व प्रत्यक्ष भेटीतून निरीक्षणांची नोंद घेण्यात आली होती.प्राप्त माहितीच्या विश्लेषणा आधारे निष्कर्ष व समस्या निराकरणार्थ शिफारसी सुचविण्यात आल्या होत्या.

#### प्रास्ताविक

सेवापूर्व शिक्षक प्रशिक्षणात प्रात्यक्षिक कार्यांतर्गत छात्रसेवाकाळ हा एक महत्वपूर्ण उपक्रम मानला जातो.एक वर्षीय बी. एड.अभ्यासक्रमात हा उपक्रम साप्ताहिक स्वरूपाचा होता मात्र शैक्षणिक वर्ष २०१५ पासून २०साप्ताहांचे छात्रसेवाकाळाचे नियोजन विविध सत्रात करण्यात आलेले आहे.अध्यापनकार्य किंवा प्रक्रिया, प्रात्यक्षिक कार्य हे कौशल्य व उद्दिष्टपूर्ण घडण्यासाठी छात्रसेवाकाळाचा विस्तार घडणे आवश्यक होते.त्याप्रमाणे हा कालावधी वाढविण्यात आला मात्र प्रत्यक्षात छात्रसेवाकाळाचे नियोजन करतांना प्रशिक्षणार्थी,शिक्षक प्रशिक्षक,शाळा व महाविद्यालयांना विविध समस्यांना सामोरे जावे लागते या समस्या कशा सोडविता येतील या संदर्भात प्रस्तुत संशोधन कार्य हा एक छोटासा प्रयत्न आहे.

#### शीर्षक:

“बी.एड.अभ्यासक्रमाच्या तृतीय सत्रातील छात्रसेवाकाळ उपक्रमात येणा—या अडचणींचा शोध घेउन उपाय योजना सूचविणे”.

#### संशोधनाची उद्दिष्टे :

१. बी.एड.अभ्यासक्रमा अंतर्गत छात्रसेवाकाळ उपक्रमाची माहिती घेणे.
२. तृतीय सत्रातील छात्रसेवाकाळ उपक्रमाचे आयोजन करणे.
३. छात्रसेवाकाळ उपक्रमात शाळा व महाविद्यालयांना येणा—या समस्यांचा शोध घेणे.
४. छात्रसेवाकाळ उपक्रमातील समस्यांवर उपाय सूचविणे.

#### कार्यात्मक व्याख्या:

**छात्रसेवाकाळ** —सेवापूर्व शिक्षक प्रशिक्षणात छात्रअध्यापकास शाळेत

विशिष्ट काळात प्रत्यक्ष उपस्थित राहून

अध्यापन व प्रशासकिय कार्याची प्राप्त होणारी

अनुभूती.

**तृतीय सत्र** — द्विवर्षीय बी.एड.अभ्यासक्रमातील चार सत्रातील क्रमाने येणारे तिसरे सत्र (द्वितीय वर्षाचा प्रारंभीचा

काळ/पुर्वाध)

#### संशोधनाची गरज :

छात्रसेवाकाळात विद्यार्थ्यांना कोणकोणत्या अनुभूती प्राप्त करून द्यावयाच्या असतात? छात्रसेवाकाळात विद्यार्थी—शिक्षक,सहशिक्षक,व शाळांना कोणत्या समस्या उद्भवतात?तृतीय सत्रातील छात्रसेवाकाळाचे नेमके स्वरूप काय? या सारख्या विविध प्रश्नांच्या शोधासाठी प्रस्तुत कृतीसंशोधन कार्य गरजेचे होते.

#### संशोधनाची महत्व:

प्रस्तुत कृतीसंशोधनाचे निष्कर्ष व शिफारसी या विद्यार्थी—शिक्षक, प्राध्यापक सहशिक्षक, व शाळांना छात्रसेवाकाळाचे नियोजन व समस्यांची माहिती प्राप्त होण्यासाठी महत्वाचे होते.

#### संशोधनाची व्याप्ती :

प्रस्तुत कृतीसंशोधनात तृतीय सत्रातील छात्रसेवाकाळ उपक्रम, छात्रसेवाकाळाचे नियोजन, सरावपाठ, सहशिक्षक सरावपाठ,विशिष्ट विषयावर आधारीत पाठ,शालेय दप्तर नोंदी व पनवेल परीसरातील माध्यमिक शाळा इ.चा समावेश होता

#### संशोधनाची मर्यादा:

छात्रसेवाकाळातील तृतीय सत्र, छात्रसेवाकाळातील नियोजित अनुभवजन्य उपक्रम,पनवेल परीसर नमुन्यातील शाळा, विद्यार्थी, सहशिक्षक इ घटकासंबंधी संशोधन कार्य मर्यादित आहे.

#### संशोधनाची पध्दती:

संशोधन उपक्रम हा प्रत्यक्ष शाळांमध्ये राबविण्यात आला होता. छात्रअध्यापकांना व शिक्षकांना उद्भवणा—या परिस्थितीचा

वस्तुनिष्ठ अभ्यास करण्यासाठी सर्वेक्षण पध्दतीचा वापर करण्यात आला होता.

#### संशोधनाची साधने:

माहिती संकलनासाठी प्रश्नावली, पदनिश्चयन क्षेत्री व निरीक्षण तंत्राचा वापर करण्यात आला होता.

#### नमुना निवड:

पनवेल परीसरातील तीन शाळांची यादृच्छिक पध्दतीने निवड करण्यात आली होती. महाविद्यालयातील तृतीय सत्राचे सर्व ४३ विद्यार्थी व सरावपाठ शाळेतील विद्यार्थ्यांना मार्गदर्शन करणारे ४३ सहशिक्षकांचा समावेश संशोधनात करण्यात आला होता.

#### माहितीचे संकलन व विश्लेषण:

शाळेतील शिक्षक, छात्रअध्यापक व मुख्याध्यापक इ. घटकांकडून प्रश्नावली, पदनिश्चयन श्रेणी व संशोधकाने केलेले निरीक्षण इ.च्या आधारे माहिती प्राप्त करण्यात आली होती व सदर माहितीचे विश्लेषण वर्णात्मक सांख्यिकीय तंत्राच्यासाहाय्याने करण्यात आले होते.

#### निष्कर्ष:

- संच मान्यता समस्येमुळे शाळांचे वर्गनिहाय वेळापत्रक वेळेत उपलब्ध होत नाही.
- शाळांमध्ये वर्गाच्या तुलनेने खोल्यांची संख्या कमी असल्यामुळे छात्रअध्यापकांनासाठी भौतिक सुविधांचा अभाव होता.
- शालेयस्तर कामामुळे शिक्षक व विद्यार्थ्यांच्या भेटी वेळेत होत नाही.
- शाळांमध्ये आयोजित होण—या विविध सहशालेय उपक्रमांना बाबत भिन्नता होती.
- परीक्षासारख्या कार्यक्रमांमुळे छात्रसेवाकाळातील उपक्रमास व्यत्यय निर्माण होतो.
- काही शाळा ठराविक वर्गच उपलब्ध करून देतात.
- शाळांमध्ये सरावपाठ प्रसंगी छात्रअध्यापकांना शैक्षणिक साहित्य पुरेसे उपलब्ध होत नाही.
- शाळेतील शिक्षकाच्या मते छात्रसेवाकाळात वर्गाचे दैनंदिन अध्यापन व अभ्यासक्रम वेळेत पूर्ण होत नाही.

- सहशिक्षक सरावपाठात शाळेतील शिक्षकांचे सहकार्य व सहभाग चांगला होता.
- थिम बेस सरावपाठात व घटक चाचणीत शाळेतील विद्यार्थी सहभाग समाधानकारक नव्हता.
- सरावपाठात काही कौशल्याबाबत छात्रअध्यापकांमध्ये कुशलतेचा अभाव होता.
- दहा आठवड्यांच्या छात्रसेवाकाळासाठी महाविद्यालयांना सहकार्य करण्यास शाळा ना खुष असतात.
- शाळा व महाविद्यालयातील चांगल्या शैक्षणिक वातावरण निर्मितीमुळे शाळा महाविद्यालयांना सहकार्य करतात.

#### शिफारशी:

- ❖ शाळांचे वर्गनिहाय वेळापत्रक तयार झाल्यानंतरच महाविद्यालयांनी छात्रसेवाकाळाचे नियोजन करावे. तसेच शाळांनी शैक्षणिक वर्ष आरंभीच वर्गनिहाय वेळापत्रके तयार करावीत.
- ❖ छात्रअध्यापकांनासाठी शाळांमध्ये बैठक खोली, पिण्याचे पाणी, शैक्षणिक साहित्य इ. सारख्या सुविधा पुरवाव्यात.
- ❖ छात्रसेवाकाळात महाविद्यालयांनी काही मुलभूत सहशालेय उपक्रमांचे सर्व गटांसाठी नियोजन करावे व सोबत शाळेतील काही उपक्रमांचा समावेश करावा.
- ❖ शक्य झाल्यास शाळांनी छात्रअध्यापकांचा दैनंदिन शालेय कामात सहभाग घ्यावा व शैक्षणिक अनुभवांची संधी उपलब्ध करून द्यावी.
- ❖ शालेय शिक्षक व छात्रअध्यापक यांच्या संयुक्त सहभागाने अध्यापन विषयाचे नियोजन केल्यास अभ्यासक्रम वेळेत पूर्ण होऊ शकतो.
- ❖ थिम बेस सरावपाठी मार्गदर्शक प्राध्यापकांचे सहकार्य घेणे, शैक्षणिक साहित्य वापरकरणे व विद्यार्थ्यांना पाठाच्या विषया बाबत पूर्व सूचना दिल्या जाव्यात.
- ❖ छात्रअध्यापकांनासाठी सूक्ष्म अध्यापन कृतीसत्राचे आयोजन केले जावे कौशल्य पुर्णपाठाचा सराव केला जावा



दहा आठवड्यांच्या कालावधीसाठी सहकार्य शाळांनी कठिन न समजता त्याचा दैनंदिन शालेय कामकाजासाठी छात्राध्यापकांचा उपयोग घेतला जावा व शाळा महाविद्यालयात योग्य शैक्षणिक वातावरण निर्माण करावे व आपापसातील ऋणानुबंध वाढवावेत.

२६ प्राथमिक स्तरावरील इयत्ता ६ वी च्या विद्यार्थ्यांना विज्ञान विषयाचे अध्ययन करताना येणाऱ्या समस्यां वरील उपाययोजनांचा अभ्यास.

डॉ. नीलिमा अरविंद मोरे,  
सहाय्यक प्राध्यापक,  
शासकीय अध्यापक महाविद्यालय,  
अकोला

### मराठी माध्यमांच्या शाळेस सारांश :-

आपण महाराष्ट्रामध्ये राहतो, त्यामुळे येथील जास्तीत जास्त लोकांची मातृभाषा ही मराठी आहे. मराठी भाषिक मध्यमवर्गीय तसेच दारिद्र्य रेषेखालील सर्वच व्यक्ती त्यांच्या पाल्यांना इयत्ता ४ थी पर्यंत घेऊन टाकतात. मात्र इयत्ता ४ थी मध्ये उत्कृष्ट गुण प्राप्त करणाऱ्या विद्यार्थ्यांना इयत्ता ५ मध्ये सेमी इंग्रजी शाळेत घातले जाते. त्यामुळे त्यांना गणित विषयापेक्षा विज्ञान विषयाचे अध्ययन करतांना कोणत्या समस्या येतात व त्या दूर करण्यासाठी त्यावर शिक्षक कोणत्या उपाययोजना करतात तसेच त्यांचा एकूण परिणाम काय होतो, ह्याचा अभ्यास या लेखामध्ये केलेला आहे.

### प्रस्तावना :-

विद्यार्थ्यांना भविष्यामध्ये डॉक्टर, इंजिनिअर किंवा आय.टी. क्षेत्रामध्ये जर करीयर करावयाचे असेल तर उच्च माध्यमिक स्तरावर विज्ञान घेण्याशिवाय पर्याय नाही. या क्षेत्रामध्ये प्रवेश प्राप्त करण्यासाठी प्रवेश पात्र परीक्षेमध्ये चांगल्या गुणांनी पास झाल्यावरच या क्षेत्रामध्ये प्रवेश प्राप्त होवू शकतो. म्हणूनच आपल्या पाल्यांना या प्रकारच्या परीक्षेमध्ये पास होण्यासाठी इंग्रजी मधून विचारलेल्या प्रश्नांमध्ये चांगले गुण मिळावेत अशी पालकांची इच्छा असते. त्यासाठीच इयत्ता ४ थी मराठी माध्यमातून पास केल्यानंतर इयत्ता ५ वी मध्ये सेमी इंग्रजी माध्यमामध्ये विद्यार्थ्यांना घातले जाते. इयत्ता ५ वी मध्ये जरी विज्ञानातील ब-याचशा संकल्पना अभ्यासल्या असल्या तरी विद्यार्थ्यांना विज्ञान विषय इंग्रजी भाषेतून शिकताना कोणत्या समस्या येतात, त्या का येतात, त्यावर शिक्षक कोणत्या उपाययोजना राबवतात, त्याचा एकूण काय परिणाम होतो हे अभ्यासण्यासाठीच प्रस्तुत विषय संशोधन अभ्यासासाठी घेतला.

### संशोधनाची गरज :-

मराठी मातृभाषा असलेल्या विद्यार्थ्यांना इंग्रजी भाषेच्या मर्यादा असल्याने त्यांच्या लेखनात, उच्चारतात अनेक प्रकारच्या उणिवा आढळतात. या उणिवा कोणत्या? ह्या उणिवा का येतात? त्याची कारणे काय आहेत? या समस्या दूर करण्यासाठी ते काय करतात? शिक्षक कोणत्या उपाययोजना आखतात? त्यांचा विद्यार्थ्यांवर काय परिणाम होतो? हे जाणून घेणे गरजेचे वाटले आणि त्या गरजेतूनच प्रस्तुत विषय संशोधनासाठी घेतला गेला.

### संशोधनाचे महत्त्व :-

सेमी इंग्रजी माध्यमातील विद्यार्थ्यांना इंग्रजी माध्यमातील विज्ञान विषयाच्या अध्ययन प्रगतीमध्ये कोणत्या अडचणी येतात, त्या अडचणीचा त्यांच्या प्रगती वरती काय परिणाम होतो. या अडचणी दूर व्हाव्यात म्हणून विद्यार्थी स्वतः काय करतात, शिक्षक काय करतात, कोणते उपाय योजतात, या उपाययोजनांचा काय परिणाम होतो याचा शोध घेणे त्यावर प्रकाश टाकणे हेच या संशोधन अभ्यासाचे महत्त्व सांगता येते.

### संशोधनाची उद्दिष्टे :-

१. सेमी इंग्रजी माध्यमातील विद्यार्थ्यांना विज्ञान विषयाचे इंग्रजी भाषेतून अध्ययन करीत असतांना येणाऱ्या समस्यांचा शोध घेणे.
२. सेमी इंग्रजी माध्यमातील विद्यार्थ्यांना इंग्रजी माध्यमातील विज्ञान विषयाच्या अध्ययनात येणाऱ्या समस्यांच्या कारणांचा शोध घेणे.
३. सेमी इंग्रजी माध्यमातील विद्यार्थ्यांना इंग्रजी माध्यमातून विज्ञान विषय अध्ययन प्रगतीत येणाऱ्या समस्या सोडविण्यासाठी विद्यार्थ्यांकडून केल्या जाणाऱ्या प्रयत्नांचा शोध घेणे.
४. सेमी इंग्रजी माध्यमातील विद्यार्थ्यांना इंग्रजी माध्यमातून विज्ञान विषय अध्ययन प्रगतीत येणाऱ्या समस्या सोडविण्यासाठी शिक्षकांकडून राबविल्या जाणाऱ्या उपाययोजनांचा शोध घेणे.
५. सेमी इंग्रजी माध्यमातील विद्यार्थ्यांना इंग्रजी माध्यमातून विज्ञान विषय अध्ययन प्रगतीत

येणा—या समस्या सोडविण्यासाठी त्यांच्या पालकांकडून केल्या जाणा—या प्रयत्नांचा शोध घेणे.

६. सेमी इंग्रजी माध्यमातील विद्यार्थ्यांना इंग्रजी माध्यमातून विज्ञान विषयाचे अध्ययन प्रगतीत येणा—या समस्या सोडविण्यासाठी शाळेकडून केल्या जाणा—या प्रयत्नांचा शोध घेणे.

#### संशोधनाची गृहितके :-

१. सर्वसामान्यपणे सर्वच सेमी इंग्रजी माध्यमातील विद्यार्थ्यांना विज्ञान विषय इंग्रजी माध्यमातून अध्ययन करित असतांना त्यांच्या प्रगतीत येणा—या समस्या ह्या सारख्याच असतात.
२. सामान्यपणे सर्वच सेमी इंग्रजी माध्यमातील विद्यार्थ्यांना इंग्रजी माध्यमातून विज्ञान विषय अध्ययन प्रगतीत येणा—या समस्यांची कारणे सारखीच असतात.
३. शिक्षक, पालक व शाळा यांच्याकडून केल्या जाणा—या उपाययोजना ह्या विद्यार्थ्यांना उपयुक्त ठरणा—या असतात.

#### प्रस्तुत संशोधनाची व्याप्ती व मर्यादा :-

१. प्रस्तुत अभ्यासासाठी संशोधकाने नवी मुंबई येथील ३ शाळा निवडल्या असल्याने प्रस्तुत संशोधनातून येणारे निष्कर्ष हे या शाळांमधील विद्यार्थी, शिक्षक, मुख्याध्यापक, संस्था चालक, शाळा व पालक यांना उपयोगी पडणारे असतील.
२. सदर संशोधनासाठी सर्वेक्षण पद्धती मर्यादित केली होती.
३. सदर संशोधनाची ३ सेमी इंग्रजी माध्यमाच्या शाळांमधील १० विज्ञान शिक्षक, १० पालक व १५० विद्यार्थी मर्यादित केले होते.
४. सदर संशोधन सेमी इंग्रजी माध्यमातील इयत्ता ६ वी च्या विद्यार्थ्यांपुरते मर्यादित केले होते.
५. प्रस्तुत अभ्यासासाठी प्रश्नावली हे साधन मर्यादित केले होते.
६. प्रस्तुत अभ्यासाच्या माहिती विश्लेषणासाठी टक्केवारी हे सांख्यिकी तंत्र मर्यादित केले.

