



Indian Council of
Social Science Research

Rizvi Education Society's
Rizvi College of Education
Affiliated to University of Mumbai

Organises

ICSSR
(MHRD, New Delhi)

sponsored

National Conference

titled



**Visualising 21st Century
Educational Milieu
Achieving Skill Competence
Through Unconventional Practices**

17th – 18th December, 2018

MEDIA PARTNER

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Dr. Shivendra Gupta
Vice Chancellor

FOREWORD

Dr. Shivendra Gupta

Vice Chancellor

Veer Narmad South Gujarat University

In my role as Vice Chancellor, I'm fortunate enough to interact with educators in many different states of India. It will undoubtedly come as no surprise to educators present in this educational forum as to how many of those systems are considering the area of skills development. As an educator, I too have been working to support teachers to develop their pedagogy around skills development since over a decade and I've focussed on that because of three key challenges they are facing.

First, there are a growing number of students that are simply intellectually disengaging from their schooling because of their perception that education isn't relevant to them in terms of their future lives or employability prospects. Secondly, despite employers demanding higher order cognitive skills from their employees, traditional assessment methodologies are still largely focused on knowledge, and therefore there's a pressure within the school system to continue to focus on teaching and securing that knowledge. And finally, because the capacity for human interaction has changed so enormously through developments in communication technology, it's essential to ensure that young people are taught the appropriate skills not only to utilize those opportunities but also to question what they read and critically engage with what they learn.

Aim of such educational forums is to support systems – and the teachers within them – to address some of those challenges and to specifically choose to focus on skills which align unconventional practices in teaching. On this note, I would like to applaud the efforts of the Rizvi College of Education to merge these ideas and come up with a National conference which is themed around learning outcomes which is basically catering around all the aspects of 21st Century Educational Milieu. Such forums will not just benefit the teacher fraternity, but will also lay a foundation for promotion of non-stereotyped classrooms and unconventional teaching – learning practices.

Dr. Shivendra Gupta
Vice Chancellor

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MESSAGE FROM THE PRESIDENT

The current phase of industrial revolution 4.0 calls for relevant development/changes in the field of education. Education is being revolutionised everyday by technology and being made accessible to the untapped masses. In today's modern and fast paced world, unconventional practices become a norm to ensure future success of students and success of those around them. In the constantly evolving field of education, one must find ways to accommodate changes with respect to demands, technology, students' needs, pedagogical trends and other challenges. Unconventional Classroom is a viable option that will reignite your passion for teaching and send you back to the classroom with tons of new teaching strategies and ideas.

Unconventional practices are not just about technology driven classrooms but about continuous and comprehensive evaluation, cross-curricular connections, linking curriculum to life, development of skills and values, civic engagement, integrative and social responsibility. It has allowed education to be brought outside the classrooms and still have all the necessary components to impart knowledge to students in a controlled manner. Individual learning is acknowledged rather than class of student as a whole. It is constantly opening up the new frontiers in education. The only question that remains for forward-thinking teachers is what new technologies will emerge and how will they be utilized. The teachers who adopt these unconventional practices are the conceptual innovators laying the groundwork for future generation of teachers. They work on modification of classroom practices to help the learners understand and take charge of improving their own learning processes. Without such informal intervention, students with learning differences may feel lost in the educational shuffle. The national conference on Unconventional Educational Practices has been convened to deliberate areas of education that need attention and change.

Dr. Akhtar.Rizvi
President
Rizvi Education Society

MESSAGE FROM THE DIRECTOR

As we are moving briskly into the 21st century education system, it becomes imperative to realize how important it is for leaders, teachers, school administrators and parents to know where we are heading in terms of education scenario: teaching-learning processes, pedagogical methodologies and practices, the role of technology and media and the impact of globalization. Nowadays, at the beginning of the new school term, our school is holding teachers sessions on how to question the learners and enable them to get their answers. But besides asking and giving the learners a plethora of questions our educators, administrators, policy makers, teachers and stakeholders need to answer many questions themselves on the prospective relevance of teaching paradigm for the new century learners. The conference on Unconventional Practices in Education is a platform to answer such important questions. Unconventional teaching practices goes beyond textbooks and four walls of classrooms to make learning more than a rote sport to having limitless possibilities to improve the educational process. It aims to give the students an in-depth exposure of the subjects and fill the educational experience with enlightening values. It brings lessons to life replacing stale traditional methods of conveying information with innovative technologies such as tablets, netbooks, interactive whiteboards, wireless solutions, **Panel Discussions, Presentations, Role Playing, Film Viewing, Debates and Speeches etc.** It helps prepare students become culturally competent, caring and contributing local and global. At Rizvi Education society our endeavour is to bring the best to the teacher education fraternity and this conference has been convened with the same purpose.

Adv. (Mrs.) Rubina A.H. Rizvi
Director
Rizvi Education Society



PREFACE

Dr. Radhika Vakharia

Conference Convener and Editor

Rizvi College of Education

This conference aimed at bringing together the forum for rich discussion on reviewing and learning lessons about the shifts in educational practices. The theme of the conference ‘Visualising 21st Century Educational Milieu: Achieving Skill Competence Through Unconventional Practices’ was chosen because of the significance of making education relevant, powerful and authentic to learners of the 21st century. In the face of the stunning scientific and technological innovations; socio economic challenges and opportunities and amazing cultural awakening rethinking of the educational milieu becomes necessary. Discussions in the conference critically analysed the convergence of unconventional practices, technology, ideologies and values for improving educational performance at global-local paradigm. It enriched knowledge and skills on contemporary strategies against conventional wisdom of managing education. This conference contemplated on developing new visions and practices to match with the changing educational ideologies in the emerging field of education. It ignited a new movement in education which combines academic education with practical learning and traditional teaching with new technologies. The conference proceedings of the conference has varied papers published on the several subthemes of the conference.

Subtheme 1- Strengthening the Workforce through Leadership Development

Subtheme 2 – Breakthrough beyond the boundaries by Distance Learning

Sub-Theme 3 - Using Quality principles to enhance the fundamentals of learning and performance in Indian classrooms

Sub Theme 4 – Implementation of innovative strategies to promote effectiveness in education

Subtheme 5 - Social Justice and Psychological wellbeing in Inclusive Education

Sub Theme 6 – Undertaking Research practices for quality enhancement

Subtheme 7 - 21st Century Assessment in Education: Moving Beyond the Conventional Methods

We thank the management of Rizvi Education Society, Indian Council of Social Science Research, Our Academic Partners MINDSPEAK and NEXT Education, NGO Partners PCGT and Media Partners The Greater Mumbai for their generous support and encouragement.



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EFFECT OF STRESS REDUCTION MODEL ON FRUSTRATION OF 21st CENTURY HIGHER SECONDARY STUDENTS

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Abstract

The present study entitled “Effect of Stress Reduction Model on Frustration of 21st Century Higher Secondary Students” belongs to the area of Models of Teaching. The Stress Reduction Model belongs to the family of Behaviour Modification Model. This was an Experimental Study. The study is an attempt to prepare students to face the day-to-day problems and queries about living life with sound mind and healthy body i.e. setting equilibrium among Affective, Cognitive and Conative domains by coping the day to day frustrations, anxieties, conflicts and other negative emotional states and reducing their frustration. Moderate level of Frustration can be coped. It comes as a result to get adjusted in fast paced 21st century IT era. In contrast high level of frustration become incapacitating as concentration and performance are disrupted. When an individual crosses that level of frustration it becomes hazardous in many respects and gives rise to cognitive and somatic ailments such as: Stress, High blood pressure, Nervous fatigue, Ulcers etc. Many Relaxation Therapies have been experimentally tested for their potentialities to reduce Frustration. But there is no experimental study related to Moving Focus Relaxation Therapy meant for reducing Frustration. The Stress Reduction Model has not yet been tried out in Indian condition. To fill this gap, the present study was undertaken.

Keywords: Behaviour Modification, Frustration, Relaxation Therapies

INTRODUCTION

Anything which inhibits in achieving goal leads to frustration. It is one of the major stress out of six major types of stresses i.e.: (i) Performance, (ii) Threat, (iii) Boredom, (iv) Frustration, (v) Bereavement and (vi) Physical stresses. Frustration is something that every one of us has but the level / extent to which everybody is affected vary from person to person. Also, because of the individual differences the level of tolerance varies. Some have very high tolerance level while others have very little. In the present century many of us are frustrated because of our work place problems. Consequently, they start fighting with their mates, scold / beat the kids, snap at the neighbours and can be unpleasant to all around them. The adolescents of the present century also face many situations in which they get frustrated very easily and show behavioural abnormalities such as aggression, fights, unpleasant to peer/ teacher or anyone around them. As a result, their first response, as they are frustrated, is to light a cigarette, eat gutka, drink tea, eat nails, murmur, vibrate legs, reach for a drink in a bar or take drugs. Such approaches

releasing tension further leads to problems, which lead to more frustration and difficulty in coping.

Students of the 21st century need to get awareness about the coping strategies with the help of which they can keep themselves away from these negative emotional variables. Stress Reduction Model is one such relaxation therapy which can be used by students to enrich their healthy habits of living stress free life. Most of the studies in this area have been conducted abroad and very few studies in this area have been conducted in India. Further from the available therapies Moving Focus Relaxation (which includes let go, Progressive Muscle Relaxation and Deep Muscle Relaxation) was not applied in India. Also, the studies are so diverse in respect of Sample, Design, Treatment and Analysis that no generalization can be made. Further, in Indian context there is a need to undertake researches using different Relaxation Therapies. So, it was thought to take up Stress Reduction Model (which is based on Moving Focus Relaxation Techniques) as a treatment. Moreover, most of the studies on frustration have been focused on clinical sample or hospitalized patients. The findings so obtained may or may not be applicable to general population. Keeping this in view, an attempt has been made to study the effect of Stress Reduction Model on frustration of higher secondary students.

STATEMENT OF THE PROBLEM

The problem was worded as follows:

“Effect of Stress Reduction Model on Frustration of 21st Century Higher Secondary Students”

OBJECTIVE

The following was the objective of the present study:

To study the effectiveness of Stress Reduction Model on the basis of Frustration of students.

HYPOTHESIS

There is no significant difference in mean scores of Frustration before and after the Treatment through Stress Reduction Model.

SAMPLE

The study was conducted in three schools situated in Indore having Higher Secondary Classes. For this study, 128 class IX students were selected through Random Sampling Technique. The Group was assigned the treatment. The sample represented both the sexes. Their age ranged from 13-15 years. The medium of instruction was English and the sample belonged to Above Average and Below Average Socio- Economic Status.

DESIGN

The present study was experimental in nature. It was designed on the lines of Pre-test Post-test Single Group Design. As per Campbell and Stenly (1963), the layout is as follows:

O X O

The group was pre-tested by administering Frustration Test. The subjects were treated through Stress Reduction Model. The Treatment consists of five phases viz. Setting the stage, Warm up and Transition, Moving Focus Relaxation, Wind up, and Debriefing and Transfer. Every day the treatment was given for 35 min. The total treatment duration was five months. At the end of the treatment the group was post-tested with the help of same tool which was used for pre-testing.

TOOL

The Frustration Test developed by Chouhan and Tiwari (1972) was selected for present study. The scale consisted of 40 items. Out of which each of the four modes of Frustration i.e. Regression, Fixation, Resignation and Aggression has 10 items. Each of the 40 items has five answers (multiple choice) graded on five-point scale on the positive dimension. The Frustration Test can be used with the subjects from IX to XII standard. The reliability of Frustration Test for IX grade males and females was established by test - retest method and the reliability coefficient for males and females were 0.83 and 0.91 respectively.