#### निष्कर्ष :-

१. बहुतांश विद्यार्थ्यांच्या मते, इंग्रजी माध्यमातील विज्ञानाच्या संकल्पना समजण्यास कठीण वाटतात.
२. बहुतांश विद्यार्थ्यांच्या मते, शिक्षकांची गती व भाषाशैली उच्च असल्याने आकलन होणे कठीण जाते.

३. बहुतांश विद्यार्थ्यांच्या मते, काही शब्दांचा अर्थ बोध होत नाही.

४. बहुतांश विद्यार्थ्यांच्या मते, लिखाणात स्पेलिंगच्या चुका होतात.

५. बहुतांश विद्यार्थ्यांच्या मते, लेखनावर मातृभाषेचा प्रभाव असतो.

६. बहुतांश विद्यार्थ्यांच्या मते, प्रश्नाचे उत्तर सांगताना किंवा लिहितांना आत्मविश्वास नसतो.

७. बहुतांश विद्यार्थ्यांच्या मते, शिक्षकांचा समजावून देण्याचा पुरेसा प्रयत्न नसतो.

८. बहुतांश शिक्षकांच्या मते, विद्यार्थ्यांच्या उच्चारत तसेच लिखाणात ब—याच चुका आढळतात.

९. बहुतांश शिक्षकांच्या मते, विज्ञान विषयाचा एकदमच सर्व अभ्यासक्रम इंग्रजीतून अभ्यासावा लागल्याने विद्यार्थ्यांमध्ये आत्मविश्वासाचा अभाव निर्माण होतो.

१०. बहुतांश शिक्षकांच्या मते, अध्यापनात सर्वच विद्यार्थ्यांना त्यांच्या गतीनुसार, त्यांच्या आकलन क्षमतेनुसार, त्यांच्या अडचणी समजून घेवून अध्यापन केल्या जाते.

११. बहुतांश शिक्षकांच्या व शाळा प्रमुखांच्या मते, विद्यार्थ्यांसाठी खास वर्ग, पर्यवेक्षित अभ्यास, वैयक्तिक मार्गदर्शन, सराव तसेच पाठांतर घेतल्या जाते.

१२. बहुतांश पालकांच्या मते, पाल्यांना विज्ञान विषयासाठी लागणारी सर्व प्रकारची पुस्तके, खाजगी शिकवणी वर्ग तसेच घरी जसे जमेल तसे मार्गदर्शन केल्या जाते. इंग्रजी माध्यमातील विद्यार्थ्यांना सेमी इंग्रजी माध्यमातील मुलांसोबत अध्ययन करायला सांगितले जाते.

#### शिफारशी :-

१. विद्यार्थ्यांनी विज्ञान विषयाच्या तासिकेला लक्ष केंद्रित करून बसावे. शंका असल्यास किंवा न समजल्यास तिथेच शिक्षकांना विचारवे.
२. विद्यार्थ्यांनी समजून घेण्यावर भर द्यावा.
३. विद्यार्थ्यांनी विज्ञान विषयाच्या कठीण संकल्पना वाचनाचा व लिहिण्याचा सराव करावा. वाचन मनातल्या मनात करू नये तर स्वतःला आवाज येईल एवढ्या आवाजात वाचावे.
४. विद्यार्थ्यांनी चुकले म्हणून वा इतर विद्यार्थी टर उडवतील म्हणून न घाबरता आत्मविश्वासाने प्रश्नांची उत्तरे द्यावीत.

५. विद्यार्थ्यांनी शुध्द व अचूक वाचण्यावर व लिहिण्यावर भर द्यावा.
६. शिक्षकांनी विद्यार्थी गतीनुसार अध्यापन करावे व अध्यापनात स्पष्टीकरण व समजावून देण्यावर भर द्यावा.
७. शिक्षकांनी विद्यार्थ्यांसाठी पालकांशी चर्चा करून विज्ञान विषयावर आधारित चर्चा, वाचन, लेखनावर विविध कार्यक्रम शाळेत राबवावे.
८. शाळेमध्ये शिक्षकांनी विज्ञान मंडळ स्थापन करावे व त्या अंतर्गत इंग्रजी माध्यमाच्या विद्यार्थ्यांना सहभागी करून घ्यावे.
९. शाळेत विद्यार्थ्यांना इंग्रजी भाषेतून बोलण्यासाठी प्रोत्साहित करावे व त्यांच्यामध्ये आवश्यक आत्मविश्वास निर्माण करण्याचा प्रयत्न करावा.

३. भिंताडे वि.रा. (२००६), शैक्षणिक संशोधन पध्दती, नित्य नूतन प्रकाश, पुणे.

**संदर्भग्रंथ :-**

१. चारूदत्त कदम, आश्विन बोंदार्डे, कैलास बोंदार्डे, (२००६), शास्त्र अध्यापन पध्दती व आशय युक्त अध्यापन, नित्य नूतन प्रकाशन, पुणे.
२. जाधव के.आर., (२०११), कृतिसंशोधन, शुभांष प्रकाशन, मुंबई.

२७ प्राथमिक स्तरावर गुणवत्ता विकासासाठी शिक्षकांना संगणकाधारित प्रशिक्षणाची आवश्यकता : एक अभ्यास

*nRrk=; ckcw lksiuwj*

*शिक्षण विस्तार अधिकारी,*

*जिल्हा परिषद रत्नागिर*

‘एकच ध्यास, गुणवत्ता विकास’ या ध्येयाने प्रेरित होऊन संपूर्ण महाराष्ट्रभर दर्जेदार शिक्षण देण्यासाठी चळवळ सुरू झालेली आहे. शिक्षकांना मिळणारे प्रोत्साहन व प्रेरणा यामुळे सर्व शिक्षक झपाट्यासारखे कामाला लागले आहेत. त्याचाच परिणाम म्हणून आज अनेक शाळा डिजिटल झालेल्या आहेत. लोकसहभागाने आवश्यक साधनसामुग्री मिळवण्यात शिक्षकांना यश मिळाले आहे. चांगल्या कामासाठी समर्थ साधन देण्याची परंपरा पालकांनी आपल्या कृतितून दाखवून दिली आहे. मिळालेल्या साधनसामुग्रीचा परिणामकारक वापर करणे अत्यावश्यक आहे. त्यामुळेच शिक्षकांना संगणक प्रशिक्षणाची आवश्यकता आहे. शिक्षकांची गुणवत्ता वाढविण्यासाठी प्रगत तंत्रज्ञानाचा आधार घेणे खूपच आवश्यक आहे. प्राप्त ज्ञानाच्या आधारे शिक्षक वापरही करत आहेत, तथापि शिक्षकांना परिपूर्ण ज्ञान मिळाल्यास परिणामकारकतेत वाढ होणार आहे. अभ्यासक्रमातील पाठ्यांश विद्यार्थ्यांपर्यंत पोहचवण्यासाठी संगणकाचा वापर खूपच उपयुक्त असल्याने ब्लॉग तयार करणे, वेबसाईटवरून माहिती घेणे अथवा तयार साहित्याचा परिणामकारक वापर कसा करावा याबाबतचे प्रशिक्षण दिल्यास शिक्षकांच्या गुणवत्तेत सकारात्मक बदल झालेला पाहावयास मिळणार आहे.

### प्रस्तावना

प्रगत शैक्षणिक महाराष्ट्र घडविण्याच्या अनुषंगाने २२ जून २०१५ रोजी महाराष्ट्र शासनाने शासन निर्णय निर्गमित केलेला आहे. या शासन निर्णयाच्या अनुषंगाने महाराष्ट्राला देशपातळीवर पहिल्या तीन अव्वल राज्यांमध्ये आणण्याचा संकल्प जाहीर केलेला आहे. प्रगत शैक्षणिक महाराष्ट्राच्या अनुषंगाने अनेक उपाययोजनाही सूचविण्यात आलेल्या आहेत. त्यामध्ये कृतिकेंद्रित अध्ययन अध्यापन, शैक्षणिक इमारतीचा साधन म्हणून उपयोग, डिजिटल स्कूल, ज्ञानरचनावाद इ. संकल्पना समोर आलेल्या आहेत. या संकल्पनांच्या पूर्ततेसाठी शिक्षण क्षेत्रात आमुलाग्र बदल होत असल्याचे दिसून येत आहेत. शाळा शाळांमधून आपली शाळा प्रगत करण्याच्या दृष्टिने शिक्षक वर्ग मेहनत करीत असल्याचे दिसून येत आहे. ही निश्चितच कौतुकास्पद बाब आहे.

शिक्षकांची गुणवत्ता वाढविण्यासाठी आधुनिक तंत्रज्ञानाचा वापर करून घेणे तितकेच महत्वाचे आहे. पारंपारिक साधने, अध्यापन पद्धती बाजूला सारून नाविन्यपूर्ण बाबींचा स्विकार करण्यात येत आहे. अनेक शिक्षक स्वतःपासून या मोहिमेमध्ये सक्रीय सहभाग घेत आहेत. प्रत्येक बदलाची सुरुवात स्वतःपासून करण्याची मानसिकता शिक्षकांमध्ये निर्माण होत आहे. नवनिर्मिती व नाविण्याचा शोध यासाठी संगणक खूपच उपयुक्त असल्याने अनेक शिक्षकांनी संगणकाचा परिणामकारक वापर करून घेतलेला आहे. प्राथमिक शिक्षकांना संगणकाचे परिपूर्ण ज्ञान मिळाल्यास निश्चितच प्राथमिक शिक्षणाच्या गुणवत्तेत वाढ होणार आहे. त्यामुळेच प्राथमिक शिक्षकांना संगणक प्रशिक्षणाची आवश्यकता आहे.

### गरज व महत्त्व

प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमात डिसेंबर २०१७ पर्यंत १००: शाळा प्रगत करण्याचे उद्दिष्ट निश्चित करण्यात आलेले आहे. त्यानुषंगाने खूप परिणामकारक कार्यवाही सुरू असल्याचे दिसून येत आहे. जवळ-जवळ १००: शाळा डिजिटल झालेल्या आहेत. त्यामध्ये काही शाळा एलसिडी प्रोजेक्टरच्या सहाय्याने, काही शाळा संगणकाच्या तर काही शाळा मोबाईलच्या माध्यमातून डिजिटल झालेल्या आहेत. शिक्षकांची मानसिकता व लोकसहभागाने शाळा डिजिटल झालेल्या आहेत. लोकसहभागाने अनेक साधने प्राप्त होत आहेत. या साधनांचा परिमाणकारक उपयोग करून घेणे आवश्यक आहे. त्यामुळेच प्रगत तंत्रज्ञानाची शिक्षकाला आवश्यकता आहे. बदललेल्या काळानुरूप शिक्षकानाही बदलणे आवश्यक आहे. शिक्षकामध्ये बदल घडविण्याचा दृष्टिने प्रशिक्षण व्यवस्था ही परिणामकारक होणे आवश्यक आहे.

प्राथमिक शिक्षकांना संगणक हाताळणीचे प्रशिक्षण मिळाल्यास शिक्षक संगणक व मोबाईलचा परिणामकारक वापर करणार आहेत. आज शिक्षकाला संगणकाचे काही अंशी ज्ञानही आहे. तथापि परिपूर्ण ज्ञान मिळाल्यास अध्ययन अध्यापन प्रक्रिया सूलभ होणार आहे. त्याचबरोबर सद्यस्थितीमध्ये शिक्षकाला ऑनलाईन विषयक कामेही करावी लागतात. आपल्या सहकार्यांच्या मदतीने ती कामे करतही आहे. तथापि १००: शिक्षकांना हे ज्ञान प्राप्त झाल्यास यशाची परिणामकारकता वाढणार आहे. विविध योजनांची अंमलबजावणी सुध्दा परिणामकारक होण्यास मदत होणार आहे.

संगणक विषयक प्रशिक्षणाच्या बाबतीत शिक्षकांची, समाजाची मानसिकता विचारात घेऊन प्रशिक्षणाची कार्यनीती तयार केल्यास त्याचा फायदा विद्यार्थी, शिक्षक, पालक, समाज यांना होणार आहे. प्रशिक्षणाच्या कार्यपद्धतीत बदल व्हावा, नवीन तंत्रज्ञानाचा वापर न करणाऱ्या शिक्षकांच्या मानसिकतेत बदल व्हावा, शिक्षण प्रवाहातील संकल्पना अधिक दृढ व्हाव्यात, शिक्षकांच्या ज्ञानात वाढ व्हावी व प्राथमिक शिक्षणाचा गुणवत्ता विकास व्हावा या दृष्टिने प्रस्तुत विषयाची निवड केली आहे.

### उद्दीष्टे

१. प्राथमिक शिक्षकांच्या प्रशिक्षण विषयक सद्यस्थितीचा अभ्यास करणे.
२. प्राथमिक शिक्षकांच्या प्रशिक्षण पद्धतीचा दर्जा उंचावण्यासाठी उपाययोजना सुचविणे.
३. प्राथमिक शिक्षकांच्या प्रशिक्षणाचा दर्जा उंचावण्यासाठी परिणामकारक अंमलबजावणी करणे.

### गृहितके

१. प्राथमिक शिक्षकांच्या प्रशिक्षणामध्ये संख्यात्मक वाढ झालेली आहे.

२. प्राथमिक शिक्षकांना अनेक प्रशिक्षणासाठी उपस्थित रहावे लागते.
३. प्राथमिक शिक्षकांमध्ये प्रशिक्षणाचे आयोजन करताना प्रशासनाला अनेक अडचणी येतात.
४. प्राथमिक शिक्षकांच्या प्रशिक्षणात आधुनिक तंत्रज्ञानाचा वापर फार कमी प्रमाणात केला जातो.
५. प्राथमिक शिक्षकांना संगणक प्रशिक्षणाची आवश्यकता आहे.
६. प्राथमिक शिक्षकांना ऑनलाईन विषयक अनेक कामे करावी लागतात.
७. ऑनलाईन माहिती भरताना शिक्षकांना अडचणी येतात.

#### परिकल्पना

प्राथमिक शिक्षकांना संगणकाधारित प्रशिक्षण दिल्यास प्राथमिक शिक्षणाच्या गुणवत्तेत वाढ होते. संशोधन पद्धती.

प्रस्तुत संशोधनासाठी संशोधकाने उद्दिष्टांचा विचार करून दोन पद्धतींचा अवलंब करण्याचे निश्चित केले.

#### पहिला टप्पा

प्राथमिक शिक्षकांच्या प्रशिक्षणाच्या सद्यस्थितीचा अभ्यास करण्यासाठी सर्वेक्षण पद्धतीचा अवलंब करण्यात आला.

#### दुसरा टप्पा

प्राथमिक शिक्षकांच्या प्रशिक्षणाच्या प्रशिक्षणाचा दर्जा उंचावण्यासाठी संगणकीय कार्यनितीचे विकसन करून त्याची परिणामकारकता अभ्यासावयाची असल्याने प्राय प्रायोगिक पद्धतीचा अवलंब करण्यात आला. प्रयोगशाळेमध्ये प्रयोगशाळेप्रमाणे मध्यस्त चलावर पूर्णतः नियंत्रण शक्य नसल्याने प्राय प्रायोगिक अभिकल्पाची निवड केली.

#### संशोधन अभिकल्प

प्रस्तुतचे संशोधन प्राय प्रायोगिक पद्धतीमध्ये एकल गट अभिकल्पाद्वारे करण्यात आलेले आहे. एकाच गटाला देण्यात येणाऱ्या प्रायोगिक गट पूर्वस्थिती व प्रायोगिक गट पश्चात स्थिती स्वरूपाची कार्यवाही करण्यात आली. ती कार्यवाही पुढीलप्रमाणे आहे.

प्रायोगिक गट पूर्वस्थिती

प्रायोगिक गट पश्चात स्थिती

#### संशोधन साधने

प्रस्तुत संशोधनासाठी मुल  $izk:ksfxd ek=k$  त्पर करण्यात आला.

#### निष्कर्ष

१. प्रशिक्षण काळात प्रशिक्षणासाठी गेलेल्या शिक्षकांचा वर्ग सहकारी शिक्षकांना सांभळावा लागतो.
२. तालुकास्तरावर तज्ज्ञ मार्गदर्शक म्हणून सहाय्यक शिक्षकांना भूमिका बजावावी लागते.
३. प्रशिक्षण पूर्ण झाल्यानंतर प्रशिक्षणाची यशस्विता पाहण्यासाठी परिक्षा घेतली जात नाही.
४. तालुकास्तरीय प्रशिक्षणासाठी अत्याधुनिक साधनांचा वापर केला जात नाही.
५. प्रशिक्षणात स्वयं अध्ययनाने आशय शिकण्यासाठी घरी पाहता येईल अशी सी.डी. पुरवावी.
६. संगणक हाताळणीचे प्रशिक्षण देण्यात यावे.
७. शिक्षकांना तंत्रस्नेही करण्याच्या दृष्टिने प्रशिक्षण देण्यात यावे.
८. संगणक सी.डी.मध्ये लावलेल्या चालींचा उपयोग शिक्षकांना झाला.
९. संगणक सी.डी. मधील नमूना पाठाचे सादरीकरण उत्कृष्ट आहे.
१०. १०. अध्यापनात नाविन्यपूर्ण बाबींचा समावेश केल्यामुळे अध्ययन अध्यापन प्रक्रिया परिणामकारक होते.