PROCEDURE OF DATA COLLECTION

The present study was experimental in nature. The study was conducted in three schools situated in Indore. For this the permission from the school principals was taken. The schools were selected so that they were having Higher Secondary classes. For this study, IX class students were selected. The group was pre-tested by administering Frustration Test. After this the Group was treated through Stress Reduction Model. The Treatment consisted of five phases. The transcript of Stress Reduction Model was presented in the form of audiotape instructions. In phase I students were allowed to find a comfortable position and close their eyes. They have done this by taking out their specks, ties, loosening their belts, removing their shoes etc. After that in phase II, general orientation and instructions were given to the students. In phase III, Moving Focus Relaxation, relaxed atmosphere was established through voice, tone, and tempo. Also students were instructed to focus on individual parts of body from feet to face. The instructions were as follows:

- Allow your focus to fall on your feet. Be aware of how they are becoming relaxed, how those muscles in the top of your feet, in your arches, around your ankles, all the way down to the tips of your toes are smoothing out and becoming very relaxed. Good
- Now allow your attention up to your calves. Notice how as you focus on these muscles gently, they begin to stretch out and become more and more relaxed, those long muscles in your calves are smoothing out and become more and more relaxed. Good

In this way the instructions were delivered so as to shift up the focus to all the important muscles. The important muscle groups include large muscles in their thighs that extend up to their hips, waist muscles, abdomen muscles, lungs and breathing muscles, muscles of neck, hands, arms and waist, face muscles, muscles associated with mouth and tongue. In this way simply by letting their muscles stretch out and let go they become calm and relaxed. In phase IV, wind up phase, students practiced rest, and tension and release. This they have done by first noticing where the tension is still remaining and then they have tensed that muscle, observed the tension in that muscle and then slowly released the tension of that muscle. In this way remaining tension in the muscle ends and this way the subjects were aroused from relaxation. In phase V of Debriefing and Transfer experimenter obtained feedback from students based on their reactions, feelings and sensations. They were also motivated to interact about their new experiences after doing this therapy. The experimenter also discussed ways and times students can use relaxation therapy during their day. Along with this the experimenter responded to their questions or problems faced during or after the relaxation therapy. The treatment continued for five months at the rate of 35 min. per working day. At the end of the treatment the group was post-tested with the help of same tool, which was used for pre-testing.

DATA ANALYSIS

In order to study the effectiveness of Stress Reduction Model on the basis of Frustration, the data were analysed using correlated t-test.

RESULT AND INTERPRETATION

Frustration was assessed through Frustration Test before and after the Treatment. The Treatment was through Stress Reduction Model. The data were analyzed with the help of correlated t-test. The results are given in Table 1.

Table 1: Testing-wise Mean, SD, r and t-values of Frustration

Testing	Mean	SD	r	t-value
Post – test	8.68	2.58	0.44	5.80**
Pre-test	10	2.27		

** Significant at 0.01 level.

It is evident from Table 1 that the correlated t-value is 5.80, which is significant at 0.01 level with $df = 127$. It shows that mean scores of Frustration before and after the Treatment through Stress Reduction Model differ significantly. In this context, the null hypothesis that “there is no significant difference in mean scores of Frustration before and after the treatment through Stress Reduction Model” is rejected. Further, from Table 1 it is evident that the mean score of Frustration after the treatment through Stress Reduction Model is significantly lower than

before treatment. It may, therefore, be concluded that Stress Reduction Model has potentiality in reducing Frustration of students significantly. Thus, Stress Reduction Model was found to be effective on the basis of Frustration.

FINDING

Stress Reduction Model has the potentiality in reducing Frustration of students significantly.

DISCUSSION

When the persons are Frustrated, their body is likely to produce high blood pressure, increased pulse rate, and increased blood circulation to the large muscles resulting in tension on those muscles. Other symptoms might be rapid, shallow breathing and cold sweaty palms. Thus, when a person feels anxious or frustrated he or she experiences an accompanying sense of threat, physical tension, emotional inadequacies and tautness. After practicing the Stress Reduction Model students might have established calmness in body and mind. These techniques decrease the body's consumption of Oxygen, help in attaining normal breathing, normal heart rate, normal blood pressure and increase brain wave activity. All this increase energy, decrease fatigue, headache, negativity, and hence reduce Frustration.

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HARDINESS: THE 21st CENTURY SKILL OF MAKING LEMONADE OUT OF LEMON

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Abstract

Lifespan of a human beings consist of chockfull of changes in this 21st century IT era and anything that reasons change in life is a source of stress. Whether the change is entering puberty, physical, mental and emotional breakdown, getting married, domestic violence, miscarriages, pre and post-natal period, menopause etc. they all lead to stress and stress leads to many cognitive and somatic ailments. The consequences of living under continuous and/or severe stress, equivocally prove (Lazarus, 1966) that the stress produces mental illness, various kinds of maladaptive behaviour such as suicide, withdrawal etc., violent behaviour and it may result in the use of drugs by an individual. So as to cope up with the stresses associated with the changes in the life span of an individual, a change in lifestyle needs to be adapted by everyone. A change of drawing upon personal strengths that have been held in reserve, hardiness is one of those signature strengths an individual can opt for making her life more successful. A hardy person consists of three key factors: control, commitment and challenge (Kobasa, 1979). Altogether these three factors allow the individual to attain success when undergoing changes which are stressful. Hardiness is the key to the resiliency for not only surviving, but also blooming, under stress. Hardiness enhances performance, leadership, conduct, stamina, mood and both mental and physical health. Many research investigations have found that hardiness relates to both good physical and good mental health (Kobasa and Puccetti, 1983; Nowack, 1989; Florian, Mikulincer and Taubman, 1995). Many of the studies have been conducted abroad and very few studies in this area have been conducted in India. Further, the awareness related to benefits of hardiness may not be popular. Keeping this in view, an attempt has been made to study the benefits of skill of hardiness every individual should opt for in this jet paced 21st century.

Keywords: Hardiness, maladaptive behaviour, cognitive and somatic ailments.

INTRODUCTION

Human beings work continuously from rising to snoozing. In the due course of multi-tasking they faces n number of challenges, and to face those challenges they confront themselves to different types of stresses. Formally, individuals especially females were expected to be there at home and were accountable for the family, but today, in 21st century both women and men are holding a job along with taking care of children and fulfilling the needs and demands of the

family. It can therefore be said that professional men and women consistently experience distress and other negative emotional variables associated with distress. The reason behind distress may be more domestic responsibilities, having been socialised to say 'YES' to all demands and requests. Also, in case of women, because of sensitivity towards hormone called corticotropin releasing factor (CRF) they are more prone for stress related disorders (Macrae, 2010). According to 2015 study published by the centre for Disease Control Prevention (CDC), women are more likely to experience serious psychological Distress than men are. Women are also up to 40 percent more likely to develop mental illness than men (Enochs 2015). Excessive prolong and uncontrolled stress can have a harmful effect on cognitive, somatic and affective health. If left untouched aggression, frustration, fear and depression generated by stress leads to variety of diseases/illness. Common amongst them are insomnia (sleeplessness), stomach complaints, skin problems, and migraines. Stress again is the root cause of heart diseases, cancer, respiratory problems, memory loss, addiction and suicides.

WHAT IS STRESS?

Stress is the most deliberating medical and social problem of the present century. According to the psychiatrist Ainsley Meares quoted by White and Fadiman (1976), first stress affects, then it infects. The word "Stress" was viewed in different ways by different psychologists, physiologists and scholars. Stress attracted the attention of the people belonging to medical area in the year 1956. Selye (1956) defined stress as: "The disturbance of the structure or functioning of tissue system as a result of noxious stimuli, such as heat, cold, micro-organisms or physical injuries." Later on the concept of stress changed towards the psychological aspect when Lazarus (1966) argued that stress does not arise from life events themselves but from the individuals' cognitive evaluations of the challenge, threat or harm posed by a particular event. In 1983 Wongripat defined stress as a natural, physical and emotional response to an event or thought that might affect our well-being and cause exacerbation of illness. According to Dunham (1984) Stress is a process of behavioural, emotional, mental and physical reactions caused by prolonged, increasing or new pressures which are significantly greater than coping resources. Stress is thought to be the product of anything that requires change in a system (Joyce and Weil, 1985). As a psychologist, Kegan and Segal (1988) defined stress as a body's reaction to anything that threatens to damage the organism. According to Scott (1988) stress is any unpleasant and disturbing emotional experience due to frustration. Carson and Butcher (1992) said that stress refers to the internal responses caused by application of a stressors. Keenan (1998) observes that people tend to experience stress when the pressure around them becomes excessive. The discomfort they are feeling, according to Keegan is stress. Roger 1998 described stress as a "pre-occupation with the negative emotions following the event."

From the analysis of above definitions, it is evident that stress has been defined both from the point of view of physiology as well as that of psychology. In all these definitions it is highlighted that stress leads an individual in an uncomfortable situation both physiologically and / or psychologically. Therefore, stress may be defined as a condition where an individual finds disequilibrium within himself and between himself and the environment surrounding him.

TYPES OF STRESS

Anything that causes change in our life causes stress. It does not matter whether it is a “good” change or a “bad” change but both are stress. Most of us associate stress with something negative. However, it may be noted that not all stresses are negative Selye (1956,1976a), Rathus (1987), Wade and Tavis (1990), Seamon and Kenrick (1992), Oltmanns and Evrery (1995), Carson et al. (1996), Keenan (1998), Aamodt (1999), Rathus (2001) etc. classified stress into two kinds, namely: (i) positive stress / good stress (Eustress) and negative stress / bad stress (Dys- stress or di-stress). Joseph (2002) quotes, “When we face a sudden fatal situation, the body instantaneously reacts to protect / save itself against that situation.” For example, while walking on a road, you find a truck out of control, rushing in your direction. Unless you jump aside, you’ll be run over by the truck. As soon as the mind senses the situations like this, it passes signals to the brain. When the brain perceives the threat, a good amount of hormones such as adrenaline, cortisol, etc. are pumped into the blood which help to decide whether to flee or flight under such situation. The hormones pumped into the blood as a stress response gives you energy to propel your muscles. This stress response is good (Eustress). However, if it is not terminated in time, the after-effects could be bad (distress).

SYMPTOMS OF STRESS

Certain people are predisposed by their personalities to express stressful events as especially stressful, which in reality affect their symptoms and / or their rates of illness. This psychological state is known as negative affectivity (Watson and Clark, 1984), a pervasive negative mood marked by anxiety, depression and hostility. Individuals high in negative affectivity express distress, discomfort and dissatisfaction across a wide range of situations (Brett, Brief, Burke George, and Webster, 1990, Watson and Clark, 1984). People who are high in negative affectivity are more prone (addiction) to drink heavily (Frances, Franklin and Flavin, 1986), to be depressed (Francis, Fyer, and Clarkin, 1986), and to engage in suicidal gestures or even commit suicide (Cross and Hirschfeld, 1986). People who are high in negative affectivity report higher level of distressing physical symptoms such as headache, stomach, and other pains especially under stress (Watson and Pennebaker, 1989).

When people are under stress over a period of time, their resistance to disease is lowered, blood pressure goes high, bones become brittle, mouth goes dry, senses experience “burn out”, and their error rate increases. The resistance to illness in such people becomes quite low and they are easily and increasingly susceptible to illness and physically and emotionally exhaustive. All these are signals indicative of stress. Quina (1989) has listed some of the most important of these symptoms which if made familiar can help us know whether we are under stress or not.

- Snapping at colleagues and students.
- Doing things hurriedly that do not need rushing.
- Dropping things and accidentally breaking them.
- Losing keys, pens, glasses, and other articles.
- Working in slumped postures mostly looking downward.

- Feeling a victim of being oppressed by imagined peer or administrative demands.
- Paying little attention to environment as one passes by.
- A feeling of being dominated by time.
- A feeling of faintness and weakness.
- Cutting other people off or finishing their sentence for them.
- Not listening to others.
- Inability to respond to humour or laugh at oneself.
- Speaking so rapidly that others cannot follow comfortably what is spoken.
- Leaving no room for possibilities by always speaking in terms of absolute such as all, never, must, etc.
- Showing tendency towards being dogmatic, argumentative and being locked into fixed positions.
- Voice level often shows vibration: sometimes too loud and often so soft that one has to request for repetition.