#### शिफारशी

१. प्राथमिक शिक्षकांना संगणकाविषयक ज्ञान वाढविण्यासाठी दरवर्षी प्रशिक्षण देण्यात यावे.
२. प्राथमिक शाळेत संगणक व इंटरनेटची सुविधा उपलब्ध करून देण्यात यावी.
३. राज्यस्तरीय तज्ज्ञांच्या मदतीने प्रशिक्षण विषयक सी.डी. तयार करण्यात यावी.
४. तालुकास्तरावर ऑनलाईन विषयक माहिती व शैक्षणिक साहित्य निर्मितीसाठी केंद्रनिहाय तंत्रस्नेही प्रशिक्षकाची नेमणूक करावी.
५. स्व-अभिव्यक्तीसाठी डिजीटल साधनांचा परिणामकारक वापर करावा.

#### ● संदर्भ ग्रंथ सूची

१. प्राथमिक शिक्षक प्रशिक्षण (२००७) ; 'मध्याध्यापक मार्गदर्शिका', पूणे : महाराष्ट्र राज्य शैक्षणिक संशोधन व प्रशिक्षण परिषद.
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६. संचालक एमएससीईआरटी, पूणे (२०१४); 'शिक्षक प्रशिक्षण मार्गदर्शिका', पूणे : एमएससीईआरटी.

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## २८ इयत्ता नववीच्या विद्यार्थ्यांना गणित विषयातील दोन चलातील रेखीय समीकरणे सोडविताना येणा—या समस्यांचा शोध घेऊन उपाययोजना करणे आणि उपाययोजनेची परिणामकारकता

श्री. विद्याधर गोपीनाथ पाटील

सहाय्यक शिक्षक: रयत शिक्षण संस्थेचे

न्यू इंग्लिश स्कूल उलवा, ता. पनवेल, जि. रायगड

**सारांश :** बेरीज, वजाबाकी, गुणाकार आणि भागाकार या गणितातील मुलभूत क्रिया आहेत. उदाहरण सोडविताना ते पायरी पायरीने सोडवावे लागते. संशोधकाने संशोधनासाठी गणित विषयातील दोन चलातील रेखीय समीकरणे या घटकाची निवड केली आहे. दोन चलातील रेखीय समीकरणे हा घटक नववी व दहावीच्या गणित अभ्यासक्रमात समाविष्ट आहे. ज्या विद्यार्थ्यांना दोन चलातील रेखीय समीकरणे घटकावरील उदाहरणे सोडविताना अडचणी येतात त्यांचा पूर्व चाचणीद्वारे शोध घेण्यात आला आहे. संशोधनासाठी सर्वेक्षण आणि प्रयोगिक पद्धतीचा वापर करण्यात आला आहे. न्यादर्श म्हणून विद्यालयातील इयत्ता

नववीच्या वर्गातील ३० विद्यार्थी निवडण्यात आले. समस्या दुर होण्यासाठी उपक्रम तयार करण्यात आला. एकलगत पूर्वोत्तर परीक्षण अभिकल्पातील फरकाची सार्थकता तपासणीसाठी टी परीक्षणाचा वापर करण्यात आला. प्राप्त टी मुल्य हे सारणीतील टी मुल्यापेक्षा जास्त आहे. विद्यार्थ्यांच्या गुणांकात आलेला फरक हा संशोधकाने दिलेल्या उपचारांमात्रेचा आहे हे सिद्ध झाले.

**महत्वाचे शब्द :** गणित , चल , रेखीय समीकरणे ,मुलभूत क्रिया.  
**प्रास्ताविक :** दहावीच्या गणित विषयाची पूर्व तयारी इयत्ता नववीच्या वर्गात होते. नववीच्या गणित अभ्यासक्रमातील प्रकरणांचा अभ्यास दहावीला विस्ताराने केलेला असतो. संशोधकाने संशोधनासाठी गणित विषयातील दोन चलातील रेखीय समीकरणे या घटकाची निवड केली आहे. दोन चलातील रेखीय समीकरणे हा घटक नववी व दहावीच्या गणित अभ्यासक्रमात समाविष्ट आहे. बेरीज, वजाबाकी, गुणाकार आणि भागाकार या गणितातील मुलभूत क्रिया आहेत. इयत्ता आठवीच्या अभ्यासक्रमात एकचल समीकरणे हा भाग आहे. यामध्ये अंकांऐवजी चलाचा वापर केला जातो. उदाहरण सोडविताना ते पायरी पायरीने सोडवावे लागते. शिवाय उदाहरण सोडविताना प्रत्येक पायरीला गुणदान केले जाते. कोणत्याही इयत्तेत गणित विषय हा 'स्कोरींग सब्जेक्ट' समजला जातो. दोन चलातील रेखीय समीकरणे हा घटक समजण्यासाठी अत्यंत सोपा असून ठराविक अटी लक्षात ठेवल्या तर चांगले गुण मिळू शकतात. म्हणून संशोधकाने दोन चलातील रेखीय समीकरणे या घटका संदर्भात समस्या संशोधनासाठी निवडली आहे. प्रस्तुत संशोधन हे बीजगणित विषयातील एकाच घटका संदर्भात आहे. या संशोधनात ज्या विद्यार्थ्यांना दोन चलातील रेखीय समीकरणे घटकावरील उदाहरणे सोडविताना अडचणी येतात त्यांचा पूर्व चाचणीद्वारे शोध घेण्यात आला आहे. पूर्व चाचणीवरून विद्यार्थी उदाहरणे सोडविताना कोणत्या चुका करतात? याचा शोध घेण्यात आला आहे. होणा—या चुका टाळण्यासाठी उपाययोजना करण्यात आली. उपाययोजनेनंतर पुन्हा उत्तर चाचणी घेण्यात आली. उत्तर चाचणी आणि पूर्व चाचणी यातील गुणांच्या फरकावरून

उपाययोजना किती यशस्वी झाली याचा अभ्यास करण्यात आला. प्रस्तुत संशोधनासाठी सर्वेक्षण आणि प्रयोगिक पद्धतीचा वापर करण्यात आला आहे. न्यादर्श म्हणून विद्यालयातील इयत्ता नववीच्या वर्गातील ३० विद्यार्थी निवडण्यात आले.

### समस्या विधान :

इयत्ता नववीच्या विद्यार्थ्यांना गणित विषयातील दोन चलातील रेखीय समीकरणे सोडविताना येणा—या समस्यांचा शोध घेऊन उपाययोजना करणे आणि उपाययोजनेची परिणामकारकता तपासणे.

**संशोधनाची उद्दिष्टे :** १. इयत्ता नववीच्या वर्गातील दोन चलातील रेखीय समीकरणे सोडविताना समस्या येणा—या विद्यार्थ्यांचा शोध घेणे.

२. इयत्ता नववीच्या वर्गातील दोन चलातील रेखीय समीकरणे सोडविताना येणा—या समस्यांच्या कारणांवर उपाययोजना तयार करणे व राबविणे

३. इयत्ता नववीच्या वर्गातील दोन चलातील रेखीय समीकरणे सोडविण्यासाठी तयार केलेल्या उपाययोजनेची परिणामकारकता तपासणे.

### संशोधनाची गरज आणि महत्व :

१. माध्यमिक स्तरावर गणित हा विषय महत्वाचा आणि अनिवार्य आहे. गणित विषयाच्या निकालावर शाळेचा निकाल अवलंबून असतो.

२. माध्यमिक शिक्षणात इयत्ता नववी आणि दहावी या दोन वर्गांचा समावेश होतो. इयत्ता नववी आणि दहावीच्या अभ्यासक्रमात बरेच साम्य आहे.

३. नववीच्या गणित विषयात दोन चलातील रेखीय समीकरणे हा घटक समाविष्ट असून दहावीच्या अभ्यासक्रमात देखील आहे. परंतु नववीला पाया मजबूत न झाल्याने दहावीला बोर्डाच्या परीक्षेत या घटकावरील उदाहरणे चुकीच्या पद्धतीने सोडविली जातात.

४. केलेल्या उपाययोजनेमुळे पुन्हा अशी समस्या नववीच्या विद्यार्थ्यांना निर्माण होणार नाही. समस्या दुर झाल्याने या घटकाचे अध्ययन चांगले होईल.

### परिकल्पना :

१. जर विद्यार्थ्यांना गणित विषयाचे वैयक्तिक मार्गदर्शन केले तर विद्यार्थ्यांना गणित विषय आवडेल.

२. जर विद्यार्थ्यांनी दोन चलातील रेखीय समीकरणांची योग्य रितीने मांडणी केली तर उदाहरण सोडविणे सोपे होईल.

३. जर विद्यार्थ्यांनी दोन चलातील रेखीय समीकरणे सोडविताना गणितातील मुलभूत क्रियांचा योग्य वापर केला तर उदाहरण सोडविणे सोपे होईल.

### गृहितके :

१. विद्यार्थ्यांना गणित विषयाचे वैयक्तिक मार्गदर्शन मिळत नाही.
२. विद्यार्थी दोन चलातील रेणीय समीकरणांची मांडणी योग्य रितीने करीत नाहीत.
३. विद्यार्थी दोन चलातील रेणीय समीकरणे सोडविताना गणिताच्या मुलभूत क्रियांकडे दुर्लक्ष करतो.

#### संशोधनाची व्याप्ती आणि मर्यादा :

१. संशोधकाने निवडलेली समस्या माध्यमिक विभागातील नववीच्या गणित विषयासंदर्भात आहे. संशोधन करण्यासाठी निवडलेली समस्या पन्नेल तालुक्यातील उलवे या ग्रामीण भागातील न्यू इंग्लिश स्कूल उलवा या शाळेतील विद्यार्थ्यांसंदर्भात आहे.
२. इयत्ता नववीच्या गणित विषयातील दोन चलातील रेणीय समीकरणे सोडविताना येणा-या समस्या शोधून त्याच्या कारणांचा शोध घेण्यात आला आहे.
३. यासाठी नववीच्या वर्गातील ३० विद्यार्थ्यांची निवड करून त्यांना पूर्व चाचणी आणि उत्तर चाचणी देण्यात आली. पूर्व चाचणी आणि उत्तर चाचणी संशोधक निर्मित होती. गणितासंबंधी विद्यार्थ्यांच्या समस्या जाणून घेण्यासाठी संशोधक निर्मित प्रश्नावली देण्यात आली.
४. या संशोधनातील निष्कर्ष ग्रामिण भागातील माध्यमिक शाळेसाठी उपयोगी ठरतील. निवडलेली समस्या नववीच्या गणित विषयासंदर्भात असल्याने आलेले निष्कर्ष नववीच्या गणित विषयास लागू पडतील. पूर्व चाचणी, उत्तर चाचणी आणि प्रश्नावली ही संशोधक निर्मित होती.

**संशोधन कार्यपद्धती :** संशोधकाने आपल्या समस्येवर संशोधन करीत असताना आवश्यक ती माहिती मिळविण्यासाठी सर्वेक्षण पद्धतीचा वापर केला. सर्वेक्षण पद्धतीमध्ये संशोधक निर्मित १० प्रश्न असलेली प्रश्नावली विद्यार्थ्यांना देण्यात आली. तसेच प्रस्तुत संशोधनासाठी प्रयोगिक पद्धतीचा वापर करण्यात आला. त्यासाठी पूर्वोत्तर परिक्षण एकलगत अभिकल्पाचा वापर करण्यात आला. संशोधकाने दोन चलातील रेणीय समीकरणे घटकावर २० गुणांची चाचणी घेतली. ज्ञान, आकलन, उपयोजन आणि कौशल्य या उद्दिष्टावर आधारित उदाहरणे होती. पूर्वाचाचणी वरून दोन चलातील रेणीय समीकरणे सोडविताना अडचणी येणा-या विद्यार्थ्यांचा शोध घेण्यात आला. नंतर समस्या दुर होण्यासाठी उपक्रम तयार करण्यात आला. यामध्ये गणित पेटी, गणित कार्ड तयार करण्यात आले. विद्यार्थ्यांना वैयक्तिक मार्गदर्शन करण्यात आले. त्यासाठी जादा तासिका घेण्यात आल्या. अध्यापनात एल.सी.डी. प्रोजेक्टरचा वापर करण्यात आला. विद्यार्थ्यांना गणिताचा सराव करण्याची संधी देण्यात आली. उपाययोजनेची परिणामकारकता तपासण्यासाठी उत्तरचाचणी घेण्यात आली.

#### संशोधनाची साधने :

सामग्री गोळा करण्यासाठी संशोधकाने प्रश्नावली, पूर्वाचाचणी आणि उत्तरचाचणी या साधनांचा वापर केला.

#### पूर्वाचाचणी :

दोन चलातील रेणीय समीकरणे सोडविताना ज्या विद्यार्थ्यांना अडचणी येतात त्यांचा शोध घेण्यासाठी दोन चलातील रेणीय समीकरणे घटकावर २० गुणांची पूर्वाचाचणी घेण्यात आली.

#### उत्तरचाचणी :

उपाययोजनेची परिणामकारकता तपासण्यासाठी दोन चलातील रेणीय समीकरणे या घटकावर अधारीत पूर्व चाचणी सारखी काठीण्य पातळी असलेली उत्तरचाचणी घेतली.

#### नमुना निवड :

प्रस्तुत संशोधनात विद्यालयातील इयत्ता नववीचे सर्व विद्यार्थी जनसंख्या असून नववीच्या वर्गातील ३० मुलांची नमुना म्हणून निवड केली आहे. हे ३० विद्यार्थी जनसंख्येचे प्रतिनिधित्व करतात. या ३० विद्यार्थ्यांची निवड यादृच्छिक पद्धतीने केली आहे.

#### उपक्रम :

शाळा भरण्यापूर्वी दररोज घड्याळी एक तास जादा तासिका घेऊन विद्यार्थ्यांना वैयक्तिक मार्गदर्शन केले. गणित कार्ड तयार करून सराव प्रकल्प राबविला. गणिती खेळातून मनोरंजन करून अध्यापन केले. अध्यापनात तक्ते आणि शैक्षणिक साहित्याचा वापर केला. विद्यार्थ्यांच्या सहाय्याने समीकरणे तयार करून घेतली व विद्यार्थ्यांच्या सहभागातून ती सोडविली. अध्यापनात एल.सी.डी. प्रोजेक्टरचा वापर केला.

#### माहितीचे विश्लेषण :

##### प्रश्नावली वरून मिळालेल्या माहितीचे संकलन व पृथक्करण

विद्यार्थ्यांची अभ्यास करण्याची पद्धती तसेच अभ्यास करण्याची वेळ व गणितीविषयी समस्या जाणून घेण्यासाठी प्रश्नावली तंत्राचा वापर केला. प्रश्नावलीच्या प्रतिसादावरून मिळालेल्या माहितीचे पृथक्करण खालीलप्रमाणे आहे.

१. ७३.३३ टक्के विद्यार्थ्यांना गणित विषय आवडत नाही. २६.६६ टक्के विद्यार्थ्यांना गणित विषय आवडतो.
२. ७० टक्के विद्यार्थी पाठांतर पद्धतीने गणिताचा अभ्यास करतात. १३.३३ टक्के विद्यार्थी गणिताचे वाचन करतात. १६.६६ टक्के विद्यार्थी गणिताचा सराव करतात.
३. १६.६६ टक्के विद्यार्थ्यांना मित्रांचे मार्गदर्शन मिळते. ६.६६ टक्के विद्यार्थी शिक्षकांचे मार्गदर्शन घेतात. १३.१३ टक्के विद्यार्थ्यांना घरातील वरिष्ठांचे मार्गदर्शन मिळते.
४. १० टक्के विद्यार्थी नियमित अभ्यास करतात. ७० टक्के विद्यार्थी आठवड्यातून दोन वेळा अभ्यास करतात. २० टक्के विद्यार्थी आठवड्यातून एक वेळा अभ्यास करतात.

##### प्रकल्पपूर्व चाचणी वरून मिळालेल्या माहितीचे पृथक्करण :

- अ. ७३.३३ टक्के विद्यार्थी गणिती क्रिया करताना चुका करतात.
- ब. ४६.६६ टक्के विद्यार्थी ४ गुणांचे प्रश्न सोडविण्याचे टाळतात.
- क. ५३.३३ टक्के विद्यार्थी गणिती क्रिया करताना चलांचा विचार करीत नाहीत.
- ड. पूर्व चाचणीत मिळालेल्या गुणांची वर्गवारी पुढीलप्रमाणे ० ते ५ गुण मिळविणारे विद्यार्थी १३ आहेत. ५ ते १० गुण मिळविणारे विद्यार्थी १५ आहेत. १० ते १५ गुण मिळविणारे १ आहे. १५ ते २० गुण मिळविणारे विद्यार्थी १ आहे. प्रत्येक विद्यार्थ्याला सरासरी ६.५३ गुण मिळाले आहेत.



**प्रकल्पोत्तरचाचणी वरून मिळालेल्या माहितीचे पृथक्करण :**

उपक्रम राबविल्यानंतर उपाययोजनेची परिणामकारकता तपासण्यासाठी विद्यार्थ्यांना २० गुणांची उत्तरचाचणी दिली. उत्तरचाचणीचे मुल्यमापन केल्यानंतर मिळालेल्या माहितीचे पृथक्करण खालीलप्रमाणे केले आहे.

अ. ४३.३३ टक्के विद्यार्थी गणिती क्रिया करताना चुका करतात. चुकांचे प्रमाण कमी झालेले निदर्शनास आले.

ब. ७३.३६ टक्के विद्यार्थ्यांनी ४ गुणांचे प्रश्न सोडविण्याचा चांगला प्रयत्न केला.

क. १०० विद्यार्थी गणिती क्रिया करताना चलांचा विचार करीत असल्याचे निदर्शनास आले.

ड. पुर्व चाचणीत मिळालेल्या गुणांची वर्गवारी पुढीलप्रमाणे ० ते ५ गुण मिळविणारे विद्यार्थी ४ आहेत. ५ ते १० गुण मिळविणारे विद्यार्थी २० आहेत. १० ते १५ गुण मिळविणारे विद्यार्थी ५ आहेत. १५ ते २० गुण मिळविणारा विद्यार्थी १ आहे.