As mentioned in website www.dummies.com, symptoms of distress are:

Physical Indications: Headache, stomach disturbance, pain or tightness in neck or shoulder muscles, sweaty hands.

Emotional Unsteadiness: Depression, impatience, fatigue, self-consciousness, lack of confidence etc.

Behavioural Symptoms: Changes in eating or sleeping patterns (more or less than before), lack of focus, forgetfulness, worry, erratic driving, alcohol or other drug use, poor job performance and prevailing negative attitude.

According to Kobasa (1979) three common symptoms of good stress (Eustress) are:

- Commitment or the tendency to involve oneself in whatever one encounters.
- Control or the sense that one causes the events that happen in ones life and that one can influence ones environment.
- Challenge is willingness to undertake change and confront new activities that represent opportunities for growth.

These symptoms of Eustress results in:

- Keeping us alert
- Motivates us to face challenges
- Drive us to solve problems.

The symptoms of bad stress (Distress) are:

- Smoking
- Nervous tics or twitches
- Compulsive eating

These symptoms of Distress results in:

- Addiction
- Cognitive and Somatic Ailments
- Obesity

WHAT IS HARDINESS?

The term Hardiness was introduced by Kobasa. According to her hardiness as a personality trait having the components of commitment, challenge and control and is found to be associated with strong resistance to negative feelings induced by adverse circumstances. Kobasa (1979) introduced the concept of Psychological hardiness and suggested that hardiness moderates the relationship between stressful life events and illness. Kobasa described Hardiness as being comprised of mainly three components:

Commitment: Individuals high in the commitment attitude become involved in a situation rather than withdrawing from it, they basically turn stressful circumstances with catastrophic potential into growing prospects. They don't easily bucked under pressure due to investments made to self and to the environment. (Judkins et al, 2005) Hardy people have a strong commitment towards their self, family, work and other morals and values and they set themselves as an example for their children and society.

Challenge: Hardy individuals consider the stressful situations as less dangerous and more controllable (Zakin et al, 2003), additionally, hardiness attitude enhances stress resistance in various life situations (Kobasa, Maddi & Khan, 1982). People who are hardy basically enjoys challenges in their lives. Change is a challenge and not a threat for them. Change to hardy People are motivations they accept the unexpected and accommodate to the change by exploring the resources to approach and

Control: Individuals who feel less threatened by the stressful situations and feel more control over the environment are able to confront challenging situations with calmness and self-confidence (Maddi & Hightower, 1999). A hardy individual faces the unpleasant events and control them by accepting the responsibility for both the failures and successes in their life.). Individuals who are high in control attitudes think that they can influence outcomes, rather than seeing themselves as powerless in the face of circumstances. They are able to manage their schedules, such as time management increasing their activities leading to academic excellence, and taking responsibility for their own learning and development (Sheard & Golby, 2007).

HOW HARDINESS HELPS?

Quoting George Valliant, Chopra (1993) said that even if someone appears perfectly healthy in youth, he is very likely to die prematurely, if he reacts poorly to stress. Valliant's study indicated that people with poor mental health become subjected to chronic illness and death as compared to men with better mental health. Valliant concluded that early ageing defined as irresistible physical decline is retarded by good mental health and accelerated by poor mental health. Age between 21 and 46 are the most formative years for establishing a secure sense of

self. Once the seed is planted, the results of mental health show up physically in one's 50s. Late middle age, says Chopra (1993) is the perilous decade often called "the danger zone" for it is then that premature heart attacks and run away hypertension's and many types of cancer first show up in great numbers.

Many research investigations have found that hardiness relates to both good physical and good mental health (Kobasa and Puccetti, 1983; Nowack, 1989; Florian, Mikulincer, and Taubman, 1995).

CONCLUSION

Stress does not make individuals sick but giving up their inner flexibility to what stress does. The greatest threat to life and health is having nothing to live for. When we have commitment to complete and motivations to comprehend, life becomes meaningful. Life becomes worth living.

Individuals high in hardiness are hypothesised to be better able to withstand the negative effects of life stressors and therefore are more likely than individuals low in hardiness to become ill. Their resistance to illness presumably results from perceiving life changes as less stressful (Kobasa, 1979) or for having more resources at their disposal to cope with life changes (Kobasa, 1982). In support of this hypothesis Kobasa found that hardy executives were more likely to remain healthy under conditions of high stress than were non hardy executives (Kobasa, Maddi and Khan, 1982)

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A STUDY ON EFFECTS OF STORY-TELLING ON EMOTIONAL DEVELOPMENT OF ADOLESCENCE

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Abstract

Emotional development is the ability to recognize, express and manage the use of emotions effectively and productively at different stages of life which are largely affected by relationships among teenagers with parents, siblings, and peer groups. In similar terms, emotional intelligence can be defined as, the set of skills that people use to read, understand, and react effectively to emotional signals sent by others and oneself. Skills such as empathy, problem-solving, optimism and self-awareness which allows one to reflect, react, and understand various environmental situations. It is clear that these skills are one of the primary foundations for better performance of a student in academic and social life. The purpose of the study was to determine how story-telling can affect the emotional quotient of the growing children belonging to age group of 13 to 15 years old. During the study, a set of students were given a questionnaire to evaluate the aspects of their Emotional Intelligence. The factors such as Self- Awareness, Self- Management, Social- Awareness and Social- Skills were explored. This questionnaire was given before and after the session as a pre and post-test. Difference between the score in pre and post- test indicated whether story-telling improved the emotional quotient of the adolescents. During the session, the students were narrated different stories for 15 days. Every story was based on different morals and different aspects of life. This helped the students to explore and think from different point of views and roles. Apart from emotional intelligence, this study also helps to understand how much one knows about him/ herself. It also helps to identify the areas of relative strengths and areas with the potential for development. It helps develop the thinking of the young and growing minds.

Key words: *Adolescents, Emotional Intelligence, Story-telling.*

INTRODUCTION

Children grow and change in many ways during their school years. As well as growing physically, they develop socially, emotionally and cognitively. Children's responses to the different feelings they experience every day has a major impact on their choices, their behavior, and on how well they cope and enjoy life. Emotional development involves learning what feelings and emotions are, understanding how and why they happen, recognizing one's own feelings and those of others, and developing effective ways of managing them. As children grow and are exposed to different situations their emotional lives also become more complex. Developing skills for managing a range of emotions is therefore very important for their emotional wellbeing. Parents and careers have an important role to play in supporting

children's emotional well being. They do this through responding effectively to children's emotions, through providing examples of how they manage feelings, and through talking with children about feelings and how to manage them. In similar ways, school staff can provide important support for children's emotional development.

For many parents and teachers, the adolescent period can seem like a whirlwind of rapidly changing emotions. In fact, some earlier theories about adolescent development proposed that "storm and stress" was to be expected, and suggested adolescents characteristically tended to over-react to everyday situations. However, more recent research refutes that outdated notion. Developmental experts have since learned that what may appear as "storm and stress" is actually the natural outcome of youth learning to cope with a much larger array of new and unfamiliar situations. (Larson & Ham, 1993).

In addition to navigating new and uncharted territory, teens growing up in today's society are subjected to increased demands on their physical, mental, and emotional resources. Social relationships outside the family have exponentially increased with the advent of electronic social networking (e.g. Facebook®, Twitter™, etc.). Academic standards have become more stringent. Sports and other recreational pursuits are more competitive. While teens are learning to cope with these challenges, it should be expected that they will have a diverse range of emotions, and may experience fluctuating emotions throughout the day or week.

Therefore, teens must learn how to respond to new and unfamiliar situations at the same time they are experiencing increased demands on their physical, mental, and emotional resources. Such a scenario can certainly increase stress; however, the ability to adaptively cope with stress is influenced by many factors. Certain genetic factors, such as temperament, make some people more sensitive to stress. On the other hand, certain environmental factors such as family and community can help to mitigate the effect of stress by enabling youth to become more resilient in the face of stress.

ADOLESCENCE

The period following on the onset of puberty during which a young person develops from a child into an adult. Adolescence typically describes the years between ages 13 and 19 and can be considered the transitional stage from childhood to adulthood. Adolescence can be a time of both disorientation and discovery. This is a transitional stage of physical and psychological development that generally occurs during the period of puberty to adulthood. This transitional period can bring up issues of independence and self-identity; many adolescents and their peers face tough choices regarding school, sexuality, drugs, alcohol, and social life. Peer groups, romantic interests, and appearance tend to naturally increase in importance for some time during a teen's journey toward adulthood.

EMOTIONAL INTELLIGENCE

Emotional intelligence refers to the ability to identify and manage one's own emotions, as well as the emotions of others. Though there is some disagreement among psychologists as to what

constitutes true emotional intelligence, it is generally said to include at least three skills: emotional awareness, or the ability to identify and name one's own emotions; the ability to harness those emotions and apply them to tasks like thinking and problem solving; and the ability to manage emotions, which includes both regulating one's own emotions when necessary and cheering up or calming down other people.

Adolescent emotional intelligence is often characterized by rapidly fluctuating emotions. Emotional development involves learning what feelings and emotions are, understanding how and why they happen, recognizing one's own feelings and those of others, and developing effective ways of managing them. Emotional development is a complex task that begins in infancy and continues into adulthood. The first emotions that can be recognized in babies include joy, anger, sadness and fear. Later, as children begin to develop a sense of self, more complex emotions like shyness, surprise, elation, embarrassment, shame, guilt, pride and empathy emerge. Parents and teachers have an important role to play in supporting children's emotional development. They do this through responding effectively to children's emotions, through providing examples of how they manage feelings, and through talking with children about feelings and how to manage them. In similar ways, school staff can provide important support for children's emotional development.

STORYTELLING

Storytelling is a vital component of the assessment and intervention process. Strengths-based storytelling can be used in a therapeutic way. Adolescents, young adults, and children can engage with thought provoking vignettes. In turn, many identify with the characters, which often leads to increased self-disclosure in the therapeutic process, especially for those individuals who have difficulty directly expressing themselves verbally. Through storytelling, many people gain insight that leads to behavioral change, and improvements in the quality of their lives.

In this paper, researcher narrates stories based on various moral values highlighting different aspects of life. This gave an exposure to students to think from different point of views and roles. Researcher selected storytelling as a dimension of emotional development, she planned 15 days for narration of different stories where students empathizes the situations of the characters in the story and learns from it. The stories of "*Tenali Raman*" and "*Akbar and Birbal*" were also included in the storytelling session. For that at the first day of workshop researcher collected the data on emotional intelligence questionnaire and the last day of study.the researcher again collected data on same questionnaire. After the statistical analysis of data, researcher found that storytelling telling has a positive effect on the emotional development of the students. This research paper gives radiance that empathy and simple act of caring can develop the emotional intelligence of the adolescents and help them grow stronger not only mentally but also emotionally. This can help improve their performance in academic as well as social lives.

OBJECTIVES FOR THE PRESENT STUDY

- To study and understand the Emotional Quotient and its various aspects of adolescence.
- To analyze the effects of storytelling on Emotional Quotient of adolescence.

HYPOTHESES FOR THE PRESENT STUDY

The following null hypotheses were formulated keeping in view the objectives of the study:

- There is no significant effects of storytelling on the emotional Intelligence of adolescence.
- There is no significant difference between emotional intelligence of male and female adolescents through scores on pre- test and post -test.