**विश्लेषण :** ५ ते १० गुण मिळविलेल्या विद्यार्थ्यांची संख्या २० आहे. प्रकल्प पूर्व चाचणी पेक्षा हि संख्या जास्त आहे. ० ते ५ गुण मिळालेले विद्यार्थी ४ आहेत. १० ते १५ गुण मिळालेले विद्यार्थी ५ असून १५ ते २० गुण मिळालेले विद्यार्थी सारखे आहेत. उत्तरचाचणीत प्रत्येक विद्यार्थ्याला सरासरी ८.८३ गुण मिळाले आहेत.

**टी मुल्य :** प्रकल्पपूर्व चाचणीचे मध्यमान ६.५३ आहे. प्रकल्पोत्तर चाचणीचे मध्यमान ८.८३ आहे. मध्यमानातील फरक २.३० आला. स्वाधीनता मात्रा ५८ असताना सारणीतील टी मुल्य १.६७१ आहे. प्राप्त टी मुल्य २.९१३ आहे. म्हणून टी मुल्यातील फरक १.२६ आहे. एकलगत पूर्वोत्तर परीक्षण अभिकल्पातील फरकाची सार्थकता तपासण्यासाठी टी परीक्षणाचा वापर करण्यात आला. प्राप्त टी मुल्य २.९१३ हे सारणीतील टी मुल्यापेक्षा १.२६ ने जास्त आहे. विद्यार्थ्यांच्या गुणांकात आलेला फरक हा संशोधकाने दिलेल्या उपचारमात्रेचा आहे हे सिद्ध होते.

**निरीक्षणावरून निघालेले निष्कर्ष :** १. उपक्रम राबविण्यापूर्वी विद्यार्थी वेळेवर गणिताचा अभ्यास करीत नव्हते. तसेच गणिताचा अभ्यास करण्यासाठी पाठांतर पद्धती वापरत होते. विद्यार्थ्यांसाठी रोज गणित विषयाचे जादा मार्गदर्शन आणि सराब करून घेतल्यामुळे गणित अध्ययनात नियमितता आली.

२. गणित कार्ड आणि तक्ते विद्यार्थ्यांकडून तयार करून घेतले व त्याचा गणित अध्यापनात वापर केल्याने गणिताविषयी असलेली भीती दूर झाली. विद्यार्थी दोन चलातील रेपीय समीकरणे तयार करू लागला.

३. वैयक्तिक मार्गदर्शन केल्यामुळे शंकांचे समाधान वेळीच झाले त्यामुळे विद्यार्थ्यांमध्ये आत्मविश्वासू निर्माण झाला. विद्यार्थी स्वतः

गणिते सोडवू लागला. विद्यार्थ्यांला गणित विषयाबद्दल आवड निर्माण झाली.

४. अध्ययन अध्यापनातील विद्यार्थ्यांचा सहभाग वाढविल्यामुळे विद्यार्थी आत्मविश्वासाने दोन चलातील रेपीय समीकरणे सोडवू लागला.

५. अध्यापनात एल. सी. डी. प्रोजेक्टरचा वापर केल्याने विद्यार्थ्यांची एकाग्रता वाढली.

**संदर्भ :** १. क-हाडे बी. एम. शास्त्रीय संशोधन पद्धती, नागपुर, डॉ. पिंपळापुरे प्रकाशन.

२. कोचरगावकर सुचेता, संशोधनात संख्याशास्त्रीय तंत्राचा वापर.

३. अंजनकर निरंजन, फेब्रुवारी २०१५, माझ्या कल्पनेतील अभिनव शिक्षण पद्धती, शिक्षण संक्रमण.

४. अत्रे जयश्री, जानेवारी २०१६, गणित विषयातील स्थित्यंतरे, शिक्षण संक्रमण महाराष्ट्र राज्य माध्यमिक आणि उच्च माध्यमिक शिक्षण मंडळ पुणे.

## २९ मूल्यमापनातील नव प्रवाह

डॉ. मुग्धा प्रभाकर सांगेलकर  
प्राचार्या

पाल राजेन्द्र बी.एड कॉलेज

## सांराश

विद्यार्थ्यांनी लेखी परीक्षेत सोबत पुस्तक घेऊन उत्तरे लिहिण्याचा प्रसंग हा सामान्य लोक आणि शिक्षक यांना नविन व किंचित न पटणारा प्रयोग वाटेल परंतु पुढे दिलेल्या स्पष्टीकरणातून त्यांच्या शंकाचे निरसन होईल याची मला खात्री आहे.

त्यातून सर्वच विद्यार्थ्यांना जास्त हुषार विद्यार्थ्यांना पाठयपुस्तकांतील मजकूर तोडपाठ करण्यास प्रवृत्त केले जाऊ लागले. अशा परीक्षांमुळे विद्यार्थ्यांच्या क्षमतांचा विकास झाला की नाही हे की उत्तरांची घोकंमपट्टी झाली की समजुतदारपणे उत्तरे लिहिली गेली हे कळेनासे झाले. त्यामुळे अभ्यास पुस्तकाद्वारे केला तरी प्रश्न पुस्तकातील माहितीवर आधारित न ठेवता विद्यार्थ्यांच्या क्षमतेचा अंदाज घेण्यासाठी स्वतंत्र प्रश्न विचारण्यासाठी प्रथा पुढे आली आहे. प्रत्यक्ष पुस्तकातील छापील माहितीवर प्रश्न विचारले जाणार नसल्यामुळे पुस्तके बरोबर असली तरी सुध्दा पुस्तकातील कॉपी करण्याचा प्रश्न येणार नाही

घटक चाचणीचा संविधानतक्ता तयार करताना लेखी परीक्षेसाठी उद्दिष्टानुसार व प्रश्नांच्या प्रकारानुसार आपण गुणदान करतो. हे जे प्रश्न विचारावयाचे ते मूल्यमापनाची साधने म्हणूनच पाहता तो त्याशिवाय तोंडी व प्रायोगिक चाचणी घेतो शाळांत अंतर्गत (वार्षिक) परीक्षा घेतल्या जातात आणि माध्यमिक शालान्त परीक्षा मंडळातर्फे बाह्य परीक्षा घेतली जाते त्या ठिकाणी मूल्यमापन साधने म्हणून प्रश्न प्रश्न विचारतात. काही कंपन्यांमध्ये नोकरीसाठी आलेल्या उमेदवारांच्या लेखी व तोंडी चाचण्या व मुलाखती होतात. राष्ट्रीय संरक्षण प्रबोधकेच्या (खडकवासला डिफेन्स अँकेडेमी) प्रवेश परीक्षेसाठी प्रथम लेखी नंतर तोंडी, प्रायोगिक आणि सांघिक कूटाच्या चाचण्या घेतात. या सर्व साधनांना मूल्यमापनसाधने म्हणतात.

लेखी, तोंडी, प्रायोगिक परीक्षा घेण्याची पद्धत आहे. तोंडी परीक्षेमुळे विद्यार्थ्यांची भाषेची अभिव्यक्ती विचार करण्याच्या शक्तीची तीव्रता, विचारांची अचूकता हजरजबाबीपणा, वागण्याची पद्धती इत्यादी बाबी स्पष्ट होतात. विद्यार्थ्यांना वाटणारी परीक्षेतील कृत्रिमता नष्ट करून तोंडी परीक्षा केव्हाही पूर्वसूचनेशिवाय घेता आली पाहिजे.

मुलाखत, प्रासंगिक कथनात्मक नोंदी, पडताळासूची मूल्यमापनश्रेणी, सामाजिक मूल्यमापनतंत्र, ओळखा पाहू तंत्र, समग्र संकलनपत्रिका, प्रश्नावली, निरीक्षण तसेच पुस्तकासह लेखी परीक्षा (Open Book Exam) अशाप्रकारे अनेक मूल्यमापनाचे प्रवाह आढळून येतात.

पुस्तकासह लेखी परीक्षा

विद्यार्थ्यांनी लेखी परीक्षेत सोबत पुस्तक घेऊन उत्तरे लिहिण्याचा प्रसंग हा सामान्य लोक आणि शिक्षक यांना नविन व किंचित न पटणारा प्रयोग वाटेल परंतु पुढे दिलेल्या स्पष्टीकरणातून त्यांच्या शंकाचे निरसन होईल याची मला खात्री आहे.

एकेकाळी भाषा विषयांची पाठयपुस्तके वेगवेगळ्या “माला” नावाने विद्यार्थ्यांना शिकविल्या जातात. तरी त्यांची शालान्त परीक्षा मात्र कूठल्याच अभ्यास मालेवर अधारीत नसताना प्रश्न पत्रिका तयार होत आहे ही पद्धत पुस्तकाच्या आधारे अभ्यास करून स्वतंत्र क्षमता निर्माण करण्यासाठी उपयुक्त मानली जात असे. परंतु कालांतराने शासनाने राज्यभर एकच पुस्तक मालिका प्रसिध्द करण्याची प्रथा पाडली आणि त्या पुस्तकावरच आधारित प्रश्न विचारले जाऊ लागले. त्यातून सर्वच विद्यार्थ्यांना जास्त हुषार विद्यार्थ्यांना पाठयपुस्तकांतील मजकूर तोडपाठ करण्यास प्रवृत्त केले जाऊ लागले. अशा परीक्षांमुळे विद्यार्थ्यांच्या क्षमतांचा विकास झाला की नाही हे की उत्तरांची घोकंमपट्टी झाली की समजुतदारपणे उत्तरे लिहिली गेली हे कळेनासे झाले. त्यामुळे अभ्यास पुस्तकाद्वारे केला तरी प्रश्न पुस्तकातील माहितीवर आधारित न ठेवता विद्यार्थ्यांच्या क्षमतेचा अंदाज घेण्यासाठी स्वतंत्र प्रश्न विचारण्यासाठी प्रथा पुढे आली आहे. प्रत्यक्ष पुस्तकातील छापील माहितीवर प्रश्न विचारले जाणार नसल्यामुळे पुस्तके बरोबर असली तरी सुध्दा पुस्तकातील कॉपी करण्याचा प्रश्न येणार नाही

## प्रश्नपत्रिकेशी संबंधित

अ. दिलेल्या उदाहरणांबाबत तुम्ही कोणता निष्कर्ष काढाल?

ब. वरील तत्व सिध्द करण्यासाठी पुस्तकात दिलेल्या उदाहरणा व्यतिरिक्त दोन उदाहरणे द्या

क. या संकल्पनेशिवाय दुसरी कोणती संकल्पना वापरल्यास वरील तत्वाचा उपयोग स्पष्ट होईल?

ड. हया तत्वाचा सद्य परिस्थितीत तुमच्या जीवनात उपयोग कसा करून घ्याल? हे सविस्तर लिहा

पुस्तकासह योग्य उत्तर देताना विद्यार्थ्यांच्या व्यक्तित्वाचा अंतरभाव होईल उदा. तुझ्या जीवनातील तुझ्या मते, पुस्तकात नसलेले, पुस्तकाव्यतिरिक्त अशा प्रकारचे प्रश्न अंतर्भूत करावे.

ज्याला प्रचलित मूल्यमापनाच्या पद्धतीत उपयोजन असे म्हटले जाते तसे प्रश्न काळजीपूर्वक विचारल्यास पाठयपुस्तकासह परीक्षा यशस्वी होईल आणि विद्यार्थ्यांच्या कोणत्या क्षमता निर्माण झालेल्या आहेत किंवा उपयोजन, अभिरुची आणि रसग्रहणाची कोणती पातळी विद्यार्थ्यांनी गाठली आहे यांचा अंदाज येईल..

तात्पर्य आजपर्यंत परीक्षेत प्रामुख्याने ज्ञान आणि काही प्रमाणात आकलन योच मूल्यमापन होत होते परंतु त्या पुढील उद्दिष्टे म्हणजे उपयोजन अभिरुची व अभिवृत्ती यांचा क्वचितच अंदाज लागत असे.

या उच्च दर्जाच्या उद्दिष्टांचे मूल्यमापन करताना ब—याच ठिकाणी तुम्हाला काय वाटते अशा स्वरूपात निबंध वजा प्रश्न विचारावे लागेल आणि त्याचे मूल्यमापन शिक्षकाच्या समजूती प्रमाणे करावयाचे असल्यामुळे शिक्षकप्रशिक्षणात अशा पद्धतीचा मूल्यमापनावर जास्त भर द्यावा लागेल

पुस्तकासह लेखी परीक्षेचे स्वरूप काहीसे भिन्न आहे

**पुस्तकासह परीक्षेचे हेतू—**

१. विद्यार्थ्यांनी पाठ्यपुस्तकाचा व संदर्भ ग्रंथांचा आकलनासहित अभ्यास करावा केवळ

ज्ञानावर आधारीत अभ्यास करू नये.

२. विद्यार्थ्यांनी अर्थशून्य अध्ययन न करता अर्थपूर्ण अध्ययन करावे.

३. स्वतःच्या भाषेत उत्तरे लिहिण्याची क्षमता विकसित करणे.

४. नियोजित वेळेत विविध संदर्भांचा वापर करून उपयोजनात्मक लेखन करता येणे आहे,

रुची प्रदर्शन कथन लेखन करता येणे.

५. स्वयं अध्ययनास प्रवृत्त करणे

६. आपल्या विचारास पुष्ठी देण्यासाठी समर्पक आशयाचा उपयोग करण्याची क्षमता विकसित

करणे

७. उपलब्ध साधनसामग्रीचे, आपल्या समस्या सोडवण्यासाठी विश्लेषण व उपयोजन नेमक्या

वेळेत करता येण्याची क्षमता विकसित करणे.

पुस्तकासह परीक्षेच स्वरूप—प्रश्नसूचीनुसार विद्यार्थ्याने प्रश्नाचे स्वरूप अधिक व्यापक व विचार प्रक्रियेला चालना देणारे असे असते. प्रश्न उपयोजनात्मक स्वरूपाचे असावे (Application Based) ह्या प्रश्नाचे उत्तर केवळ एका पुस्तकातील एखादा मजकूर उद्धृत करून विद्यार्थ्यांना उत्तर देता येऊ नये. प्रश्नपत्रिकेमध्ये प्रश्न घालताना शक्यतो विद्यार्थ्यांना विविध ग्रंथांचा वापर करावा लागेल, आपल्या मुद्याच्या समर्थनार्थ विविध मते व्यक्त (वैयक्तिक) करता येतील. वस्तुनिष्ठ प्रश्नाएवजी दीर्घोत्तरी व लघुत्तरी प्रश्नाचा समावेश या चाचणीमध्ये करणे अपेक्षित आहे. समोरच्या व्यक्तीचे विचार कल्पना, मते यांचे प्रकटीकरणाला पुरेसा वाव मिळावा हा हेतु महत्वाचा आहे.

मूल्यमापनाचे वेगळे अस्तित्व— विद्यार्थ्याने कोणता प्रतिसाद दिलेला आहे हे एवढेच विचारात न घेता आणखी काही मुद्याचा विचार केला जाणे अपेक्षित असते. विद्यार्थी अपेक्षित उत्तरेच देतो का हे पाहणे गरजेचे असते कारण पुस्तके उपलब्ध असल्याने अनावश्यक माहिती दिली जाण्याची शक्यता असते.

काही वेळा पेपर लिहिताना वेळेकडे लक्ष देणे आवश्यक असते. किती वेळ दिला आहे त्या वेळेमध्ये ते उत्तर लिहिणे आवश्यक असते. तसेच काही प्रश्नाकडे दुर्लक्ष केले आहे का ह्या कडे लक्ष पुरवावे लागते. निर्धारित वेळेतच प्रतिसाद देणे हे त्या परीक्षेचा एक हेतु असतो.

विद्यार्थ्याने संदर्भसाहित्याचा करावा हि अपेक्षा आहे त्याकडे लक्ष पुरवावे.

पुस्तकासह परीक्षा लिहिताना विद्यार्थ्याने नेमकेपणाने त्याची उत्तरे लिहिली आहे का त्याकडे कटाक्ष टाकणे आवश्यक आहे कारण संदर्भ भरपूर असल्यामुळे फाटपसारा तर करीत नाही ना ह्या कडे लक्ष ठेवावे.

पुस्तकासह परीक्षेचे अनेक फायदे आहेत—

१. विद्यार्थ्यांना कोणत्याही प्रकारचा ताण येत नाही.

२. स्वयंअध्ययनास पुरेसे प्रवृत्त केले जाते.

३. आपली मते आपल्या भावना समोरच्या व्यक्तिला कश्या पध्दतीने पटवून द्यावे ह्याचे ज्ञान मिळते.

४. संदर्भ पुस्तकाचे महत्व कळते. वेगवेगळी पुस्तके वाचल्याने प्रत्येक पुस्तकात असलेले वेगवेगळे मुद्दे व भाषा शैली ह्यातील फरक कळू शकतो.

५. विद्यार्थ्यांची विश्लेषण क्षमता विकसित होत असते.

६. विद्यार्थ्यांच्या विचारात व वर्तनात नेमकेपणा येतो.

७. विद्यार्थ्यांना स्वतंत्र विचार करण्याची सवय लागते.

८. शिक्षकांच्या नोटस्वर अवलंबून न राहता स्वतःची उत्तरे स्वतःच शोधण्याची सवय लागते.

**पुस्तकासह परीक्षेच्या मर्यादा—**

१. पारंपारीक वैचारीक पातळीमुळे ही संकल्पना समजून उमजून घेणे शिक्षकांची तसेच विद्यार्थ्यांची मानसिकता तयार होत नाही.

२. पुस्तकासह परीक्षेसाठी प्रश्न तयार करणे हे शिक्षकांसाठी एक आव्हानच ठरले आहे.

३. पूर्वग्रहदुषित गुणदान योजना

४. पर्यवेक्षकाने एका वेळी इतक्या विद्यार्थ्यांना संदर्भग्रंथ उपलब्ध करून देणे जिकरीचे ठरते.

केवळ परीक्षा पध्दती सुधारावी एवढ्यापुरता उद्देश नसून उद्दिष्ट साध्य होत नसेल तर अभ्यासक्रम, अध्यापनपध्दती, शैक्षणिक अनुभव या साधनांचा फेरविचार करावा अशा रीतीने मूल्यमापन ही अविरतपणे चालणारी प्रक्रिया आहे. या प्रक्रियेमध्ये विद्यार्थी हा केंद्रबिंदू आहे. मूल्यमापन हा एक नवीन दृष्टिकोण आहे.