METHODOLOGY FOR THE PRESENT STUDY

Sample:

In this study researcher considered students from a class belonging to age group 13-15 (std: VIII and IX) years from Air India Modern School (Suburban Mumbai). The nature and size of sample is as follows:

Table 1: Procedure Table

Pre-test(X)	Questionnaire of EQ	
Intervention	Stories	Moral/ Emotion
[14 days]	<ul style="list-style-type: none"> • A fish and a monkey • A grass eating tiger • Life is like a cup of coffee! • Heaven or Hell • The Needle Tree • Counting Wisely • Social Service • Everyone Has a Story in Life • The Elephant Rope • Farmer's Well & Witty Birbal 	<ul style="list-style-type: none"> • Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing it is stupid. (Self-Awareness) • Allow your awareness to shine light onto all your limiting beliefs and find who you truly are. (Self-Awareness) • The happiest people don't have the best of everything. They just make the best of everything. (Self-Management) • Life is what you make of it!(Self-Management) • It is important to be kind and gracious as it will always be rewarded. (Social Skills) • Having an explanation for your answer is just as important as having an answer. (Social Awareness) • Smallest contribution can make biggest differences. (Social Skills) • Don't judge people before you truly know them. (Social Skills) • Failure is part of learning; we should never give up the struggle in life. (Self-Awareness) • Don't Try to Cheat. You will end up paying for it regardless of how smart you think you are. (Social Awareness)

- Post-test (Y) Questionnaire of EQ

Tool used:

The Framework used for this self-assessment questionnaire is based on Daniel Goleman's Emotional Intelligence Framework, prepared and adapted by the Management Performance Solutions Ltd., designed to help you evaluate aspects of your Emotional Intelligence (EI). It determines the EQ highlighting on the factors such as Self-Awareness, Self-Management, Social Awareness and Social Skills as proposed in the Goleman's theory. Daniel Goleman first brought 'emotional intelligence' to a wide audience with his 1995 book of that name. He found that while the qualities traditionally associated with leadership such as intelligence, toughness, determination and vision are required for success, they are insufficient. The tool was obtained from the site www.hraddedvalue.com

PROCEDURE FOR THE PRESENT STUDY

Experimental method of research was employed for the present study. The same tool employed in the study was administered on the student before and after the session of storytelling. The response received on the tool was analyzed through statistical applications using Mean, S.D., and T test to analyze the effect of storytelling on the emotional development of the students. The table given below represents the procedure followed during the research work. It shows the Pre-Test, the Intervention of 14 days that consisted of stories with different morals followed by the Post-Test at the end of the session.

RESULTS

a. EQ SCORES OF THE PRE AND THE POST TEST

Table no. 9.a

	Self-Awareness	Self-Management	Social Awareness	Social Skills
Pre-Test	35	36.76	39.73	38.26
Post Test	39.33	40.86	42	41.56

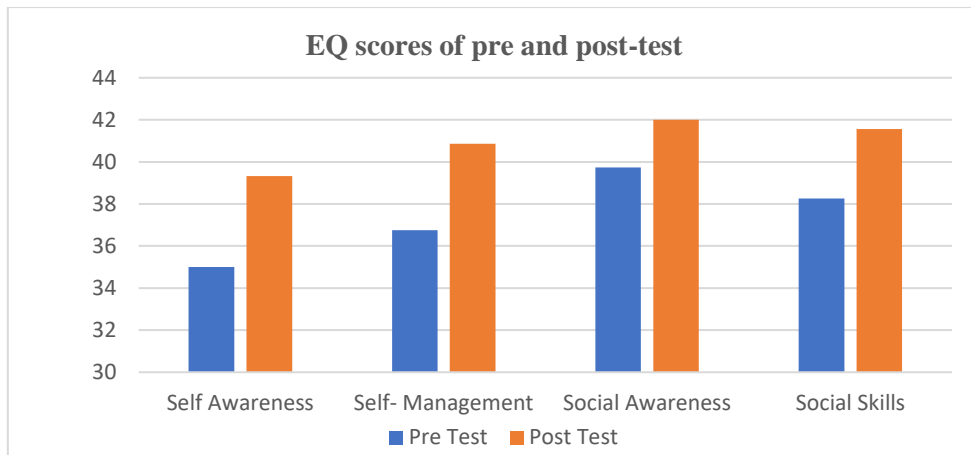


Figure no. 9.a: Graphical Representation of EQ scores of pre and post test

The table and the graph given above clearly indicates the average EQ scores of the students during the pre and the post test. The EQ scores were based on the four major factors: Self Awareness, Self-Management, Social Awareness and Social skills. The table clearly shows the difference between the EQ scores before and after the intervention. The EQ score of the students has increased after the storytelling. This indicates that storytelling has a positive effect on the emotional intelligence of the adolescents.

b. DATA ANALYSIS FOR HYPOTHESIS AND RESULT

The table and the graph given below represents the EQ scores obtained in the pre-test and the post-test period.

Table no. 9.b

EQ Scale			
	A	B	TOTAL
n	30	30	60
$\sum x$	1123.25	1232.75	2356
$\sum x^2$	42673.93	51184.0625	93858
Mean	37.4417	41.0917	39.2667
SD	617.5854	528.3104	1345.7333
Mean A- Mean B	--	--	-3.65
t	--	--	-6.69
df	--	--	29
P one tailed	--	--	<0.0001
P two tailed	--	--	<0.0001

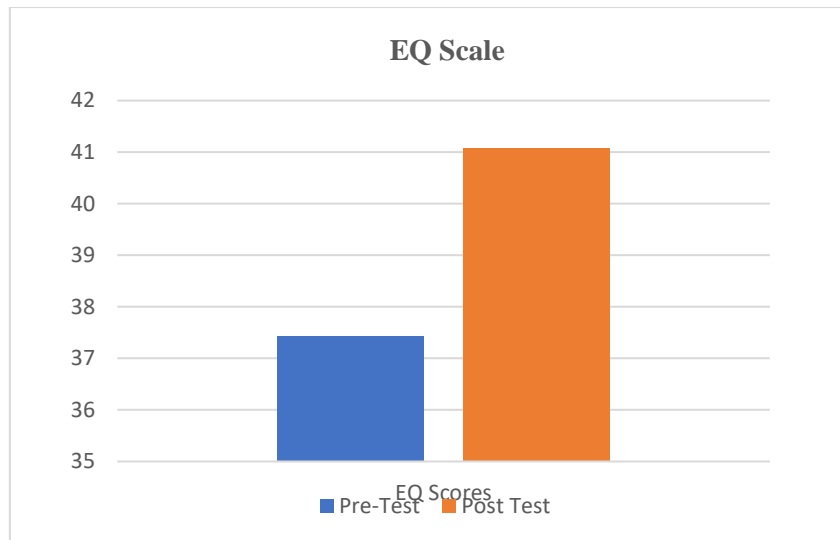


Figure no. 9.b

Table and the chart given indicates that there are significant differences between the emotional intelligence level of the students in pre and post mean. The pre storytelling mean is 37.4417 and post storytelling session mean is 41.09 which clearly indicated that storytelling helped to develop emotional intelligence of adolescents. The obtained t-values on, is -6.69 which is significant on <0.0001 level of significant.

Hence the first hypothesis, i.e. “There is no significant effects of storytelling on the emotional development of adolescence” is rejected.

c. EQ SCORES OF MALE AND FEMALE ADOLESCENTS

Table no. 9.c.i

EQ Scores of Female Adolescents			
	A (Pre-Test)	B (Post-Test)	TOTAL
n	13	13	26
$\sum x$	476	566.75	1042.75
$\sum x^2$	17637	24739.6875	42376.6875
Mean	36.6154	43.5962	40.1058
SD	208.0769	31.5673	556.3966
Mean A- Mean B	--	--	-6.9808
t	--	--	-6.71
df	--	--	12
P one tailed	--	--	<0.0001
P two tailed	--	--	<0.0001

Table no. 9.c.ii

EQ Scale of Male Adolescents			
	A (Pre-Test)	B (Post-Test)	TOTAL
n	17	17	34
$\sum x$	647.25	715.5	1362.75
$\sum x^2$	25.36.937 5	30451.875	55488.8125
Mean	38.0735	42.0882	40.0809
SD	393.8456	337.7426	868.5901
Mean A- Mean B	--	--	-4.0147
t	--	--	-5.69
df	--	--	16
P One tailed	--	--	<0.0001
P Two tailed	--	--	<0.0001

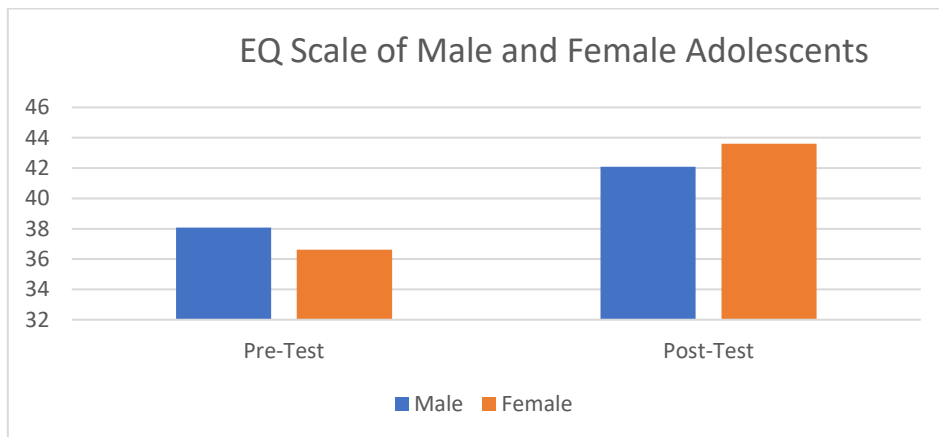


Figure no. 9.c Graphical representation of EQ Scale of Male and Female Adolescents

Table no. c.i and c.ii indicates that there are significant differences between the emotional intelligence level of the students in pre and post mean. The pre-test mean in case of male adolescents is 38.0735 and post-test mean is 40.0809 which clearly indicated that storytelling develops emotional intelligence of adolescents. The obtained t-values on, is -5.69 which is significant on <0.0001 level of significant.

Similarly, in female adolescents, the pre-test mean is 36.6154 and the post-test mean is 40.1058 which clearly indicated that storytelling develops emotional intelligence of adolescents. The obtained t-values on, is -6.71 which is significant on <0.0001 level of significant. The t-value in male adolescents is greater than the t-value obtained in female adolescents. The mean difference observed between the pre and the post-test in case of female adolescence is higher than the mean difference observed between the pre and the post-test in case of male adolescents.

Thus, the second hypothesis, “There is no significant difference between emotional intelligence of male and female adolescents through scores on pre-test and post-test” is rejected.

CONCLUSION AND DISCUSSION

Adolescence can be a highly emotionally charged time of life. The loss of childhood is painful, the developmental challenges are daunting, the vulnerability from insecurity is great, the demands of growth are so many, the conflicts over independence are frustrating, and the experience of growing older is exciting. During this more intense period of growth, it is important to help the adolescents learn to manage emotions in ways that work well. There are many different methods that can be used to help them develop their emotional intelligence like counselling, storytelling, letting them explore their thoughts and think from different point of views. It is very important to encourage and motivate the adolescents to learn and develop a positive attitude.

From this research, it is observed that during adolescence, the female adolescents had a greater effect on their emotional intelligence than the male adolescents and thus their EQ level showed significant increase. With this research and the experimental method to study the effects of storytelling on the emotional intelligence of adolescents, it is observed that a teacher can play an important role in every student’s life. A teacher can use different innovative ideas and unconventional methods to make their teaching more effective. This may keep the students more interested and attentive in the class. A positive attitude of a teacher motivates and encourages the students for better performance in academics and social life.

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A STUDY OF MENTAL HEALTH CONDITIONS OF SCHOOL STUDENTS

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Abstract

Mental health is a state of psychological well-being in which the individuals are able to realize their own abilities, cope with the normal stresses of life, work efficiently and make a contribution in the well being of others too. Mental health allows them to flourish and fully enjoy life. People are born with a predisposition to a mental health disorder or acquire it as a result of poor upbringing; they too can achieve good mental health anyways. So what exactly can be done to promote better mental health? Everyone knows the importance of good mental health, but how do you achieve it? The ability to cope with negative feelings and experiences varies greatly from one person to another. Good mental health is more than just the absence of a mental disorder, such as schizophrenia, bipolar disorder, depression, or anxiety. Good mental health, therefore, is the foundation for an individual's and a community's effective functioning and well-being. Mental health is an integral part of child's personality. Abused children are more likely to experience mental disorders or mental illness during childhood and into adulthood. Abuse can cause feelings of low self-esteem, lack of self-confidence, depression, isolation and anger that impair a child's chance to lead a happy life. There are various symptoms of poor mental health out of which stress, anxiety and depression are considered in this study on a sample of 40 students of standard 9th of Rizvi Springfield school. The school caters education to the children in and around Bandra west, Mumbai.

Keywords: Stress, Academic Anxiety, depression, stress, isolation, anger

INTRODUCTION

“Good health is Good business”

- Addley et al. (2014)

Mental wellbeing is a dynamic state in which the individual is able to develop their potential, work productively and creatively, build strong and positive relationships with others and contribute to their community. It is enhanced when an individual is able to fulfil their personal and social goals and achieve a sense of purpose in society. Interest in how a proactive approach to mental health and wellbeing could benefit students as well as teachers is growing importance. Positive mental health and wellbeing is integral to learning culture.

CONCEPT OF MENTAL HEALTH

Mental health is a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully and is able to make a contribution to his or her community.

DEFINITION OF MENTAL HEALTH

The World Health Organization (WHO) defines health (and mental health) this way: “Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. Mental health is an integral part of this definition.”

This definition implies a strong link between wellbeing and both physical and mental health. Everyone experiences down times in life. The ability to cope with negative experiences varies greatly from one person to another and, in large part, determines whether people enjoy their lives. The National Association for Mental Health describes some of the characteristics of people with good mental health: comfortable feelings about one’s self, feeling ‘right’ about other people and being able to meet the demands of life. To attain these one should get well or adjust to the environment.

BACKGROUND OF THE STUDY

The Government of India launched the National Mental Health Programme (NMHP) in 1982, keeping in view the heavy burden of mental illness in the community, and the absolute inadequacy of mental health care infrastructure in the country to deal with it. Recognizing the Persons with mental illness constitute a vulnerable section of society and are subject to discrimination in our society; Families bear disproportionate financial, physical, mental, emotional and social burden of providing treatment and care for their relatives with mental illness; Persons with mental illness should be treated like other persons with health problems and the environment around them should be made conducive to facilitate recovery rehabilitation and full participation in society.

NEED OF THE STUDY

Mental health issues are vital and a growing concern all over because schools and colleges across the nation are reporting significant increases in such cases due to elevated stress, rising pressure to succeed, and social media usage. Adolescence (10–19 years) is a unique and formative time. When most adolescents have poor mental health, multiple physical, emotional and social challenges, exposure to poverty, abuse, or violence, can make adolescents vulnerable to mental health problems. Promoting psychological well-being and protecting adolescents from adverse experiences and risk factors may impact their potential to thrive are not only critical for their well-being during adolescence, but also for their physical and mental health in adulthood.

RATIONALE

Studies on adults have suggested that gender inequality contributes to depressive symptoms in women and that it is relevant to highlight the links between gendered power relations and mental health (Stoppard et al., 2008). According to Gillander, Gadin and Hammarstrom (2002) only a few studies have explored the interaction of power relations, gendered living conditions and mental health in adolescents. Survey finds that Anxiety is the top presenting concern among students (41.6 percent), followed by depression (36.4 percent) and relationship problems (35.8 percent). Are schools meeting the health needs of their students? And what improvements are needed to support students' academic experience? Public health and socio-cultural health research has found that girls' and boys' different experiences and exposures in terms of stress, violence, cultural norms, workload, and high strain may contribute to the elevated levels of mental health problems observed among girls (Landstedt, Asplund and Gillander, 2009). Hence to study the mental health conditions of the students, researcher took up the study.

AIM OF THE STUDY

The aim is to promote student wellbeing, prevent the worsening of mental health problems to improve the effectiveness of education.

STATEMENT OF THE PROBLEM

A study to assess the mental health conditions of school students of Suburban Mumbai.

OBJECTIVES OF THE STUDY

1. To compare the Mental Health conditions of male and female Students.
2. To compare the Mental Health conditions of Students having working and non-working parents.

HYPOTHESES OF THE STUDY

Following hypotheses were formulated:

1. There is no significant difference between mental health conditions of male and female students.
2. There is no significant difference between mental health conditions of Students having working and non-working parents.

RESEARCH METHODOLOGY

An action research study was conducted in order to study the mental health conditions of students. A sample of 40 students of class 9th is administered with the interview questions and responses were collected. Data is collected using 20 questions covering the various aspects of poor mental health i.e. stress, anxiety and depression, low self esteem, self respect, self harm,

self confidence, decision making, emotional support, overweight and obesity, abuse, violence, chronic conditions, adolescent pregnancy, substance abuse, well-being etc. The Questions consisted of Rating Scale with five options from strongly agree to strongly disagree.

PROCEDURE FOR DATA COLLECTION

This was indeed a great learning experience for the researcher. The Principals and the supervisors were extremely kind and very cooperative and gave their consent towards the conduct of the research procedure. The students also showed immense support during the conduction of the data collection and actively participated. The researcher ensured that the identity of the respondents will be kept confidential and the data collected will be used for research purpose only, researcher was given permission for the conduct of the study and any support needed from the students and staff. The study was conducted in a Rizvi springfield school, Bandra, Mumbai. A total of 40 sets of questionnaires were distributed to the students. At the same time, researcher ensured that the students were more truthful while responding to the questions during the interview.

Administration of the tool

The researcher first had a casual interaction with the students to understand the level of mental health students exhibited. The interview questions were administered on the students to obtain the required data. Proper instructions were given to the students before administering the test. The scoring was done as per the instructions. Higher scores indicated better mental health.

Data Analysis

Descriptive analysis was utilized to understand the overall profiles of respondents.. The data collected with regard to the tools was analyzed with reference to the objectives and hypotheses of the study using Mean, SD and t-test. The SPSS (Statistical Package for Social Science) software version 19.0 was used to code and analyze the data.

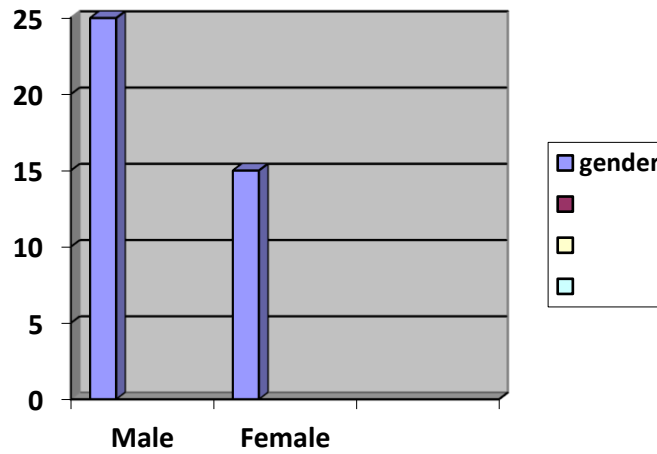
Demographic profile of respondents

A total of 40 valid responses were obtained from the distribution of questionnaire, giving the total percentage of responses rate of 100.0%. Table 1 shows the demography data of the respondents of this research.

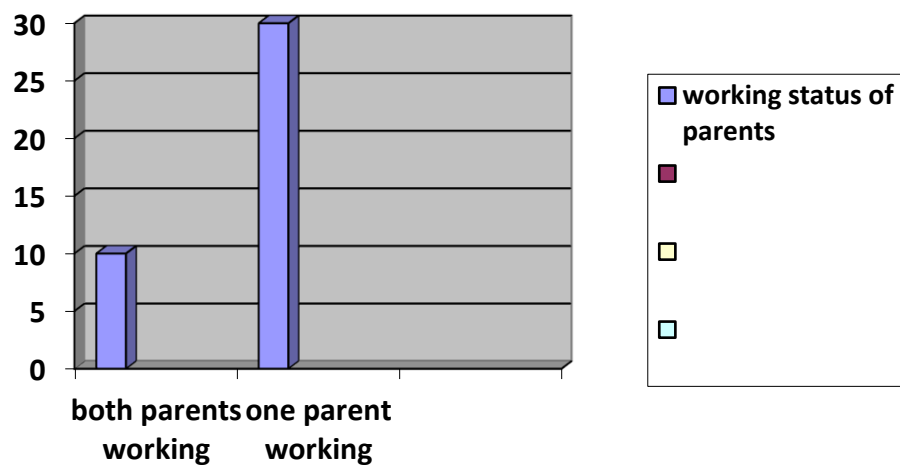
Table 1: Demographic Profiles of the Respondents

Demographic Variables	Categories	Frequency (Respondents)
Gender	Male	25
	Female	15
Working status of parents	Both parents Working	10
	One parent working	30
Level of Intelligence	below average	17
	above average	23

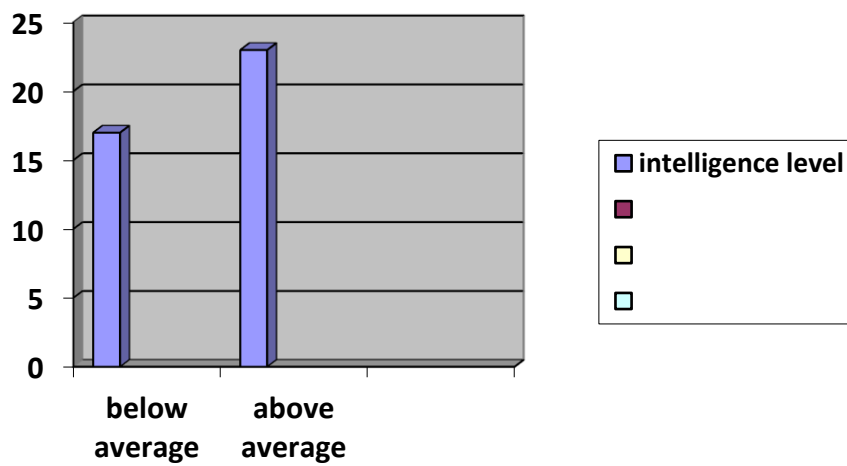
Bar Graph of Demographic profile of respondents



Graph 1



Graph 2



Graphs 3

Verification of Hypotheses 1 - The hypotheses reads: There is no significant difference between mental health conditions of male and female students. The technique used to test this hypothesis is t-test. The table 2 shows the relevant statistics.

Table 2. Significance of t-value of Scores of students

Variable	Group	N	df*	Mean	SD	t ratio	Table Value		LOS**
							.05	.01	
Mental health scores	Male	25	38	92.90	19.89	2.85*	1.97	2.50	S at 0.01 level
	Female	15		85.20	18.29				

df* - degrees of freedom; LOS** -Level of significance; S= Significant; NS= Not Significant.

Interpretation: From the table, it could be observed that the calculated $t = 2.85$ is greater than the table value of 2.50 at 0.01 level. Hence the null hypothesis is rejected.

Finding: There is significant difference in the scores of male and female students. Hence, it can be inferred that the male students possessed significantly good mental health as compared to female students.

Verification of Hypotheses 2: The hypotheses reads: There is no significant difference between mental health conditions of Students having working and non-working parents. The technique used to test this hypotheses is t-test. The table 3 shows the relevant statistics:

Table 3. Significance of t-value of Scores of students

Variable	Group	N	df*	Mean	SD	t ratio	Table Value		LOS*
							.05	.01	
Working status of parents	Both parent working	10	38	84.40	14.14	5.83**	1.97	2.50	S at 0.01 level
	Single parent working	30		98.40	19.42				

df*-degrees of freedom; LOS** - Level of significance; S= Significant; NS= Not Significant.

Interpretation: From the table, it could be observed that the calculated $t = 5.83$ is greater than the table value of 2.50 at 0.01 level. Hence the null hypothesis is rejected.

Finding – There is significant difference in the scores of students having both parents working and single parent working. Hence, it can be inferred that the students having single parent working possessed significantly good mental health as compared to the students having both parent working.