**संदर्भ पुस्तके**

१. शैक्षणिक मूल्यमापन व संख्याशास्त्र वा.ना.दांडेकर

२. नवे शैक्षणिक मूल्यमापन आणि संख्याशास्त्र ना.के.उपासनी

३. मूल्यमापन आणि संख्याशास्त्र भा.गो.बापट

४. अध्ययनाचे मूल्यनिर्धारण व मूल्यमापन ह.ना.जगताप

### 30 इयता आठवीच्या विद्यार्थ्यांना भूमितीच्या अध्यापनासाठी भूमिती अध्यापन कार्यनीतीच्या परिणामकारकतेचा अभ्यास

मंदार विलास धुरी

. प्रा. सुविद्या सरवणकर

विद्यार्थ्यांना भूमितीच्या अध्यापनात अडचणी येतात विद्यार्थ्यांना कोणत्या समस्या येतात व त्या समस्या कशा प्रकारे सोडविता येतील विद्यार्थ्यांना येणाऱ्या समस्या लक्षात घेऊन कार्यनीती तयार केली.घाटकोपरमधील दोन माध्यमिक शाळांतील विद्यार्थ्यांची निवड केली .विद्यार्थ्यांना या कार्यनीतीद्वारा काय फरक पडतो याची पडताळणी केली .

#### प्रस्तावना

शिक्षण ही व्यापक संकल्पना आहे .त्याच्यामध्ये विविध विषयांचा समावेश होतो. त्यापैकी एक विषय म्हणजे भूमिती होय. विद्यार्थ्यांना भूमिती विषयात अनेक अडचणी येतात, त्यामुळे तो विषय नकोसा होतो हे टाळण्यासाठी काय केल्यास भूमिती अध्यापन सुखकर होईल याचा विचार सुरु होता. भूमितीचा अभ्यास करताना विविध अध्यापन नीतीचा वापर करावा लागेल. त्यासाठी अध्यापन नीती वापरल्यास काही सुधारणा होईल का याचा विचार करून भूमिती अधिक परिणामकारक करण्यासाठी हे संशोधन हाती घेण्यात आले .

#### संशोधनाची गरज :

शाळेमध्ये शिकत असताना विद्यार्थी ज्या ज्या विषयांचे ज्ञान मिळवतो तो प्रत्येक विषय भविष्यात त्याला उपयोगी पडतो.असर 'या सामाजिक सामाजिक संस्थेच्या सर्वेक्षणानुसार शैक्षणिक वर्ष२०१३-२०१४ च्या अहवालात त्यांनी भूमितीया विषयाची सद्यस्थिती स्पष्ट केली आहे. त्यानुसार बहुतांशविद्यार्थी भूमितीत मागासलेले असतात त्याच प्रकारे त्यांच्यामध्ये सुधारणा करणे आवश्यक आहे.भूमिती अध्यापनात येणाऱ्या समस्यांचे निराकरण करणे व स्वयंविकास करणे यासाठी प्रस्तुत विषयाची निवड केली आहे.

#### संशोधनाचे महत्व :

- १)प्रस्तुत संशोधनात भूमितीच्या अध्यापनासाठी अध्यापन कार्यनीती वापर केला आहे.
- २)संशोधनादरम्यान आढळलेल्या समस्यांचे निराकरण करण्यासाठी..
- ३)भौमितिक अध्यापन कार्यनीतीची जाणीव .
- ४)औद्योगिकक्षेत्र ,बांधकामक्षेत्र, कृषीक्षेत्रयासारख्या क्षेत्रामध्ये आवश्यक असलेल्या भूमितीच्या पायाभूत विकसनाची संधी उपलब्ध होईल

#### संशोधनाचे शीर्षक:

इयता आठवीच्या विद्यार्थ्यांना भूमितीच्या अध्यापनासाठी भूमिती अध्यापनात कार्यनीतीच्या परिणामकारकतेचा अभ्यास कार्यात्मक व्याख्या.

- १) आठवी - ६+२+२ या शालेय पटावरील इयता आठव्या इयत्तेतील विद्यार्थी.
- २) विद्यार्थी -जो विद्याग्रहण करतो किंवा ज्ञा नार्जन करतो,तो विद्यार्थी .
- ३) भूमिती -इयता आठवीच्या वर्गासाठीचा एक विषय.
- ४) अध्यापन- कोणतीही विद्या शिकवण्याच्या प्रक्रियेला अध्यापन म्हणतात.
- ५) अध्यापन कार्यनीती -अध्यापन करण्यासाठी आखलेली योजना म्हणजे अध्यापन कार्यनीती होय.

#### संशोधनाची उद्दिष्ट्ये:

- १) इयत्ता आठवीच्या विद्यार्थ्यांना भूमितीच्या अध्यापनासाठी भूमिती अध्यापन कार्यनीती ठरविणे.
- २) इयत्ता आठवीच्या विद्यार्थ्यांना भूमितीच्या अध्यापनासाठी भूमिती अध्यापन नीतीच्या परिणामकारकतेचा अभ्यास करणे.

संशोधनाची गृहीतके :

इयत्ता आठवीच्या विद्यार्थ्यांना भूमितीच्या अध्यापनासाठी अध्यापननीती परिणामकारक ठरते.

शून्य परिकल्पना :

इयत्ता आठवीच्या विद्यार्थ्यांना भूमितीच्या अध्यापनासाठी अध्यापननीतीचा वापर करण्यापूर्वी मिळालेले गुण व नंतर मिळालेले गुण यामध्ये फरक नाही.

चले :

स्वाश्रयी चल - भौमितिक अध्यापन नीती .  
आश्रयीचल-चाचणीतीलगुण

संशोधनाची व्याप्ती :

- प्रस्तुत संशोधनासाठी घाटकोपरमधील दोन माध्यमिक शाळांतील विद्यार्थ्यांचा विचार केला आहे  
घाटकोपरमधील दोन माध्यमिक शाळांतील इयत्ता आठवीच्या विद्यार्थ्यांच्या विचार केला आहे.
- हे संशोधन शैक्षणिक वर्ष २०१५- २०१६ या वर्षाशी संबंधित आहे.

संशोधनाची मर्यादा :

१) या संशोधनात मराठी माध्यमाच्या शाळेचा विचार केलेला आहे.

२) हे संशोधन भूमिती अध्यापन कार्यनीती पुरते मर्यादित आहे.

संशोधनाची कार्यपद्धती :

प्रस्तुत संशोधन विषयाचा अभ्यास करण्यासाठी प्रायोगिक पद्धतीतील एकल गट अभिकल्पचा अवलंब केला आहे.

प्रस्तुत संशोधनासाठी नमुना निवड:

प्रस्तुत संशोधनासाठी घाटकोपरमधील दोन माध्यमिक शाळांतील इयत्ता आठवीच्या विद्यार्थ्यांच्या केला आहे

प्रस्तुत संशोधनासाठी साधने

प्रस्तुत संशोधनासाठी संशोधक पुर्वचाचणी व उत्तरचाचणीचा वापर करून माहिती गोळा केला आहे .

**संख्याशास्त्रीय परिमाणे**

मिळालेल्या माहितीचे वर्गीकरण करून संशोधक स्तंभलेख माध्यमान, प्रमाणविचलन, इत्यादीचा वापर केला आहे

**संशोधनाचे निष्कर्ष:**

गणिताची आवड निर्माण होऊन विद्यार्थ्यांचा आत्मविश्वासात वाढ दिसून येत आहे . गणित विषयाबद्दलची भीती कमी होण्यास मदत होत आहे

**lanHkZ %&**

१) पंडित, ब.बि. (१९९७). शिक्षणातील संशोधन. पुणे : नूतन प्रकाशन.

२) घोरमोडे के. यु.व घोरमोडे कला. (२००८). शैक्षणिक संशोधनाची मुलतत्त्वे. नागपूर : विद्याप्रकाशन-

## ३१ अध्यापक विद्यालयांमधील कृतिसंशोधन समस्यांचा अभ्यास

डॉ. बी. जी. खाडे (सहयोगी प्राध्यापक)  
शासकीय अध्यापक महाविद्यालय, मुंबई,  
मो. ९८३३९८७५४६

## \* प्रस्तावना:—

एखाद्या शिक्षकाला, मुख्याध्यापकाला, अध्यापकाचार्याला, शिक्षक—प्रशिक्षकाला तसेच प्राचार्याला दैनंदिन शैक्षणिक कार्य करत असताना जेव्हा एखादी समस्या भेडसावत असते, तेव्हा त्या समस्येचे निरसन करण्यासाठी तो जेव्हा शास्त्रीय पद्धतीने अभ्यास करतो किंवा संशोधन करतो त्याला कृति संशोधन म्हणतात. शिक्षकांनी किंवा शिक्षण क्षेत्रातील कार्यरत व्यक्तींनी आपल्या दैनंदिन कार्यातील शैक्षणिक समस्या स्वतः कृतियुक्त उपाय योजून सोडवणे म्हणजे 'कृतिसंशोधन' होय. कृतिसंशोधन या संशोधन प्रकाराची सुरुवात प्रथम इ.स. १९३० मध्ये 'मिनेसोटा' या अमेरिकेतील विद्यापीठात झाली. इ.स. १९४४ साली कर्टलेविन यांनी या प्रकारच्या संशोधनाला 'कृतिसंशोधन' (ब्रजपवद त्मेमंतबी) असे नाव दिले. कर्टलेविन यांनी मांडलेल्या कृतिसंशोधन संकल्पनेत कोलंबिया विद्यापीठातील शिक्षक महाविद्यालयाच्या कृतिसंशोधनाचे शिक्षक 'स्टीफन कोवे' यांनी सुधारणा घडवून आणली म्हणून त्यांना कृतिसंशोधनाचे पहिले पुरस्कर्ते असे मानले जाते. शिक्षण क्षेत्रातील एक महत्त्वाची आणि गरजेची संकल्पना म्हणजे कृतिसंशोधन होय.

अध्यापक विद्यालये म्हणजे प्राथमिक शिक्षकांना प्रशिक्षण देणारी शैक्षणिक केंद्रे आहेत. या केंद्रांमधील शिक्षक—प्रशिक्षण प्रभावी व दर्जेदार असणे अत्यंत महत्त्वाचे आहे. अध्यापक विद्यालयातून प्रशिक्षण घेऊन उत्तम प्राथमिक शिक्षक निर्माण होणे ही काळाची गरज आहे. प्राथमिक शिक्षणाचे भवितव्य आजच्या शिक्षक—प्रशिक्षणावर अवलंबून आहे. आज अध्यापक विद्यालये सर्वसोयी—सुविधांनी सुसज्ज आहेत का? अध्यापक विद्यालयांमधील अध्यापकाचार्यांना त्याचे दैनंदिन शिक्षक—प्रशिक्षकाचे कार्य करतांना समस्या निर्माण होतात का? त्या समस्यांची सोडवणूक ते कृतिसंशोधनाच्या द्वारे करतात का? कृतिसंशोधन करता येईल अशा किती समस्या अध्यापकाचार्यांना जाणवतात? कृतिसंशोधनाच्या क्षेत्रांनुसार अशा समस्यांचा शोध अध्यापकाचार्यांना घेता येतो का? अध्यापकाचार्यांना कृतिसंशोधन समस्यांची यादी करता येते का? समस्यांची मांडणी योग्य प्रकारे करता येते का? कृतिसंशोधनाच्या क्षेत्रांनुसार कोणत्या क्षेत्रांत अधिक समस्या जाणवतात? अशा अनेक समस्यांमधून कृतिसंशोधनासाठी अध्यापकाचार्य प्रवृत्त होतात का? या प्रश्नांचा शोध घेण्याच्या हेतूने संशोधकाने पुढील संशोधन समस्येची निवड केली.

## संशोधन समस्या :—

'मुंबई व उपनगरांमधील अध्यापक विद्यालयांतील कृतिसंशोधन समस्यांचा अभ्यास'

## संशोधनाची उद्दिष्टे :—

- १) अध्यापक विद्यालयांतील अध्यापकाचार्यांना जाणवलेल्या कृतिसंशोधन समस्यांचा शोध घेणे.
- २) अध्यापक विद्यालयांतील कृतिसंशोधन समस्यांचे वर्गीकरण करून निष्कर्ष काढणे.
- ३) अध्यापकाचार्यांच्या कृतिसंशोधन समस्या शोधन व मांडणीचा अभ्यास करणे.

## संशोधनाची व्याप्ती व मर्यादा :—

- १) प्रस्तुत संशोधन केवळ मुंबई व उपनगरांतील अध्यापक विद्यालयांशी संबंधित आहे.
- २) प्रस्तुत संशोधन मुंबई व उपनगरांमधील अध्यापक विद्यालयांमधील केवळ कृतिसंशोधन समस्यांशी संबंधित आहे.
- ३) प्रस्तुत संशोधन २०१४ — १५ या वर्षापुरतेच मर्यादित आहे.
- ४) प्रस्तुत संशोधन अध्यापकाचार्यांचा नमुना व संशोधन साधने या पुरतेच मर्यादित आहे.

प्रस्तुत संशोधनातून काढलेले निष्कर्ष अध्यापक विद्यालये व अध्यापक महाविद्यालये यांना उपयुक्त ठरतील.

## कार्यात्मक व्याख्या

## अध्यापक विद्यालये :—

मुंबई व उपनगरांतील सेवा पूर्व प्राथमिक शिक्षक—प्रशिक्षण देणारी विद्यालये म्हणजे अध्यापक विद्यालये होय.

## कृतिसंशोधन समस्या :—

अध्यापकाचार्यांना त्यांचे दैनंदिन शिक्षक—प्रशिक्षकांचे कार्य करतांना येणाऱ्या अशा समस्यांची यादी की ज्या समस्यांची सोडवणूक करण्यासाठी शास्त्रीय पद्धतीचा अवलंब करता येतो व संशोधन करता येते.

कृति संशोधन करण्यासाठी अध्यापकाचार्यांना जाणवलेल्या समस्यांची यादी म्हणजे कृतिसंशोधन समस्या होय.

अध्यापकाचार्य :-

अध्यापक विद्यालयातील शिक्षक-प्रशिक्षक.

### संशोधनाची कार्यपद्धती

प्रस्तुत संशोधनासाठी मुंबई व उपनगरांतील अध्यापक विद्यालयातील बारा वर्षांपेक्षा अधिक सेवा झालेले २९ अध्यापकाचार्य नमुना म्हणून निवडण्यात आले. सहेतूक नमुना निवड पद्धतीचा वापर करण्यात आला.

प्रस्तुत संशोधनासाठी मुलाखत तंत्राचा वापर करण्यात आला, व अध्यापकाचार्यांनी तयार केलेल्या कृतिसंशोधन समस्यांच्या याद्यांचा साधन म्हणून वापर करण्यात आला.

प्रस्तुत संशोधन वर्तमान कालाशी निगडित असल्याने सर्वेक्षण पद्धतीचा वापर करून माहिती संकलित करण्यात आली. संकलित माहितीचे विश्लेषण व अर्थनिर्वचन पुढीलप्रमाणे करण्यात आले.

### माहितीचे विश्लेषण व अर्थनिर्वचन

अध्यापकाचार्यांनी आपापल्या अध्यापक विद्यालयांतील कृतिसंशोधन समस्यांचा शोध घेऊन ज्या कृतिसंशोधन समस्यांच्या याद्या तयार केल्या; त्या याद्या संकलित करून त्यांचे क्षेत्रानुसार वर्गीकरण करण्यात आले. संकलित सांख्यिकीय माहितीच्या विश्लेषणासाठी व अर्थनिर्वचनासाठी टक्केवारी व सरासरीचा वापर करण्यात आला तो पुढील सारणीत देण्यात आला आहे.

### अध्यापकाचार्यांनी मांडलेल्या कृतिसंशोधन समस्यांची क्षेत्रानुसार वर्गीकरण संख्या दर्शवणारी सारणी

अध्यापकाचार्य अ.क्र.	शिस्त व शालेय अनुशासन	अभ्यासक्रम	संदर्भ किंवा पाठ्यपुस्तके	अध्ययन अध्यापन प्रक्रिया पद्धती	सहशालेय उपक्रम	मुल्यमापन	एकूण
१	०	५	६	११	५	६	३३
२	१०	१०	१०	१०	९	१३	६२
३	२	३	३	१३	६	४	३१
४	५	५	५	१०	२	५	३२
५	५	५	५	१५	२	३	३५
६	५	५	३	१४	५	५	३७
७	—	५	६	१२	५	५	३३
८	—	४	५	९	४	४	२६
९	५	४	४	१४	७	४	३८
१०	५	५	३	१०	६	३	३२
११	—	२	२	१६	५	५	३०
१२	—	१०	१०	२०	—	७	४७
१३	४	३	३	११	३	४	२८
१४	५	३	५	१५	५	४	३७
१५	५	४	२	९	५	—	२५
१६	—	५	५	६	४	३	२३
१७	—	९	१०	२०	६	७	५२
१८	१	१	४	१३	१	३	२३
१९	५	७	५	७	४	४	३२
२०	—	३	३	४	—	—	१०
२१	२	२	३	८	२	३	२०
२२	३	५	—	१०	—	१	१९
२३	१०	५	५	१९	१०	१०	५९
२४	११	९	१०	२२	०६	११	६९
२५	३	२	४	६	३	२	२०
२६	१	—	२	५	२	१	११
२७	६	५	५	५	३	५	२९
२८	२	२	७	९	५	५	३०
२९	४	२	५	८	५	३	२७

एकूण	१९	१३०	१४०	३३१	१२०	१३०	९५०
टक्केवारी	१०.४४	१३.६९	१४.७४	३४.८४	१२.६३	१३.६८	१००
सरासरी	०३	०५	०५	११	०४	०५	३३

### \* निरीक्षणे व निष्कर्ष

१) सर्व २९ अध्यापकाचार्यांनी मांडलेल्या कृतिसंशोधन समस्यांची एकूण संख्या ९५० आढळून आली.