RESULT AND DISCUSSION

The significant differences in the study indicated that the life experiences of girls differ from those of boys. The mental health of girls is intimately and intricately interwoven with their social status, economic status due to which their participation is less valued in the society. The biggest differences reflect disparities in opportunities, responsibilities and roles through life. These have consequences for all aspects of health, including mental health. The mental health needs of women has significant, deleterious effects on the functioning of women and their families and the wellbeing of the next generation, and on social cohesion. Receiving the treatment for both the psychological problems and the resulting consequences is key to optimal recovery to good mental health. The mental health challenges facing girls and boys are different hence the needs must also be considered separately for this reason. The fact that the intervention program needs to be developed on girl's mental health does not neglect the mental health needs of boys. On the contrary, interventions must be developed that work across genders as well as those that are gender specific. It also indicated the effect of both parent working and single parent working on the mental health of students.

Suggestions for School-based mental health interventions

These are suggested to identify key areas for consideration and development of such services. Mental health services embedded within school systems have the potential to become an integrative development and care services that improves both mental health and educational attainment for children.

Integrative strategies that combine classroom-level and student-level interventions integrates both the mental health and education to promote the healthy development of children. Mental health professionals in schools work in a range of disciplines, including counselling, social work, occupational therapy, psychology, and psychiatry. Models that integrate mental health promotion into the natural teaching context and incorporate coaching to increase a teacher's belief in their own abilities should be further developed and assessed. Thus, emphasising the need to reconfigure both health and education services to better promote children's learning and development. Children who are struggling with psychological symptoms do not form a discrete group; therefore, effective mental health interventions could improve outcomes for all children. Hence, a broad models of integration is suggested:

1. individuals from an outside agency to work within a school,
2. the school must include a mental health clinic staffed by professionals who deliver mental health services,
3. the school must have a health centre with mental health as a subspecialty.
4. Counsellors and social workers to provide school-based mental health services
5. schools can partner with psychologists and psychiatrists to provide consultation and intervention for specific students with complex challenges,
6. on-site school mental health providers to support engagement and continuous psychosocial intervention,
7. schools must recruit advanced nurse practitioners to manage the needs of students,

8. special education staff and school nurses. Improved training and support of staff within schools,
9. teacher-implemented mental health promotion and prevention activities have a substantial effect on the psychosocial and academic performance of students.

However, because of the demands placed on teachers to support the academic success of their students, introduction of an additional role of supporting student mental health is less feasible unless teachers are given sufficient training and time to do these responsibilities.

Specific strategies include

1. social and emotional learning programmes,
2. increasing students' connection to school,
3. building student skills in understanding and management of emotions,
4. effective communication, and stress management.

SUGGESTION OF SHORT TERM AND LONG-TERM INTERVENTIONS

To help behaviour management with whole-school or classroom-based programmes have increasing empirical support.

Positive Behavior Interventions and Supports (PBIS) offers a framework for multitier interventions. Implementation of its primary prevention tier, which includes how to define, teach, and reward appropriate behaviour alongside a continuum of consequences for problem behaviour, was highly successful.

The prevalence of psychiatric disorders varies with age.⁵ The most common difficulties in school-age children are disruptive behaviour and anxiety disorders. Separation anxiety and oppositional defiant disorder are seen mainly in primary school children (aged 4–10 years), whereas generalised anxiety, conduct disorder, and depression are more common in secondary school students (aged 11–18 years). Childhood psychiatric disorders, eating disorders and psychosis starts to increase rapidly from mid-adolescence onwards. Enhancing social skills, problem-solving skills and self-confidence can help prevent mental health problems such as conduct disorders, anxiety, depression and eating disorders as well as other risk behaviors including those that relate to sexual behavior, substance abuse, and violent behavior. Health workers need to have the competencies to relate to young people, to detect mental health problems early, and to provide treatments which include counseling, cognitive-behavioral therapy and, where appropriate, psychotropic medication. To create awareness among the parents as well the society that mental health is as important as physical health. Just because there is no physical wound doesn't mean there no wound at all. To remove the stigma from the society so that maximum people can come forth and cure themselves because there is nothing to be ashamed of.

CONCLUSION

Educational Institutions can play an important role in reducing mental health stigma. Peer support services, coordination between on-campus and off-campus providers, and targeted services are a few ways to improve, care and better support students. Students, along with administrators, can advocate for increased visibility and publicity of mental health issues and resources. They can create a supportive, educated community beyond the mental health center and be willing to discuss the issues that pervade their campus. Students can play a crucial role in prevention and outreach initiatives. Together, students can achieve a campus climate where each individual will engage thoughtfully as an active member and help their fellow students with problems they may face.

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COMPARATIVE STUDY OF EMOTIONAL MATURITY OF JUNIOR COLLEGE STUDENTS

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INTRODUCTION

Emotion is the complex psycho physiological experience of an individual's state of mind as interaction with biochemical (internal) and environmental (external) influences. In humans, emotion fundamentally involves "physiological arousal, expressive behaviors and conscious experience." Emotion is associated with mood, temperament, personality, disposition, and motivation. Motivations direct and energize behavior, while emotions provide the affective component to motivation, positive or negative. It is a communicative, creative process in which the new stimulus of the outside world together with the past experiences of the inner world is created into new experience. It is a process which becomes a goal in itself because it is more important to prolong the process of communication than to achieve the product itself.

Goleman rightly points out that, "It is not that we want to do away with emotions and put reason in its place, but instead find an intelligent balance of two". The road to emotional maturity involves the integration of various aspects of man's personality, forms of his self. The concept of self is not popular in educational literature. Few researchers focused their studies on the development of emotional growth. Any interaction between processes of communication, intra- and interpersonal, is made possible by the integrated self, which for is emotional maturity. Emotional maturity is defined as the strength to actualize individual abilities within the frame of social demands.

Emotional maturity develops throughout one's life; however, it is very important that parents and teachers be aware that the emotional sphere must be nurtured in one's intelligence, and intelligence in one's emotions, from an early age. The seed that we plant in early childhood will bear fruit not only during one's active life but throughout one's various ages. Its climax will occur during old age, when each of our selves will act on basic and stable ground in the shrinking and withering world which surrounds the elderly person. Attention paid to emotional maturity in early childhood is, therefore, a long term investment in man's existence.

NEED OF THE STUDY

The specific needs for identifying these phenomena of Emotional Maturity as a natural and inevitable essential outcome of student growth and development rather than among pathological symptom. The Emotional maturity becomes important in the behavior of individuals. As the students are the pillars of the future generations their value pattern of Emotional Maturity are vital. So the present study intends to measure the Emotional Maturity of college students.

OPERATIONAL DEFINITION

Emotional Maturity: Emotional maturity is the refined & developed ability to understand & use one's emotions in personally controlled ways." Thus, lack of emotional maturity in an individual can lead to various problems such as maladjustment in the society various other reasons of maladjustment are anxiety, fear & bad mental health. Emotional maturity is defined as the strength to actualize individual abilities within the frame of social demands

According to Singh and Bhargava, (1990) - Emotional maturity is not only the effective determinant of personality pattern but also helps to control the growth of an adolescent's development. A person who is able to keep his emotions under control who is able to brook delay and to suffer without self-pity might still be emotionally stunned. Emotional maturity refers to that stage of individual in which the individual is able to face reality and deal with it, is interested in giving and receiving love, is able to learn from his experiences and is able to accept frustration and hostility in a constructive manner.

AIM OF THE STUDY

Comparative Study of Emotional Maturity of Junior college students

OBJECTIVE OF THE STUDY

The followings are the objectives of the present study

- To find out Emotional Maturity status of Junior College students.
- To study the difference in the Emotional Maturity of the students on the basis of a) Gender, b) Stream.

HYPOTHESIS

The following null hypotheses are framed for verification in the present study:

- There is no significant difference in the emotional maturity of the junior college student on the basis of Gender.
- There is no significant difference in the emotional maturity of the junior college student on the basis of Stream.

SCOPE OF THE STUDY

Emotions play a crucial role in contributing towards adjustment of the individual people who are emotionally mature, they can manage their feelings well and deal effectively with other people. So, an emotionally mature person can have better adjustment with himself as well as others. The road to emotional maturity involves the integration of various aspects of personality into the self.

The intra- and interpersonal aspects are dealt with from different standpoints (Freud, James, Gardner and others), the emotional aspect being seen not as the opposite of the intellectual, but as complementary to it in the child's and adult's personalities. The self contains everything that has passed through consciousness; it is the most important element of consciousness.

We begin by presenting the surveys used to gauge students effective use of learning strategies prior to and after the classroom intervention .we then describe the intervention and discuss its impact on students performance and how it changed students perceptions of themselves as learners we conclude by presenting the limitations of the study and implications for future research.

LIMITATION OF THE STUDY

- The present study is limited to check the emotional maturity scale of junior college students only. Moreover the study is limited to Mumbai city only.
- The size, data and sample are limited to one college and hence the study is limited to a small group of students.
- It cannot be used universally because of reason stated above.

REVIEW OF THE LITERATURE

According to Menninger (1999), “Emotional maturity can be defined as a process in which the personality always determined for better sense of emotional well-being” (Rajeshwari & S, 2015). If a person or a child is emotionally maturing he or she may have the capacity to make effective adjustment with himself, family members, his peers, society and culture and his or her environment itself. He has the capacity to enjoy his adjustment fully.

Aureen Pinto , Eric Folkers and Jacob O. Sines (1991) studied the conceptual equivalence of objectively and quantifiably measurable dimensions of children's behavior and home environment the United States and in India. In the United States, information on behavior and home environment was provided on the Missouri Children's Behavior Checklist (MCBC) and Home Environment Questionnaire (HEQ) by the mothers of 681 school-age children. Following the revision of the HEQ and the MCBC for cultural relevance to an Indian population, the mothers of 419 school-age children in India completed both revised questionnaires similar dimensions of home environment and children's behavior emerged for both the U.S and Indian samples. Dimensions of behavior appeared to have similar item content across both cultural groups although the specific item content of dimensions of home environment differed in the two groups. Features of home environment such as Rejection and Affection were consistently related to several behaviors of children such as Aggression and Inhibition, both in the United States and in India.

Mukhtar Ahmad Wani and Aejaz Masih (2015) had examined emotional maturity across gender and level of education. The main purpose of the study was to find the significant gender differences in emotional maturity among university students. One hundred post graduates and research scholars (50 male & 50 female) students were selected by random sampling method from different departments of Jamia Millia Islamia University. Emotional maturity scale by Yeshver Singh and Mahesh Bhargave was used for data collection. The study shows that male students are emotionally

immature than females on personality disintegration dimension of emotional maturity. The study also shows that significant difference between post graduates and research scholars on personality disintegration dimension of emotional maturity. There is no significant difference between on other dimensions of emotional maturity. There is no significant difference between males and female post graduates and research scholars of emotional maturity.

Sunil Kumar (2014) examined emotional maturity of adolescent student in relation to their family relationship. The main objective of the study was to find out the difference between boys and girls adolescent students in terms of their emotional maturity. 60 students were selected by stratified sampling method from public and 65 government senior secondary schools of Karnal district in Haryana state. Family relationship inventory developed by Dr. G. P. Sherry and Dr. J. C. Sinha and emotional maturity scale developed by Dr. Yashvir Sinha and Mahesh Bhargava was used for data collection. The result shows that there is a significant difference in emotional maturity of adolescent boys and girls and there is significant relation between emotional maturity and family relationship of adolescent student. This shows that family relationship determinates emotional maturity of adolescent students.

METHOD OF THE STUDY

The researcher used descriptive research design for collecting the data. Descriptive research can be explained as a statement of affairs as they are at present with the researcher having no control over variable. Moreover, "descriptive studies may be characterized as simply the attempt to determine, describe or identify what is, while analytical research attempts to establish why it is that way or how it came to be" Descriptive research is "aimed at casting light on current issues or problems through a process of data collection that enables them to describe the situation more completely than was possible without employing this method."

POPULATION

This study was intended to understand the Emotional Maturity Scale of all the Junior College. Students of 16-17 years of age of the suburban colleges in Mumbai.

SAMPLE AND SAMPLING TECHNIQUES

The study was conducted at Rizvi College of Arts, Science and Commerce located at Bandra West, Mumbai Suburbs. The tool was administered among standard XI students of all the three streams Here the researcher has used the purposive and convenient sampling procedures for the study In purposive sampling procedure, the researcher chooses the sample based on who he/she thinks would be appropriate for the study. The main objective of purposive sampling is to arrive as at a sample that can adequately answer the research objectives. And convenience sampling is sometimes known as opportunity, accidental or haphazard sampling. It is a type of non-probability sampling which involves the sample being drawn from that part of the population which is close to hand that is a population which is readily available and convenient.

SIZE AND COMPOSITION OF THE SAMPLE

The size of the sample was 90 students

Table 1

Size	Institute
90 Students.	Rizvi College of Arts, Science and Commerce.

TOOL FOR DATA COLLECTION

The researcher used questionnaire as the tool of data collection. The questionnaire is the only media of communication between the investigator and the respondents and as such the questionnaire should be designed or drafted with utmost care and caution so that all the relevant and essential information for the enquiry may be collected without any difficulty, ambiguity and vagueness. Emotional maturity scale has total of 48 items under five categories given below:

Table 2:

Sr. no.	Areas	Total no. of items
A	Emotional Stability	10
B	Emotional Progression	10
C	Social Adjustment	10
D	Personality Integration	10
E	Independence	08

EMS is a self reporting five point scale. Items of the scale are in the question form demanding information for each in the five options mention below:

Table 3

Very much	Much	Un-decided	Probably	Never
05	04	03	02	01

The items are so stated that the answer is very much a score of 5 is given, for much 4, for undecided 3, for probably 2, and for the negative answer of never a score of 1 is to be awarded therefore the total score on the indicative of emotional maturity where as the greater the total score on the scale is expressed in terms of Emotional Maturity.

Table 4

Scores	Interpretation (level of maturity)
50-80	Extremely Emotionally Mature
81-88	Moderately Emotionally Mature
89-106	Emotionally Immature
107-240	Extremely Emotionally Immature

DATA COLLECTION

The tool was administered at Rizvi College of Arts, Science & Commerce, among standard XI students in one of their free lectures. The researcher distributed the questionnaire and explained how it had to be filled. Since the students only had to read the questions and put a tick against the option they feel suits the answer, the researcher only gave the students 20 minutes to fill the questionnaire. In the meanwhile, the researcher monitored whether the students were filling it correctly or no, if they were answering all the questions, if they had any doubts regarding any questions. All this was clarified for the students at the same time. After the given time, the researcher collected all the questionnaires and checked whether the details were filled in properly and whether each question was answered or not.

PROCEDURE OF DATA ANALYSIS

Step 1- Sorting the forms according to streams

Step 2 - Entering the data in Excel sheet (distribution of scores)

Step 3- Descriptive Statistic Data (summary) of total number of students

Step 4 -Calculating Descriptive Statistic data according to our aim

Step 5 - Plotting of Data on a graph

Step 6-Interpretation and analysis

MEASURE OF CENTRAL ANALYSIS

A measure of central tendency is a single value that describes the way in which a group of data clusters around a central value. To put in other words, it is a way to describe the centre of a data set. There are three measures of central tendency: the mean, the median, and the mode.

Mean: The statistical mean refers to the mean or average that is used to derive the central tendency. It is determined by adding all the data points in a population and then dividing the total by the number of points. The resulting number is known as the mean or the average.

Median: Value or quantity that falls halfway between a set of values arranged in an Ascending or descending order. When the set contains an odd number of values, then value is exactly in middle. If the number of values is even, then median is computed by averaging the two numbers closet to the middle.

Mode: Type of average that refers to the most common or most frequently occurring value in a series of data. In any series there may or may not be a mode, or two modes (called bimodal series) or more modes (called multimodal series). In a frequency distribution graph, the peak represents the mode.

Standard Deviation: Standard deviation is the measure of dispersion of a set of data from its mean. It measures the absolute variability of a distribution; the higher is the standard deviation and greater will be the magnitude of the deviation of the value from their mean.

The standard deviation formula is similar to the variance formula.

It is given by: $\sigma = \sqrt{\frac{\sum (x_i - \bar{x})^2}{n}}$

σ = Standard deviation

X_i -each value of dataset

\bar{X} (the arithmetic mean of the data (This symbol will be indicated as the mean from now)

N - The total number of data points

$\sum (X_i - \bar{X})^2$ -The sum of $(X_i - \bar{X})^2$ for all data points.

Step 1: Click the "Data" tab and then click "Data Analysis."

Step 2: Choose "Descriptive Statistics" and then click "OK."

Step 3: Click the Input Range box and then type the location for your data. For example, if you typed your data into cells A1 to A10, type "A1:A10" into that box

Step 4: Choose the radio button for Rows or Columns, depending on how your data is laid out.

Step 5: Click the "Labels in first row" box if your data has column headers.

Step 6: Choose the "Descriptive Statistics" check box.

Step 7: Select a location for your output. For example, click the "New Worksheet" radio button.

Step 8: Click "OK."

GRAPHICAL REPRESENTATION

- To find out Emotional Maturity status of Junior College students.

Table 5

Variable	Groups	Number	Mean	Median	Mode	S.D
Emotional Maturity	Male	40	2.389265	2	1	1.386329
	Female	50	2.571064	2	1	1.440406

Interpretations: The mean of the male and female are not same. The mean values **2.389265** and **2.571064** respectively. This may be because of the difference between the numbers of female is higher than male .

- To study the difference in the Emotional Maturity of the students on the basis of
 - Gender,
 - Stream.

Table 6

Variables	Groups	No's	Mean	Median	Mode	Standard Deviation
Emotional Maturity scores	Arts	30	2.49172287	2	1	1.434808
	Commerce	30	2.58083442	2	1	1.439241
	Science	30	2.35869565	2	1	1.35728

Interpretation: The value of the mean does not have any much difference as compared to the stream of science. The mean values are 2.49172287, 2.58083442 and 2.35869565 respectively. This may be because of exposure the students of each stream gets.

CONCLUSION AND SUMMARY

The present study aimed to investigate the difference of emotional maturity and among the junior college students . The result of the study shows that the emotional maturity among the junior college is insignificant. It is concluded that arts and commerce students are likely moderately stable than science students in are unstable. The emotional aspect of maturity is the most important factor in the development of the comprehensive mature personality, especially for the gifted.. Emotional maturity is of great significance in today's competitive world where every individual learn to develop stability intra-personally and inter-personally. It is found out that less emotionally mature persons tend to prefer inefficient coping methods than that of useful methods and the more mature people prefer more wise and useful methods. This is the global factor of emotional maturity which is the strength to actualize individual abilities within the frame of social demands.

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SCHOOL LEADERSHIP: TRANSFORMATIONAL AND TRANSACTIONAL LEADERSHIP

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Abstract

School leadership is the process of enlisting and guiding the talents and energies of teachers, pupils, and parents toward achieving common educational aims. The most important responsibility of every educator is to provide the conditions under which people's learning curves go off the chart. Whether one is called a principal, a teacher, a professor, a foundation official, or a parent, our most vital work is promoting human learning and above all our own learning (Barth, 1996). The present paper presents the types of leaderships viz; Transformational and Transactional in context of school leaders.

Keywords: leadership styles, transactional, transformational

INTRODUCTION

Leadership is the ability to build up confidence and zeal among people to create an urge them to be led. Leadership induces subordinates to work with confidence. It is the exercise of authority and making of decisions, it is the lifting of man's visions to higher sights, the raising of man's personality beyond its normal limitations. Leadership is a process of influence. A leader must be able to influence the behavior, attitude and beliefs of his subordinates. It exists only for the realization of common goal. It involves readiness to accept complete responsibility in all situations. Leadership is the function of stimulating the followers to strive willingly to attain organizational objectives. Its styles do change under different circumstances. It is neither bossism nor synonymous with management. The important functions of a leader are Setting Goals, Organizing, Initiating Action, Co-Ordination, Direction and Motivation, Link between Management and Workers. The term 'leadership style, refers to the consistent behavior pattern of a leader as perceived by people around him. Every leader develops a pattern in the way he handles his subordinates or followers in various situations. The leadership style is the result of the philosophy, personality and experience of the leader. It also depends upon the types of followers and the conditions prevailing in an organization.

Leadership is both a research area and a practical skill encompassing the ability of an individual or organization to "lead" or guide other individuals, teams, or entire organizations. Specialist literature debates various viewpoints, contrasting Eastern and Western approaches to leadership, and also United States versus European approaches. U.S. academic environments

define leadership as "a process of social influence in which a person can enlist the aid and support of others in the accomplishment of a common task".

TYPES OF LEADERSHIP

School leadership is seen in terms of two types of leadership a) Transformational b) Transactional. For the present study transformational leadership is operationalized as given by Bass and Avolio (1994) has conceptual definition for leadership as a composition of 1) Idealised influence 2) Inspirational motivation 3) Intellectual stimulation and 4) Individualised consideration.

For the present study transactional leadership is operationalized as given by Bass and Avolio, has conceptual definition for leadership as a composition of 1) Contingent reward, 2) Management -by- exception 3) Laissez-faire to influence followers.

Transformational Leader

Transformational leadership is a leadership style in which leaders encourage, inspire and motivate employees to innovate and create change that will help grow and shape the future success of the company. This is accomplished by setting an example at the executive level through a strong sense of corporate culture, employee ownership and independence in the workplace. The concept of transformational leadership started with James V. Downton in 1973 and was expanded by *James Burns* in 1978. In 1985, researcher Bernard M. Bass further expanded the concept to include ways for measuring the success of transformational leadership. This model encourages leaders to demonstrate authentic, strong leadership with the idea that employees will be inspired to follow suit. The concept of transformational leadership was initially introduced by leadership expert and presidential biographer James MacGregor Burns. According to Burns, transformational leadership can be seen when “leaders and followers make each other to advance to a higher level of moral and motivation.”

While *Bass*' model dates to the '70s, it's still an effective leadership style practiced today — this style of authentic leadership never changes, just the environments it's used in.

Characteristics of Transformational Leader

According to *Bass*, these are the hallmarks of a transformational leader that sets them apart from other leadership styles. A transformational leader is someone who:

- Encourages the motivation and positive development of followers
- Exemplifies moral standards within the organization and encourages the same of others
- Fosters an ethical work environment with clear values, priorities and standards.

- Builds company culture by encouraging employees to move from an attitude of self-interest to a mindset where they are working for the common good
- Holds an emphasis on authenticity, cooperation and open communication
- Provides coaching and mentoring but allowing employees to make decisions and take ownership of tasks

Seven discrete characteristics of transformational leaders (or dimensions) were formulated by *Leithwood (1994)*. These were typically enumerated in context of schools

- building school vision and establishing goals,
- creating a productive school culture,
- providing intellectual stimulation,
- offering individualized support,
- modelling best practices and important organizational values
- demonstrating high-performance expectations, and
- developing structures to foster participation in school decisions.

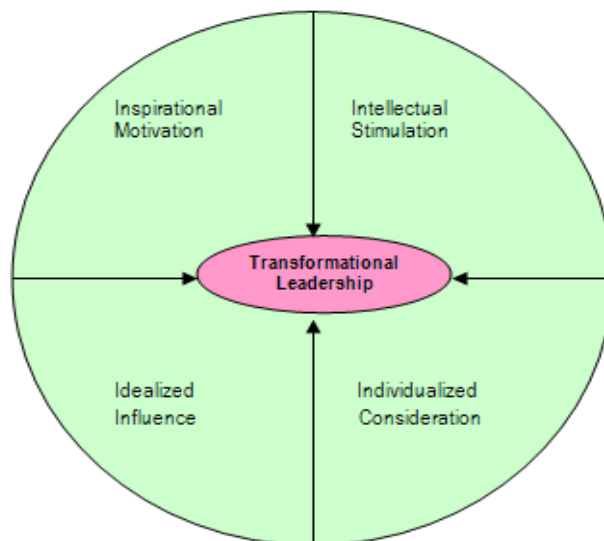


Figure 1: Model of Transformational Leadership

Inspirational Motivation: The foundation of transformational leadership is the promotion of consistent vision, mission, and a set of values to the members. Their vision is so compelling that they know what they want from every interaction. Transformational leaders guide followers by providing them with a sense of meaning and challenge. They work enthusiastically and optimistically to foster the spirit of teamwork and commitment.