कृति संशोधन समस्यांमध्ये वैविध्यता आढळली.

शिस्त व अनुशासन (९९) अभ्यासक्रम (१३०) पाठ्यपुस्तके व संदर्भपुस्तके (१४०) अध्ययन— अध्यापन प्रक्रिया व पद्धती (३३१) सहशालेय उपक्रम (१२०) मूल्यमापन (१३०)

अशा सहा कृतिसंशोधन क्षेत्रांमधील संशोधन समस्या आढळून आल्या.

यावरून मुंबई व उपनगरांतील अध्यापक विद्यालयांत कृतिसंशोधनासाठी भरपूर संधी असून अध्यापकाचार्यांनी कृतिसंशोधन करण्याची गरज असल्याचे आढळून आले.

२) कृतिसंशोधन क्षेत्रांनुसार पुढीलप्रमाणे संशोधन समस्यांची स्थिती आढळून आली.

प) अध्ययन — अध्यापन प्रक्रिया व पद्धती — ३३१—

३४.८४:

पप) पाठ्यपुस्तके व संदर्भ पुस्तके — १४० — १४.७४:

पपप) अभ्यासक्रम — १३० — १३.६९:

पअ) मूल्यमापन — १३० — १३.६९:

अ) सहशालेय उपक्रम — १२० — १२.६३:

अप) शिस्त व अनुशासन ९९ — १०.४२:

सर्वाधिक समस्या अध्ययन — अध्यापन प्रक्रिया व अध्यापन पद्धती या क्षेत्रातील तर सर्वात कमी समस्यांची संख्या शिस्त व अनुशासन क्षेत्रात असलेल्या आढळून आल्या. इतर चार क्षेत्रांतील समस्यांची संख्या सरासरीच्या जवळ जाणारी आढळून आली.

३) अध्यापकाचार्यांनी कृतिसंशोधन समस्यांचा शोध चांगल्या प्रकारे घेण्याचा प्रयत्न केल्याचे आढळून आले. अध्यापकाचार्यांना समस्या शोधन व मांडणी योग्य प्रकारे करता आली. अध्यापकाचार्यांनी सरासरी प्रत्येकी ३३ संशोधन समस्यांची योग्य मांडणी केल्याचे आढळून आले. ती संख्या एका अध्यापकाचार्याची सर्वात जास्त ६९ तर; सर्वात कमी संशोधन समस्यांची संख्या १० असलेली आढळून आली.

यावरून अध्यापक विद्यालयातील अध्यापकाचार्यांना कृतिसंशोधन समस्या शोधन व मांडणी योग्य प्रकारे करता आल्याचे आढळून आले.

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२) घोरमोडे के. यु.व घोरमोडे कला. (२००८). शैक्षणिक संशोधनाची मुलतत्त्वे. नागपूर : विद्याप्रकाशन.

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### ३२ माध्यमिक स्तरावरील विद्यार्थ्यांच्या मराठी विषयातील कौशल्याच्या वृद्धीसाठी स्वयं अध्ययन पुस्तिकेचे विकसन

मनिषा का. वाघमारे

आसकीय अध्यापक महाविद्यालय,

प्रा. सुविद्या सरवणकर

आसकीय अध्यापक महाविद्यालय,

शिवम् विद्या मंदिर, मानखुर्द, मुंबई ४३ येथील माध्यमिक स्तरावरील विद्यार्थ्यांच्या मराठी विषयातील रचनात्मक कौशल्याच्या वृद्धीसाठी स्वयं अध्ययन पुस्तिकेचे विकसन हा विषय असून माध्यमिक स्तरावरील मुलांना रचनात्मक कौशल्याच्या वृद्धीसाठी आणि स्वयं अध्ययन विकसीत व्हावे ह्यासाठी तसेच त्यामुळे मुलांची लंखन क्षमता त्यांची कल्पनाशक्ती वृद्धीगत व्हावी व आत्मपर निबंध एकना अनेक उपक्रम घेऊन मुलांमध्ये रचनात्मक कौशल्याच्या वृद्धीसाठी स्वयं अध्ययनास चालना मिळेल.

#### प्रस्तावना

महाराष्ट्राची राज्यभाषा मराठी आहे. समाजाला समाजपण देणारी म्हणजेच समाजाला आपुलकीने बांधून ठेवणारी एक शक्ती म्हणजे मातृभाषा होय. भाषेमुळे मानव एकमेकांशी भावनिक, सामाजिक व मानसिक दृष्ट्या जोडला गेला आहे. भाषेमुळेच आपल्या बोलण्याला, लेखनाला अर्थ प्राप्त झाला आहे.

भाषेला मानवी जीवनात अनन्य साधारण महत्व प्राप्त झाले आहे. कोठारी आयोगाच्या शिफारशीनुसार शिक्षणात त्रिभाषासुत्रीचा अवलंब केला आहे. भाषा हा विषय सर्व इयत्तेच्या अभ्यासक्रमात महत्वाचा आहे कारण श्रवण, वाचन, लेखन, भाषण ह्या चार क्षमता मातृभाषेतून मुलांमध्ये विकसीत होत असतात.

विद्यार्थ्यांमध्ये रचनात्मक कौशल्याचा विकास / वृद्धी करण्यासाठी देखील मातृभाषा महत्वाची भूमिका पार पाडत असते. निबंध लेखन, वक्तृत्व स्पर्धा, कविता लेखन, वाद-विवाद स्पर्धा, मुद्दयांच्या आधारावरून गोष्ट तयार करणे, आत्मलेखन पर निबंध असे एक ना अनेक उपक्रमांच्या आधारातून आपण (शिक्षक) विद्यार्थ्यांमध्ये विविध कौशल्यांचा विकास करीत असतात. हि रचनात्मक कौशल्य विद्यार्थ्यांमध्ये विकसीत करीत असताना संबंधित घटनेबद्दल साधक बाधक विवेचन / विचार करण्याची क्षमता विद्यार्थ्यांमध्ये तयार करण्याचे कार्य शिक्षकाला करावे लागते. उदा. जर आपण आजमवृत्तपर निबंध घेतला तर विषय निवडी पासून ते त्या विषयाशी संबंधित निवडक व योग्य विचार मांडणे आपण मांडलेले विचार इतरांच्या मनावर रुजविणे इ. कौशल्य सुरुवातीस विद्यार्थ्यात रुजविण्याचे कार्य शिक्षकाला करावे लागते परंतु त्या विषयात विद्यार्थ्यांना आवड / रूची निर्माण झाल्यानंतर विद्यार्थी स्वतःहून उत्साह दाखवतात व स्वयं अध्ययनास प्रवृत्त होतात. या स्वयं अध्ययनास प्रवृत्त होण्यासाठी शिक्षकांना विद्यार्थ्यांमध्ये भाषेविषयी रूची, अभ्यास करण्यासाठी प्रवृत्त करावे लागते. तसेच शिक्षकांना विद्यार्थ्यांमध्ये कोणती कौशल्ये मुळातच आहेत हे देखील शोधून ती विकसीत करावी लागतात.

प्रत्येक विद्यार्थ्यांमध्ये कौशल्य ही असतातच परंतु त्या कौशल्यांचा शोध घेऊन ती विकसीत / वृद्धीसाठी शिक्षकांना विशेष प्रयत्न करावे लागतात यासाठी शिक्षक वेळोवेळी वर्गामध्ये विविध स्पर्धांचे आयोजन करीत असतात त्यामध्ये काही विद्यार्थी स्वतःहून

सहभागी होतात. तर काही विद्यार्थ्यांना शिक्षक प्रवृत्त करतात. या सर्व स्पर्धातून शिक्षक विद्यार्थ्यांमध्ये रचनात्मक कौशल्यांच्या वृद्धीसाठी जागृत असल्याचे दिसून येते.

#### संशोधनाची गरज व महत्व

गरज :-

आजच्या आधुनिक युगात इंग्रजी भाषेइतकेच मराठी भाषेला महत्व आहे. मानवाच्या आयुष्यात भाषेला अतिशय महत्वाचे स्थान आहे. एकतेकांच्या भावभावना भाषेद्वारे व्यक्त होत असतात. मराठी विषयाच्या रचनात्मक कौशल्याच्या वृद्धीसाठी स्वयं अध्ययन गरजेचे आहे.

महत्व :-

लेखन हे एक प्रभावी प्रकटीकरणात्मक कौशल्य आहे. मानवी जीवनात कौशल्यास अनन्य साधारण महत्व आहे. माध्यमिक स्तरावर मराठी विषयातील रचनात्मक कौशल्याच्या वृद्धीस शिक्षकाने आग्रही रहावे. त्री भाषे पैकी एक भाषा म्हणजेच मराठी भाषा होय. मराठी ही आपली मातृभाषा असून देखील विद्यार्थी मराठी विषयातील रचनात्मक कौशल्याच्या वृद्धीच्या वापरातून स्वयं अध्ययन चांगल्या प्रकारे करू शकतात आपल्या मातृभाषेत शिकणारी मुले भविष्यात पुढे जातात डॉ. अब्दुल कलाम यांनी सांगितले आहे कि, मुल मातृभाषेतून जास्त लवकर शिकू शकतो पण इयत्ता १ ली ते ८ वी पर्यंत पास केल्यामुळे विद्यार्थी आपल्या मातृभाषेत कौशल्याच्या विकास करताना दिसत नाही म्हणून माध्यमिक स्तरावरील मराठी विषयातील रचनात्मक कौशल्याच्या वृद्धी करण्यास प्रवृत्त करणे व स्वयं अध्ययन पुस्तिकेचे विकसन करणे महत्वाचे आहे.

लेखनाद्वारे विद्यार्थ्यास माहिती उपलब्ध होते व ज्ञान प्राप्ती होत राहते. मराठी भाषा म्हणजेच मातृभाषा हे सामाजिक व्यवहाराचे एक महत्वाचे साधन आहे. स्वयं अध्ययन विकसीत करण्यासाठी रचनात्मक कौशल्य निर्माण करणे महत्वाचे आहे. स्वयं अध्ययनामुळे मुलांना निबंध लेखन, शब्दार्थ, कौशल्य, आत्मपर निबंध ह्या रचनात्मक कौशल्यांच्या विकास होतो. ह्यासाठी स्वयं अध्ययन उपयुक्त ठरते यासाठी मराठी विषयातील रचनात्मक कौशल्यांच्या वृद्धीसाठी स्वयं अध्ययनातून आत्मपर निबंध वक्तृत्व स्पर्धा, निबंध लंखन ह्या विद्यार्थ्यांकडून करून घेता येईल. विद्यार्थ्यांनाही रचनात्मक कौशल्य प्राप्त होणे हे प्रथम भाषा मराठीच्या व्यावहारिक उपयोजनेचे फलित होय. विशेष प्रयत्न करून मराठी विषयातील रचनात्मक कौशल्याच्या वृद्धीसाठी स्वयं अध्ययन रुजविता येईल.

#### संशोधनाची उद्दिष्ट्ये

१. विद्यार्थ्यांमध्ये मराठी विषयातील रचनात्मक कौशल्यांचा शोध घेणे.
२. विद्यार्थ्यांना रचनात्मक कौशल्याच्या वृद्धीसाठी लागणाऱ्या उपक्रमाची माहिती घेणे.
३. मराठी विषयातील रचनात्मक अध्ययन पुस्तिकेचे विकसन.
४. स्वयं अध्ययन विद्यार्थ्यांमध्ये होणाऱ्या प्रगतीची परिणामकारकता अभ्यासणे.

#### संशोधन कार्यपद्धती

प्रस्तुत संशोधनात “प्रयोगिक पद्धती” चा संशोधिकेने वापर केला आहे.

#### संशोधनासाठी नमुना निवड

प्रस्तुत संशोधनासाठी मुंबई येथील मानखुर्द लल्लुभाई कंपाऊड या विभागातील शिवम् विद्या मंदिर या शाळेची निवड करण्यात येईल या शाळेतील माध्यमिक स्तरावरील ३६ विद्यार्थ्यांची निवड केला आहे .

#### संशोधनाची साधने

प्रस्तुत संशोधनासाठी संशोधिकेने प्रायोगिक या साधनाचा वापर केला आहे

१. निरिक्षणात्मक नोंदी
२. चाचणी

#### संशोधनाची तंत्रे

प्रस्तुत संशोधनात संशोधिकेने विद्यार्थ्यांकडून मिळालेली सांख्यिकीय विश्लेषणासाठी संख्याशास्त्रीय तंत्रांमध्ये खालील तंत्रांचा वापर केला आहे.

१. टक्केवारी
२. आलेख (स्तंभालेख)

#### संशोधनाची परिकल्पना

##### परिकल्पना

१. स्वयं अध्ययन पुस्तिकेच्या वापराने मराठी विषयातील रचनात्मक कौशल्याची वृद्धी होईल.

##### शुन्य परिकल्पना

स्वयं अध्ययन पुस्तिकेच्या विकसनाद्वारा मराठी विषयातील रचनात्मक कौशल्याच्या वृद्धीवर परिणाम होणार नाही.

#### संशोधनातील चले

##### चले :-

संख्यात्मक अथवा गुणात्मक मुल्यांमध्ये व्यक्त करता येऊ शकणारी कोणतीही संकल्पना याला चले असे म्हणतात.

प्रस्तुत संशोधिकेने खालील चलाचा समावेश केला आहे.

१. **आश्रयी चल :-** एखादया घटनेचा गृहित परिणाम किंवा कारण म्हणजे आश्रयी चल होय.  
प्रस्तुत संशोधिकेने खालील आश्रयी चलाचा समावेश केला आहे.  
१. रचनात्मक कौशल्य

२. **स्वाश्रयी चल :-** इतर उल्लेखलेल्या चलांमधील बदलावर ज्याचे बदल अवलंबून

नाहीत असे गृहीत धरलेले असते. त्यास स्वतंत्र किंवा स्वाश्रयी चल असे म्हणतात.

प्रस्तुत संशोधिकेने खालील स्वाश्रयी चल घेतले आहेत

१. स्वयं अध्ययन पुस्तिका

#### संशोधनाची व्याप्ती व मर्यादा

##### व्याप्ती :-

प्रस्तुत संशोधन हे मुंबई येथील मानखुर्द लल्लुभाई कंपाऊड या विभागातील शिवम् विद्या मंदिर या शाळेतील माध्यमिक स्तरातील विद्यार्थ्यांच्या मराठी विषयातील रचनात्मक कौशल्याच्या वृद्धीसाठी स्वयं अध्ययन पुस्तिकेचे विकसन या विषयापुरतीच मर्यादित आहे .

##### मर्यादा :-

एक संशोधकाने हे काम करताना वेळ, काम, मनुष्यबळ यांचा समन्वय साधणे कठीण असल्यामुळे त्याला काही मर्यादा घालून घेतल्या आहेत.

१. प्रस्तुत संशोधनात ज्या घटकांवर संशोधन करत आहे. ते फक्त शिवम् विद्या मंदिर या मानखुर्द विभागातील शाळेकरिताच मर्यादित आहे.
२. मराठी माध्यमा पुरतेच मर्यादित आहे.
३. प्रस्तुत संशोधन हे ९ वी अ व १० वी अ ह्ये दोन वर्गांपुरते मर्यादित आहे.
४. प्रस्तुत संशोधन हे १२० विद्यार्थ्यांपुरतेच मर्यादित राहील

#### संशोधनाचे निष्कर्ष :-

प्रस्तुत संशोधनात खालील गृहितकांच्या आधारावर पुढील निष्कर्ष काढण्यात आलेले आहेत.

- माध्यमिक स्तरावरील रचनात्मक कौशल्याच्या वृद्धीसाठी स्वयं अध्ययन पुस्तिका उपयुक्त आहे.
- विद्यार्थ्यांच्या गुणात फरक पडला.
- विद्यार्थ्यांना शिकवलेले आवडले व त्यामुळे विद्यार्थ्यांच्या ज्ञानात भर पडला.

#### संदर्भग्रंथ सुची

१. जाधव के. रा (२०११) कृती संशोधन सुभाय प्रकाशन, मुंबई
२. भिताडे वि. रा (२००८) शैक्षणिक संशोधन पद्धती नित्य नुतन प्रकाशन, पुणे

## ३३ अंध विद्यार्थ्यांच्या शैक्षणिक विकासातील कमला मेहता संस्थेचे योगदान : एक वृत्तेतिहास”

रुखसार आ. सुर्वे

॥सकीय अध्यापक महाविद्यालय, पनवेल

**प्रस्तावना** :— असे सर्वसाधारण म्हटले जाते की आपण दैनंदिन जीवनातील जवळ जवळ ८० टक्के अनुभव दृष्टीच्या सहाय्याने घेत असतो. भोवतीच्या वातावरणातील विविध वस्तू, चित्र, प्रसंग, घटना इत्यादींचे निरीक्षण आपण डोळ्यांनी करीत असतो. दृष्टीचा अभाव असणाऱ्या व्यक्तींना त्यांच्या दैनंदिन जीवनात किती अडचणींना सामोरे जावे लागत असेल याची आपण कल्पना करू शकतो. अंधत्वामुळे बालकावर ज्या मर्यादा येतात त्या दूर केल्या म्हणजे ते बालक आपोआपच सक्षम बनू शकेल, स्वावलंबी होऊन समाज जीवनात आपलेही योगदान देऊ शकते यात तिळमात्र शंका नाही.

अंध मुलांच्या अध्ययन—अध्यापनासाठी विशेष अशा साधनांची व उपकरणांची गरज असते तसेच या विद्यार्थ्यांना अध्यापन करताना काही विशिष्ट तत्वे पाळावी लागतात. ही मुले केवळ स्पर्श, गंध, श्रुती या संवेदनांचा वापर करून अध्ययन करीत असतात. अंध मुलांसाठी ज्या विशेष शाळा स्थापन केल्या जातात तेथे ब्रेल लिपीचा वापर करून त्यांना अपेक्षित आशय शिकवू शकतो. या विद्यार्थ्यांना त्यांच्या अध्ययन कालावधी व्यतिरिक्तचा वेळ इतर सामान्य दृष्टी असलेल्या मुलामुलींमध्ये मिसळण्याची व्यवस्था करणे आवश्यक असते. म्हणून अंधांच्या शिक्षणासाठी शासनाने केलेले प्रयत्न हा समाजविकासाचा एक भाग आहे.

**उद्दिष्टे** :—

- कमला मेहता संस्थेतील अंध विद्यार्थ्यांचा अभ्यास करणे.

- अंध विद्यार्थ्यांच्या गरजांची माहिती करून घेणे. शैक्षणिक विकास जाणून घेणे.
- अंध विद्यार्थ्यांच्या शैक्षणिक विकास जाणून घेणे.
- नियोजित अध्यापन योजनांचा आढावा घेणे.
- संस्थेचे योगदान व योजनांचा आढावा घेणे.
- अंध विद्यार्थ्यांच्या शैक्षणिक विकास करण्यास उपाययोजना सुचविणे.

**संशोधनाची व्याप्ती व मर्यादा** :— प्रस्तुत संशोधन हे मुंबईतील दादर विभागातील श्रीमती कमला मेहता अंध विद्यालय या संस्थेपुरतेच मर्यादित राहिल.

- प्रस्तुत संशोधन हे अंध विद्यार्थ्यांपुरतेच मर्यादित राहिल.
- प्रस्तुत संशोधन हे मुंबईतील दादर विभागातील श्रीमती कमला मेहता संस्थेपुरतेच मर्यादित राहिल.
- प्रस्तुत संशोधन २०१५-१७ या वर्षापुरतेच मर्यादित राहिल.
- प्रस्तुत संशोधन विद्यापिठाच्या एम्.एड्. अभ्यासक्रमापुरतेच मर्यादित असेल.

**निष्कर्ष** :— प्रत्यक्ष कृतीमुळे अंध विद्यार्थ्यांचे अध्ययन परिणाम कारक होते.

## 34 QRकोड..... शुभारंभ प्रगल्भ भाषा तंत्राचा!

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## सारांश

असं म्हणतात जे शिक्षण उपजिवीकेचे साधन असते ती कला असते आणि जे शिक्षण जीवन विकासाचे साधन असते ते ज्ञान असते. अशावेळी शिक्षण क्षेत्रातील नव्या प्रवाहात प्रवास करताना तंत्रज्ञानाचा वापर करून ज्ञानार्जन करणे ही नवी संधी ज्ञानपिपासूंना उपलब्ध झाली आहे. परंतु हे तंत्रज्ञान सहजतेने हाताळण्यासाठी त्याचे सुलभीकरण होणे गरजेचे आहे. तेव्हाच अध्ययन अध्यापन आणि तंत्रज्ञानाची सांगड ही सजगतेने घालणे शक्य होईल. म.म.कनबंजपवदए म.समंतदपदहहे ज्ञान संपादनासाठी पुरक ठरणारे प्रवाह आहेत. त्यापलीकडे जावून वसपदम मकनबंजपवदची देवाणघेवाण होते. या तंत्रासाठी विशिष्ट साधनांवर मोठ्याप्रमाणात गुंतवणूक करावी लागते. त्यामध्ये ही अनेक अडचणी येतात अशावेळी या तंत्रज्ञानाचा वापर सुलभतेने व्हावा यासाठी फ्लोकोडचा; फनपवा त्मेचवदेमद्धवापर करता येवू शकतो. या माध्यमातून आपणास आवश्यक संदर्भ जतन करून आवश्यकतेनुसार त्याचा त्वरीत वापर विद्यार्थी व अध्यापकांना करता येतो. आपल्या मोबाईलमध्ये हा संदर्भ केवळ कोड स्कॅन करून उपलब्ध होवू शकतो.

## प्रस्तावना

डॉ. ए.पी.जे. अब्दुल कलामांच्या स्वप्नातील महासत्ता साकारत असताना देशात सध्या शिक्षणक्षेत्रात नवनवीन प्रवाह तयार होत आहेत. नव्यापिढील माहिती तंत्रज्ञानाचे महाजाल नाविन्यपूर्ण संकल्पना सत्यात उतरवण्यासाठी खुणावत आहे. विद्यार्थ्यांच्या ज्ञानाला आता बहुआयामी पदर प्राप्त होत आहेत. त्यामुळे या नव्या प्रवाहात पूर्वापार चालत आलेली पाठांतर, घोळपट्टी पद्धतीचा अध्ययनाचा धोपटमार्ग हा विद्यार्थ्यांच्या सर्वांगीण विकासासाठी अकार्यक्षम ठरत आहे.

सध्याचा विद्यार्थी हा माहिती तंत्रज्ञानाच्या काळात जन्माला आला आहे. पृथ्वी हा ग्रह 'डिजिटलाइझेशनच्या' नव्या परिवलन प्रक्रियेत प्रवेश करताना आपला विद्यार्थी ही त्याचा काळात जन्माला आल्याने नव्या तंत्रज्ञानासोबत जगण्याचे नतअपसं देजपदबजमुळातच त्यामध्ये आहे. त्यामुळे तो त्याचा जन्मसिद्ध अधिकार आहे. परंतु त्यांना मार्गदर्शन करणारे अध्यापक हे डिजिटल प्रवाह येण्यापूर्वीपसून अध्यापनाचे कार्य करत आहेत. परिणामी त्यांची शिकवण्याची पूर्वापार चालत आलेली पद्धत आणि विद्यार्थ्यांला खूणावणारी तंत्रज्ञानाची नवी क्षितिजे यांची सांगड घालणे नितांत गरजेचे ठरत आहे. याचा विचार करता सध्याच्या अध्यापनात म.म.कनबंजपवदए म.समंतदपदहयासारख्या संकल्पना डोकावत आहेत. त्यांच्या प्रभावी वापरामुळे विद्यार्थ्यांच्या अध्ययनावर निश्चितच परिणाम होताना आढळतो.

परंतु या संकल्पनांचा वापर करूनच भाषा वगळता इतर सर्व विषयांचे अध्ययन करता येते. मात्र या प्रवाहाचा उपयोग इंग्रजी व्याकरण वगळता इतर भाषाविषयक ज्ञान मिळविण्यासाठी अत्यंत नगण्य आढळतो. यासाठी भाषेच्या संदर्भातही नव्या तंत्रज्ञानाची जोड देता येवू शकेल या विचारातून फ्लोकोडचा वापर शिक्षणक्षेत्रात करून मराठी भाषेचे पाउल नव्या वाटेवर ठेवण्याचा हा सोपा मार्ग आहे.

## भाषा आणि तंत्रज्ञान

मानवी विचारांचे प्रगटीकरण होण्यासाठी भाषेचा वापर केला जातो. प्रारंभीच्या काळात केवळ संकेतांवर आदानप्रदान करणारी भाषा आता समग्र जीवनाला व्यापून टाकरणारी सामाजिक संस्था झाली आहे. मानवी जीवनात भाषेची अनेक प्रयोजने असली तरी तिचे मूलभूत स्वरूप परस्पर विनिमयाच्या मौखिक व्यवहारात आहे. हा बोलण्याचा व्यवहार हे भाषेचे सिद्ध स्वरूप आहे. त्याच भाषेचा जेव्हा लेखनामध्ये अविष्कार होतो तेव्हा तिचे स्वरूप यथासंभव पालटते. हे तिचे साधित स्वरूप म्हणता येईल. लिखित भाषा मुळात वाणीरूप अशीच असते. बोलण्याचा संबंध मुख व कान यांच्याशी आहे. लेखनाप्रमाणे विज्ञानाच्या मदतीने बोलणे ही सुरक्षित ठेवता येते. पण कानांना मात्र ध्वनी क्रमानेच समजावून घ्यावे लागतात. लेखन हे दृष्टीद्वारे चिन्ह वाचनाने समजून घेता येते. या मानवीक्षमता व्यक्तिनिहाय बदलतात. प्रत्येकाची भाषा व्यक्त करण्याची रीत भिन्न असते. त्यातही मातृभाषेत विविधता आढळते. परिणामी भाषिक संप्रेषणही भिन्न भिन्न स्वरूपाचे होते. या भाषेच्या व्यक्तिभिन्नतेमुळे आज शिक्षणक्षेत्रात आत्याधुनिक तंत्रज्ञानाचा वापर भाषिक विकासासाठी करता येणे हे आव्हानाचे कार्य आहे.

इतर विषयांप्रमाणेच मराठी भाषा ही आधुनिक तंत्रांनी शिकवता आली पाहिजे तरच तिला अभिजात दर्जा सहज प्राप्त होऊ शकतो. इंग्रजी भाषेबाबत ही बाब प्रत्यक्षात उतरवणे शक्य झाले आहे. परंतु मराठी भाषेला अभिजात दर्जा मिळण्यात तंत्रज्ञानाची जोड देणे ही काळाची गरज आहे. मुळातच देवनागरीतून मांडलेली मराठी भाषा व्यक्तित्वाच्या अपेक्षा, त्याचे शिक्षण, आकलन शक्ती, अभिरूची या व्यक्तिभिन्नतेच्या प्रवाहातून प्रवाहीत होते. त्यामुळे तंत्रज्ञान वापराने मर्यादा पडतात. तरी ही या मर्यादांचे सिमोल्लंघन फ्लोकोडच्या माध्यमातून करता येऊ शकते.

## इयत्ता १२ वी युवकभारती ; मराठी पद्यपुस्तकात QRकोडचा वापर

इयत्ता १२ वी युवकभारती या पाठ्यपुस्तकाच्या पाठ्यांशाचा विचार करता त्यामध्ये असे अनेक घटक आढळतात की त्यावर प्रत्यक्षपणे प्रश्नपत्रिकेत कोणत्याच स्वरूपाचा प्रश्न विचारला जात नाही तरी ही ते

घटक विद्यार्थ्यांनी अभ्यासावेत अशी अपेक्षा आहे. हीच अपेक्षा विद्यार्थ्यांना भाषाविषयक सखोल ज्ञान मिळविण्यास प्रवृत्त करणारी आहे. केवळ प्रश्नपत्रिकेतील प्रश्नांच्या उत्तरातून मिळणारे महत्तम गुण हे त्या विषयाची सखोल माहिती त्या विद्यार्थ्यांना आहे याचे मोजमाप करणारे परिमाण असू शकत नाही. हे लक्षात घेवून मराठी विषयाचे पाठ्यपुस्तक तयार झाले आहे. अशावेळी विद्यार्थ्यांसमोर मराठी विषयाच्या संदर्भात माहितीचा साठा खुला करून द्यावा तो ही सहज यासाठी फ्लॅकोड तयार करण्यात आल्यास विषयाची परिणामकारकता वाढविण्यास मदत होईल.

पाठ्यपुस्तकातील विनोद वाङ्मयातील विनोदाची उंची, गद्य विभागातील विचारांची खोली, पद्यातील सौंदर्याची दृष्टी यांचा उपयोग करून सर्जनशील लेखनाकडे विद्यार्थ्यांचा भाषिक प्रवास हा अभ्यासपूर्वक होउ शकतो.

याचा विचार करून प्रत्येक पाठास आवश्यक असणारे विविध संदर्भ मिळवले गेले. त्यामध्ये पाठाचे लेखक, ल्वनज्झमवरील त्या लेखकाचे व्हिडीओ, त्यांच्या साहित्यकृती, तो पाठ ज्या पुस्तकातून घेतला असेल ते पुस्तक, विविध कोशवाङ्मय, पाठास पूरक चित्रपट, उपयोजित मराठी या विभागात येणा या विविध मुलाखती, जाहिराती, आकाशवाणी, दूरचित्रवाणी यांचे कार्यक्रम या सर्व संदर्भाना फ्लॅकोड देण्यात आला आणि त्याची लिंक जोडली जावून केवळ दोन क्लिक मध्ये आपल्या मोबाईलमध्ये हे संदर्भ नेटच्या सहायाने थेट उपलब्ध होतात.

### QRकोड आणि अध्ययन-अध्यापन प्रक्रिया

इयत्ता १२ वी मधील विद्यार्थ्यांचा भाषेबद्दलचा विकास आलेख लक्षात घेता ज्ञान, आकलन, उपयोजन या भाषिक क्षमता योग्यप्रकारे विकसित झालेल्या असतात. परंतु त्यानंतरची कौशल्य, सृजनशीलता आणि अभिरूचीची पातळी उंचावणे हे या टप्प्यावर होणे गरजेचे असते. कारण त्यातूनच विद्यार्थ्यांनी मिळवलेले ज्ञान त्याच्या बुद्धिशी तादात्म्य पावून प्रतिभासंपन्न व्यक्तिमत्त्व घडू शकते.

याचा विचार करता या विद्यार्थ्यांना पाठ्याखाली दिलेल्या उपक्रमांची पूर्तता करणे आवश्यक असते. परंतु हे विद्यार्थी याकडे दुर्लक्ष करताना आढळतात. इतर विषयांच्या अभ्यासाइतकी जागृती मराठी विषयाच्या अभ्यासाविषयी त्यांच्यामध्ये आढळत नाही आणि मग केवळ जुजबी ज्ञानाने उत्तम गुण मिळवण्यासाठी मराठी हा पर्याय विद्यार्थी निवडतात. यामध्ये सर्जनशीलता, अभिरूची या उच्च क्षमतांना कुठेच संधी नसते.

विद्यार्थीही साहित्याचा आस्वाद घेण्यापासून वंचित राहतात. त्यांच्या या मनोवृत्तीत बदल करून स्वयंअध्ययनानेच अभिरूचीपर्यंत पाहोचण्याचा फट कोडचा सोपा सोपान विद्यार्थ्यांना उपलब्ध करू शकते. यासाठी अध्यापनात फ्लॅकोडचे सहाय्य घेणे हे मराठी भाषेला तंत्रज्ञानाची साथ मिळवून देवून तिच्या अभिजात दर्जात वाढ करण्यासारखे आहे.

### QRकोड— रूप पालटू मराठी भाषेचे

मराठी भाषा विषयाचा फ्लॅकोड मधील नव्या आकृतीबंध भाषेची गतीशीलता वाढविण्यास पोषक आहे. या माध्यमातून विद्यार्थी स्वयंअध्ययनासाठी अधिक प्रमाणात प्रवृत्त होतील. पाठ्यातील आशयाच्या वास्तविकतेशी त्यांचा जवळून परिचय या माध्यमातून झाल्याने त्यांच्या मराठी विषय अभ्यास विषयातील अभिरूची व रसास्वाद वाढेल. परिणामी मराठी भाषेचे स्वरूप अधिक रूपवान करण्यासाठी समाजमन बदलण्याच्या कार्यास हातभार लागेल. मराठी भाषेला अभिजात भाषेचा दर्जा प्राप्त करून देण्यासाठी फ्लॅकोडचा वापर हा आधारस्तंभ ठरू शकतो यात शंका नाही.

आद्यकवी ज्ञानेश्वरांच्या 'माझा मराठीची बोलू कौतूके' पासून .....कवी सुरेश भटांच्या 'लाभले आम्हास भाग्य बोलतो मराठी' हा दृढ विश्वास सार्थ ठरण्यासाठी फ्लॅकोडच्या माध्यमातून प्रयत्नशील बनूया.

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## ३५ लोकसाहित्याची मूलतत्वे आणि मराठी लोकसाहित्य

सौ. साक्षी सुरेश गोळे

लोकसाहित्य हा लोकसंस्कृतीच्या एक महत्त्वपूर्ण भाग आहे लोकसाहित्य हे लोकसंस्कृतीचा अविष्कार आहे. असे म्हटले जाते. लोकवाडः मय हे मानवी जीवनाच्या इतिहासाच्या अभ्यासाचे महत्त्वाचे साधन आहे. लोकसाहित्याच्या पद्धतशीर अभ्यास केल्यास त्या समाजाच्या जीवनपद्धतीचे त्या लोककथांच्या द्वारे आकलन होऊ शकते. समाजाची सुख-दुखे, लोकसाहित्यातून प्रगट होतात. निरक्षर अथवा अशिक्षित व्यक्तींना शिक्षण देण्याचे कार्य लोकसाहित्य करते. लोकसाहित्यामध्ये परंपरागत प्राप्त झालेले अनुभव असतात.

लोकसाहित्यातून मिळणारे अनुभव व ज्ञान शिक्षणाच्या कोणत्याही स्वरूपाच्या माध्यमाशिवाय मिळते हे ज्ञान एका पिढीतून दुसऱ्या पिढीला परंपरेने प्राप्त होते. म्हणूनच लोकसाहित्य हे अनौपचारिक शिक्षणाचे साधन आहे. लोकसाहित्यातून रुढी परंपरा यांचे ज्ञान होते. जसे तमाशा, लावणी किर्तन, लोककथा, लोकगीते, गोंधळ, भारुड या सर्वांचा सखोल अभ्यास लोकसाहित्यात केला जातो.

लोकसाहित्यातून देशाच्या प्राचीन संस्कृतीचे आचार विचारांचे व रितीरिवाजांचे ज्ञान आपल्याला मिळते. लोकांमध्ये प्रचलित असलेल्या मौखिक परंपरा म्हणजे लोकसाहित्य होय. लोकरुढी, परंपरा, विधी, आचारविचार, कलाकौशल्य इ. गोष्टी या गीतांमधून, म्हणी, उखाण्यांमधून पुढच्या पिढीत संक्रमित होतात. अशा परंपरागत अलिखित साहित्याला लोकसाहित्य म्हणतात. अशी व्याख्या डॉ. प्रा. प्रभाकर मांडे यांनी केलेली आहे.

“एका पिढीतून, दुसऱ्या पिढीमध्ये  
संक्रमित होणाऱ्या मौखिक परंपरेला  
लोकसाहित्य असे म्हणतात.”

लोकसाहित्याची लक्षणे अथवा वैशिष्ट्ये

१) लोकजीवनाशी निगडित असणे, त्यातून लोकजीवनाचा सतत अविष्कार होणे लोकजीवनाचे अविभाज्य अंग असणे हे लोकवाडःमयाची मूलभूत वैशिष्ट्ये आहेत.

२) लोकसाहित्य म्हणजे लोकांचे जीवन जगण्याची पद्धती म्हणजे त्या कृती उक्तीतून लोकजीवन अभिव्यक्त होते त्या सर्वांचा यात समावेश होतो.

३) लोकसाहित्य हे प्राधान्याने मौखिक स्वरूपाचे असते लोकसाहित्याला परंपरा असते, ते एका पिढीकडून दुसऱ्या पिढीकडे चालत येते. लोकसाहित्यात समाज मनात असलेल्या पूर्वकल्पना संस्कृतीचे सजीवाशेष व्यक्त होतात. लोकसाहित्याचे अविष्कार साधन शब्द व कृती हे असते.

४) लोकसाहित्य म्हणजे नागरी संस्कृती पासून दूर असलेल्या ग्रामीण व आदिवासी समाजाचे मौखिक व शब्द वाडःमय होय. सौंदर्यभावना, नीतितत्वे, तत्त्वज्ञान व भाषा या चार तत्वांच्या ओढीतून सहजपणे एकत्रित असलेल्या जनसमूहाची अभिव्यक्ती यात मोडते.

५) लोकसाहित्याची शैली अनलंकृत व वेगधन असते लहान लहान वाक्ये, प्रासयुक्तता आणि म्हणण्याच्या गतीचा वाढता ताल यामुळे हे गद्य सामान्य गद्यापासून अलग होते व चूर्णशैलीच्या जवळ येते.

लोकसाहित्याची व्याप्ती खालील घटकावर अवलंबून असते.

१) मौखिक अविष्कार :-

यामध्ये लोकसाहित्यामधील मौखिक साहित्याचा अंतर्भाव केला जातो. पारंपारिक लोकजीवनाच्या शब्दबद्ध अविष्काराचा यात समावेश होतो. यामध्ये कथा, गीते, म्हणी, उखाणे, कोडी यांचा समावेश होतो. या शब्दबद्ध साहित्याबरोबरच लोकप्रचलित धर्मविधी, श्रद्धा, देवदेवता, रुढी, चालीरिती, धारणा, व्रतवैकल्ये सर्व कला व कारागिरी या शल्हेतर साहित्यांचाही समावेश होतो.

२) भौतिक संस्कृती :-

लोकसाहित्यामध्ये भौतिक संस्कृतीचाही समावेश केला जातो. भौतिक संस्कृती ही शब्दबद्ध, लोकसाहित्यापेक्षा वेगळ्या, स्वरूपाची असते. यांत्रिकीकरणापूर्वी लोकजीवनात जी भौतिक संस्कृती होती व अजूनही जी परंपरेने चालत आहे त्या सर्वांचा समावेश लोकसाहित्यात केला जातो यामध्ये सुतार, लोहार, कुंभार, सुवर्णकार यांचे कौशल्यपूर्ण काम व कलाकुसारा यांचा अंतर्भाव होतो. वस्त्रे, विणणे, पाककला, भविष्य जाणण्याची कला या सर्व गोष्टींचा अंतर्भाव भौतिक संस्कृतीतध्ये केला जातो.

३) लोकरुढी व लोकविधी :-

स्मृहाने केलेल्या कृतींचा अंतर्भाव यामध्ये होतो. काही रुढी व परंपरा या कौटुंबिक पातळीवर जोपासल्या जातात. उदा. लग्न, बारसे, विविध प्रकारच्या पूजाविधी, नवस बोलणे, दृष्ट काढणे या अनेक ग्रंथांचा समावेश या लोकसाहित्यात केला जातो.

४) प्रयोगसिद्ध लोककला :-

ग्रामीण समाजाचा अविभाज्य भाग म्हणजे लोककला होय त्यामुळे लोकसाहित्याला हया जीवनाचा एक अविभाज्य भाग म्हणून पाहिले जाते अशा कलेतून संस्कृतीची जोपासना होत असते. समाज जीवनाचे सौंदर्य साकार होत असते. यामध्ये लोकसंगीत, लोकनृत्य, रांगोळी काढणे, अंगावर गोंदणे, चित्रे काढणे, मातीच्या मूर्ती बनविणे इ. समावेश होतो.

थोडक्यात म्हणजे लोकसाहित्याचा अभ्यासाचे महत्त्व हे अनन्यसाधारण आहे. लोकसाहित्याच्या अभ्यासाने आपणाला लोकजीवनाचे विविध पैलू कळतात. लोकसाहित्यातून आपणास लोकजीवनाचा अविष्कार झालेला पहावयास मिळतो. लोकसाहित्याचे क्षेत्र इतके विशाल आहे की, समाजशास्त्र, इतिहास, मानसशास्त्र, मानववंशशास्त्र इ. शास्त्रांचा समावेश होतो वरील विवेचनावरून आपणास असे लक्षात येईल की लोकसाहित्याच्या अभ्यासाचे महत्त्व अथवा प्रयोजन हे अनन्यसाधारण असे आहे.

### ३६ बालसुधारगृहों में अपराधियों की बड़ती संख्या— एक अध्ययन

डॉ. राखी गिरीराज धिंग्रा

#### सारांश :-

प्रस्तुत लेख यह बाल अपराध पर आधारित है। वर्तमान में बाल अपराधियों की संख्या दिन प्रतिदिन बड़ती ही जा रही है। आज यह समस्या सिर्फ भारत देश की ही नहीं है, बल्कि यह समस्या समस्त विश्व में बड़ती जा रही है। वर्तमान में संपूर्ण विश्व के सामने यह समस्या एक विशाल रूप में सामने स्थित हो गयी है। आज संपूर्ण विश्व के माता-पिता, स्कूल, सरकार, आस पास के लोग व रिश्तेदार इन सब की सामुहिक जिम्मेदारी हैं कि, वे बालको के साथ अच्छा व्यवहार करे, जिससे वे अच्छे संस्कारों को सीख सके तथा उचित मुल्यों को ग्रहण कर उन्हें आत्मसाद कर सकें।

#### प्रस्तावना :-

पिछले कई वर्षों से कई प्रकार के अपराधों में बढ़ोतरी पाई गई है। इन सब में पिछले दस साल का रिकार्ड देखने पर सामाजिक स्वास्थ्य की दृष्टि से एक चिंताजनक आंकड़े सब के सामने आए हैं। इन दस साल के आंकड़ों के अनुसार सबसे ज्यादा बाल अपराध अर्थात बाल अपराधियों की संख्या बड़ती जा रही है। उसी के साथ उनके अपराध करने की पध्दतियों में कई प्रकार से बदलाव पाया गया है। जैसे चोरी, खून, डकैती, बलात्कार, सायबर क्राईम, धोखाधड़ी आदि ऐसे कई प्रकार के अपराधों में सबसे अधिक कम उम्र के बालकों को लिप्त पाया गया है।

महाराष्ट्र में २००६ में पोलिस ने कुल ६,००० बाल अपराधियों को पकड़ा था। आप को आश्चर्य होगा कि, लडको के साथ ही लडकियों का भी समावेश इन अपराधों में पाया गया है। उनके अनुसार, लडकियों का चोरी के साथ ही खून तथा बलात्कार जैसे अपराधों में भी इनका बराबर का सहयोग पाया गया है और लडको की अपेक्षा लडकिया का समावेश दिन प्रतिदिन बड़ता ही जा रहा है। जो कि एक चिंता का विषय बनता जा रहा है। पहले

छोटे-बड़े अपराधों में बाल अपराधियों का समावेश पाया जाता था परंतु वर्तमान में परिस्थिति बिल्कुल अलग पाई जा रही है। वर्तमान में गंभीर अपराधों में भी इनकी संख्या बड़ती ही जा रही है। यह समस्या सिर्फ भारत के महाराष्ट्र की ही नहीं है बल्कि यह संपूर्ण विश्व की सबसे बड़ी चिंता का विषय बन गई है।

#### संपूर्ण विश्व के सामने आव्हान :-

संपूर्ण विश्व में बाल अपराधियों के आकड़ों के अनुसार, लडके व लडकियों दोनों ही अपराध में बराबर का साथ दे रहे हैं। बाल अपराधियों का यह ट्रेड सब तरफ बड़ता ही जा रहा है। स्कूल, कॉलेज आदि कई स्थानों पर कम उम्र के बालकों द्वारा चोरी व गोलीबारी जैसी घटनाओं हम आए दिन अखबारों में पढ़ते ही रहते हैं इन सब के पीछे क्या कारण हो सकता है? क्यों आज बाल अपराधियों में इतनी वृद्धि पाई जा रही है? इन सब बातों पर संपूर्ण विश्व के लोगों को ध्यान देना अतिआवश्यक हो गया है। इस प्रकार की जागरूकता की शुरुवात प्रत्येक व्यक्ति के घर से होनी चाहिए। परिवार अगर अपने बच्चों पर अच्छे से ध्यान देगा तो कई प्रकार की बुराईयों और अपराधों की शुरुवात होने से रोका जा सकता है तथा अपराधों को जड़ से खत्म करने में बहुत मदद मिल सकती है।

#### समाज—व्यवस्था का दोष :-

अमीर वर्ग और गरीब वर्ग इन दो में वर्गों में सारी दुनिया बंटी हुई है अर्थात एक देश, राज्य तथा समाज में एक अमीर सुखी है तो दुसरा गरीब पीछड़ा हुआ वर्ग है। इन दोनों ही वर्गों के बच्चों की परवरिश अलग-अलग माहौल तथा परिस्थितियों में हुई है। अमीर वर्ग के पालाकों का नियंत्रण अपने बालकों पर नहीं के बराबर ही होता है। इस वर्ग के बहुतांश बालकों को जरूरत से भी अधिक सामान बड़ी ही आसानी से प्राप्त हो जाता है। वहीं दुसरी तरफ झोपड़ी में रहने को मजबूर तथा रोज के लिए दो वक्त की

रोटी कमाने तथा जिंदा रहने के लिए, दिन रात एक करने वाले गरीब लोगों को अत्यधिक जरूरत का सामान भी बड़ी मुश्किलों से प्राप्त होता है। इन दोनों वर्गों में यह दुरी तो हमेशा ही बनी ही रहने वाली है। अनुसन्धानकर्ता को सबसे ज्यादा इस बात की चिंता सता रही है कि सभी सुविधाओं के होते हुए भी अमीर वर्ग के बच्चे कई प्रकार के अपराधों में क्यों लिप्त पाये जा रहे हैं? आज गरीब वर्ग और अमीर दोनों के वर्ग के बालक अपराधों में बराबर से शामिल हैं। यह बात सचमुच एक चिंता का विषय है।

शहरों में आज की जीवन शैली यह भौतिकवाद को सर्वस्व मान कर चल रही है। बालकों को हकीकत और यश इन दोनों में बहुत ही ज्यादा दुरी नजर आ रही है। डिग्री है पर काम नहीं, तो कहीं काम है तो बड़ी डिग्री होने के कारण छोटा काम नहीं कर सकते। इस प्रकार से आज का बालक कई प्रकार की दुविधाओं में घिरता जा रहा है। आर्थिक संपन्नता ने बालकों के सामने कई प्रकार के लालच को जन्म दि दिया है। उन्हें दोस्तों, समाज, आफिस के लोग आदि के सामने अपनी एक अलग पहचान और एक अमीर रूप में पहचान बनाने की चाहत उन्हें कई प्रकार के अपराधों की ओर अपने आप ही खींच ले आती है। जिस कारण झुठ्ठी शान व खुशी पाने के चक्कर में वे अपराध करने की ओर खींचे चले जाते हैं। वहीं दुसरी ओर गरीब वर्ग के बालक पाँकीटमार, लुटपाट, चोरी, डकैती इस प्रकार के अपराधों में अधिक पाये गए हैं परंतु सबसे बड़े आश्चर्य की बात यह है कि, इन दोनों ही वर्ग के लोगों का ड्रग्स के व्यसन में प्रमाण बढ़ता ही जा रहा है। जिस कारण भी बाल अपराधियों की संख्या बढ़ती ही जा रही है।

#### समाजिक अध्ययनकर्ता के अनुसार :-

समाजिक अध्ययनकर्ता डॉ. जास्मिन दामले इनके अनुसार, “आर्थिक असमानता, आर्थिक विषमता और नैतिक शिक्षा के अभाव के कारण बाल अपराधियों की संख्या बढ़ रही है। एक तरफ देश प्रगति कर रहा है पर लाखों लोग आज भी झोपडपट्टी में रह रहे हैं। यह एक गंभीर सामाजिक सत्यता है। यह वर्ग मूलभूत

सुविधाओं से आज भी वंचित ही है। लोगों की जरूरतों को पुरा करने में सरकार और समाज दोनों के हाथ अपयश ही आया है।”

#### मनोवैज्ञानिकों के अनुसार :-

“बाल अपराध यह बहुत ही गंभीर और उलझन में डालने वाला विषय है” ऐसा मनोवैज्ञानिकों का कहना है। डॉ. हरिष शेटी इनके अनुसार, “इन सब अस्वस्थ करने वाली बातों के पीछे पैसा यह सब से बड़ा कारण है। आपके पैसों पर हमारा हक है, यह प्रवृत्ति बड़ रही है। पालक और बालकों में अर्थपूर्ण बातचीत न होने के कारण बालकों के सामने सही और गलत दोनों में फर्क करना मुश्किल हो रहा है। उन्हें सही—गलत का मार्गदर्शन देने वाला कोई नहीं है। स्वयं की पहचान बनाने हेतु मानसिक रूप से हौसला देने की आज सबसे ज्यादा जरूरत है। निराशा, अर्थपूर्ण शिक्षा, सामाजिक विषमता, स्पर्धा, प्रथम आने की होड़ आदि के कारण बाल अपराधियों की संख्या बढ़ रही है।” आज बालकों के सामने फिल्मों में काम करने वाले अभिनेता उनके आदर्श हैं। कोई चीज मिली नहीं या फिर मन के अनुरूप हुई नहीं या फिर अपनी जिद को पुरा करने के चक्कर में अपराध करने लगते हैं। निराशा के कारण या फिर अति उतावले स्वभाव के कारण य बालक ड्रग्स की चपेट में आ जाते हैं। मजा करना अथवा ‘श्रिल’ करने के चक्कर में यह बालक कार चोरी अथवा सिग्नल तोड़ने जैसे अपराध करने लगते हैं।

#### पोलिस उच्च आयुक्त के अनुसार :-

एक पोलिस उच्च आयुक्त के अनुसार, “सायबर क्राईम में भी बाल अपराधियों का सहयोग है। अश्लील मैसेज भेजना, फेक प्रोफाइल बनाना जैसे अपराध वे बहुत ही आसानी से कर रहे हैं। इन सब के पीछे माता—पिता का अपने ही बच्चों से सुसंवाद न होने के कारण इन अपराधों की संख्या बढ़ती ही जा रही है।

#### कानून में बदलाव :-

१९८६ तक उम्र के अनुसार अपराधी और बाल अपराधियों की सजा में कानून कुछ भी बदलाव नहीं किया जाता



था, परंतु २००० में इन सभी कानून में बदलाव किया गया और बाल अपराधी न्याय कानून इस नाम से कानून को लागू किया गया। इस कानून के अनुसार, बाल अपराधियों का पुनर्वसन, उनकी देखभाल, दत्तक पालक मिलाकर देना इस पर अधिक जोर दिया गया। जिस हेतु स्वयंसेवी संस्थाओं की मदद की ओर अधिक महत्व दिया गया।

#### बाल सुधारगृह में सुधार की आवश्यकता :-

वर्तमान में बालसुधारगृहों की स्थिति बहुत ही दयनीय और गंभीर है। उदा. पर देखा जाए तो मुंबई के डोंगरी रिमांड होम की क्षमता २००० है, परंतु वास्तव में वहां पर २४०० बाल अपराधियों को रखा गया है। ३५ प्रतिशत से ज्यादा बालकों की उम्र १८ वर्ष से अधिक है, परंतु उनके केस अभी तक हल नहीं हो पाये हैं। यह सब बातें सचमुच अत्यधिक ही गंभीर परिस्थितियों का निर्माण करती हैं।

#### माता—पिता स्कूल तथा हम सभी की जिम्मेदारी :-

बालक और माता—पिता इनके बीच सुसंवाद, आर्थिक विषमता कम करने का प्रयत्न, स्कूल व घर में अच्छे व उत्तम संस्कार और शिक्षा देने से बाल अपराधियों की संख्या में बड़े पैमाने पर बदलाव किया जा सकता है। बालकों के विध्वंसक विचारों में बदलाव लाकर और उनके व्यवहार में बदलाव लाना यह हम सबकी जिम्मेदारी है। अन्यथा यह प्रश्न गंभीर स्वरूप में धारण कर सकता है।

माता—पिता का प्रथम कर्तव्य है कि, वे अपने बालकों की सभी गतिविधियों पर गौर से ध्यान दें। उनके दोस्तों पर नजर रखें, वे कहाँ जाते हैं? किनसे मिलते हैं? दिन भर क्या—क्या करते हैं? इसे पहले उनसे प्यार से पूछें। अगर लगे कि वे सही जवाब नहीं दे पा रहे हैं, तो फिर उन पर पूरी तरह से नजर रखें। सबसे ज्यादा उनके खर्चों पर ध्यान दें कि, किस चीज पर ज्यादा खर्च कर रहे हैं? या उन के पास इतना पैसा आ कहाँ से रहा है? इन सभी बातों पर ध्यान देने से उन्हें अपराधिक मामलों से बचाया जा सकता है। बालक को जब यह एहसास होगा कि, कोई है जिसे मेरा ध्यान

है? मेरी परवाह है, या फिर माता—पिता अगर उनसे खुल कर बात करते हैं, तो वे बहुत ही शांत व अच्छा महसूस करते हैं। जिससे वे बुराईयाँ की तरफ काफी हद तक नहीं जा पाते हैं। इन सभी छोटी—छोटी सी बातों पर ध्यान दे कर हम बालकों को बाल अपराधि बनने से रोक सकते हैं।

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