Intellectual Stimulation: Such leaders encourage their followers to be innovative and creative. They encourage new ideas from their followers and never criticize them publicly for the mistakes committed by them. The leaders focus on the “what” in problems and do not focus on the blaming part of it. They have no hesitation in discarding an old practice set by them if it is found ineffective.

Idealized Influence: They believe in the philosophy that a leader can influence followers only when he practices what he preaches. The leaders act as role models that followers seek to emulate. Such leaders always win the trust and respect of their followers through their action. They typically place their followers needs over their own, sacrifice their personal gains for them, and demonstrate high standards of ethical conduct. The use of power by such leaders is aimed at influencing them to strive for the common goals of the organization.

Individualized Consideration: Leaders act as mentors to their followers and reward them for creativity and innovation. The followers are treated differently according to their talents and knowledge. They are empowered to make decisions and are always provided with the needed support to implement their decisions.

Transactional Leader

Transactional leadership is a part of a style of leadership that focuses on supervision, organization, and performance; it is an integral part of the Full Range Leadership Model. Transactional leadership is a style of leadership in which leaders promote compliance by followers through both rewards and punishments. Unlike transformational leaders, those using the transactional approach are not looking to change the future, they look to keep things the same. Leaders using transactional leadership.



Figure2: Transactional Leadership

The transactional style of leadership was first described by **Max Weber** in 1947 and then by Bernard Bass in 1981. This style is most often used by the managers. It focuses on the basic management process of controlling, organizing, and short-term planning. The famous examples of leaders who have used transactional technique include McCarthy and de Gaulle. Transactional leadership involves motivating and directing followers primarily through appealing to their own self-interest. The power of transactional leaders comes from their formal authority and responsibility in the organization. The main goal of the follower is to obey the instructions of the leader. The style can also be mentioned as a 'telling style'.

The leader believes in motivating through a system of rewards and punishment. If a subordinate does what is desired, a reward will follow, and if he does not go as per the wishes of the leader,

a punishment will follow. Here, the exchange between leader and follower takes place to achieve routine performance goals.

These exchanges involve four dimensions:

Contingent Rewards: Transactional leaders link the goal to rewards, clarify expectations, provide necessary resources, set mutually agreed upon goals, and provide various kinds of rewards for successful performance. They set SMART (specific, measurable, attainable, realistic, and timely) goals for their subordinates.

Active Management by Exception: Transactional leaders actively monitor the work of their subordinates, watch for deviations from rules and standards and taking corrective action to prevent mistakes.

Passive Management by Exception: Transactional leaders intervene only when standards are not met or when the performance is not as per the expectations. They may even use punishment as a response to unacceptable performance.

Laissez-faire: The leader provides an environment where the subordinates get many opportunities to make decisions. The leader himself abdicates responsibilities and avoids making decisions and therefore the group often lacks direction.

EPILOGUE

Both Transactional and Transformational leadership are effective in the right situations and can often be combined. Every leader needs to adjust their style based on the needs of their team and their environment. Leadership is something which you can adjust and change over a lifetime. Learn from your experiences and make changes as you grow. In conclusion, the most successful principals perform key functions well, shaping a vision of academic success for all students, creating a climate hospitable to education, cultivating leadership in others, improving instruction, managing people, data, and processes to foster school improvement. School leadership thus can be a mix of both type of leaderships.

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ENHANCING RESILIENCE AMONG ADOLESCENTS: DOUBTFUL COCOONS TO CONFIDENT BUTTERFLIES

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Abstract

Adolescence is the transitional stage of Psychological and Physical development. It is a period of confusion and doubt. Adolescents have to cope with demands such as new social connections, academic responsibilities, family & peer pressure, etc. At such times many adolescents who are unable to cope with this pressure develop poor self-esteem and at an extreme stage can lead to suicidal ideation. Resilience is the ability to overcome the adversity and bounce back. A child with high level of resilience can withstand the adversities easily as compared to the one with low Resilience level. Hence, the development of Resilience among Adolescents is very essential. The present study aims to find if sessions on enhancing resilience among adolescents increases their resilience score. The sample of the study comprised of 55 secondary school students of an English medium SSC school from suburban Mumbai. The sampling technique used was convenience sampling. The tool for data collection comprised of sessions focused on enhancing the Resilience level by developing an experiential Learning Module. The instrument used for examining the Resilience score consisted of Connor-Davidson Resilience Scale (CD-RISC), 2003. For analyzing data, parametric statistical techniques were used. The result shows a significant difference between the pre-test and post test scores of adolescents.

Keywords: Adolescents, adversity, Resilience, Experiential Learning Module

INTRODUCTION

J.K Rowling, born to a poor family; left a bad marriage with a young baby to live on government assistance; wrote her first Harry Potter book and was turned down by most publishers until Bloomsbury publishing picked it up.

Winston Churchill, as a student was academically poor and also had stuttering problem however he overcame his adversity to become Prime Minister of the UK. And today he is remembered for his powerful and rousing speeches.

Amitabh Bachchan, was rejected by All India Radio for his heavy voice, overcame a disastrous time of no money, no films, legal cases and bankruptcy to become such a great personality. In a person's life there are many events which brings joy and happiness on the other hand there are some instances which severely damages one's life. Adversities like death of a loved one, breakup, severe illness, or a great loss causes sadness and trauma to an individual. These negative events are often life impacting and out of our control. It is not easy to cope with these events however resilient individuals are likely to maintain an equilibrium between the hardship

of life. Resilience is the process or outcome of successfully adapting the threatening challenges and circumstances.

In essence, resilience is the ability to face the negative experiences of our lives, to adapt them and bounce back. Adversities are faced by people at all ages. But the majority of lifelong psychological and physical problems commence in adolescence. It is vital to identify and mitigate the impact of adversities faced by adolescents as early as possible to prevent further escalation of the complexity.

REVIEW OF RELATED LITERATURE

Many Longitudinal studies were conducted by Werner and Smith (1982), (1992), (2001); Garmezy, Masten, Tellegen (1984); Rutter and Quinton (1992) where they have tried to understand the interaction between the protective and risk factors. These have served two goals, firstly they have identified successful adjustment in children who face adversities and secondly how these factors promote adaptation to the adversities. Werner and Smith's Kauai conducted a study in Great Britain which gives the cross- cultural perspective of Resilience. Avyact & Shivraj (2018) conducted a study of resilience in children of middle and upper-middle class families of Jabalpur, India, in this study it was found that the older children were more outgoing, warm hearted, easy going and participating as compared to lower age group children. Girls were significantly more resilient than boys in both the age groups. The girls were found to be more emotionally stable, calm and face reality in a very cool manner. Academic achievers were found to be more resilient, easy going, accommodating. No any significant differences when children's resilience was compared with their parental educational status. Priyvadan S. in his article on Resilience: Building immunity in Psychiatry found that the preferred environments for application of resilience are health, education and social policy and the right approach in integrating them.

The review of literature brings to light the fact that there are not many studies conducted on this topic in Mumbai. Especially among school students who are facing adversity and challenges emotionally, economically and academically. Not many studies are conducted in India investigating the impact of an intervention program on increase in resilience score of students. This study was an attempt in this direction.

NEED OF THE STUDY

Adolescence is a transitional stage of physical and psychological development. It is a period of disturbance and confusion. Some of the children face serious problems like family breakdown, family illness, or death of a loved one or bullying. At this stage a child tends to make quick decisions which often land them into troubles. However if children are resilient they can cope with the ups and downs of the life and can bounce back from such adversities. Developing self-respect, social skills and positive thinking can enhance the resilience level of the child. Adolescence need to develop resilience in order to cope up with everyday challenges like arguments with friends, disappointing test results or losses. Students who are more resilient are able to stay on track and plan their future to get successful results.

Students with less resilience level are likely to take harmful steps and can put their or others life in danger. Some of the cases which took place due to low resilient level are:

1. A 14-year-old girl residing in Vile Parle, Mumbai committed suicide due to restriction by parents on her wearing a one piece dress for the school welfare party.
2. A thirteen-year-old girl committed suicide in her house in Central Mumbai after she was humiliated by her teacher in school.
2. A police officers teenage child residing in Santacruz shot his mother with his father's gun. The boy had left a message in blood saying, "Tired of her, catch and hang me", on the floor near the body with a smiley emoticon. After arresting he confessed that there were issues between him and his mother which put him under lots of stress.

Hence to overcome such tragic situations, it is very essential to develop high resilience level among adolescents in order to avoid future regrets. For this purpose, the researcher undertook this study to enhance the resilience of Secondary school students of SSC board.

THEORETICAL FOUNDATIONS OF THE STUDY

According Erickson's Theory of Psycho-Social Development the growth of an individual is the result of his interaction with his social environment. Erickson discovered eight crisis of life arising at different ages of one's development and linked them with the eight stages of one's psycho-social development covering one's entire life span. One of the most important stage is the 5th stage named as Identity vs. Role Confusion. The age group of 12 to 20 years (Adolescence) falls under this stage. In this stage the adolescence begin to search their own personal identity. The extent to which an individual is able to develop a sense of identity depends upon the degree of success he/she achieves in resolving the crisis. Resilience plays a very constructive role in helping adolescence through this identity vs. role confusion crisis. A child with high resilient level are able to cope with high degree of failure and tries to convert the failure into success. It is necessary for an adolescence to be resilient in order to identify the sense of identity, resolving the crisis, developing the confidence to do things, to properly balance emotional reactions, live with harmony with the environment and to avoid role confusion.

OPERATIONAL DEFINITION

- Resilience is the person's internal ability to thrive the adversities in life. (Connor and Davidson 2003)
- Secondary school is an educational organization which provides secondary education to the children from Standard V to Standard X
- Adolescence refers to children between the age group of 10 to 19 years.

OBJECTIVES OF THE STUDY

To study the effect of Experiential Learning based module for enhancing Resilience among secondary school students.

HYPOTHESES OF THE STUDY

- There is no significant difference in the pre-intervention and post-intervention Resilience scores of Standard VIII students of SSC School.
- There is no significant difference in the pre-intervention and post-intervention Resilience score of Standard IX students of SSC School.
- There is no significant difference in the pre-intervention and post-intervention Resilience score of secondary Male students of SSC School.
- There is no significant difference in the pre-intervention and post-intervention Resilience score of secondary Female students of SSC School.
- There is no significant difference between pre-intervention and post- intervention Resilience scores of secondary students of SSC school.

SAMPLE

The sample of the study comprised of 110 VIII and IX standard students of an English medium SSC school from suburban Mumbai. 36 students were from the VII standard whereas 76 students were from IX standard. The samples were selected through convenient sampling technique.

METHODOLOGY

The present study was experimental in nature. It was designed on the lines of Non-Equivalent pre-test and post-test design. It can be described as follows:

$$O_1 \times O_2$$

O₁ = Pre-test

O₂ = Post-test

X = treatment

TOOL

The data for pre-test and post-test was collected using the 25-item Connor-Davidson Resilience Scale (CD-RISC), 2003. The CD-RISC comprised of 25 questions, to which the participants answer in terms of how they have felt within the last month. Each question is rated on a five-point Likert-style scale, ranging from not true at all (0) to true nearly all the time (4). Scores on the CD-RISC can range from 0 to 100. The Cronbach's alpha values for the Connor-Davidson Resilience Scale range from 0.79 to 0.88. Validity of CD-RISC was achieved by positively correlating it with the Kobasa hardiness measure in psychiatric outpatients.

INTERVENTION PROGRAM

After the pre-test the sample of the study was given treatment in the form of Experiential Learning Based Module which comprised of sessions to enhance the resilience level of the students.

The first session was an introduction on resilience. The aim of the session was to encourage students to bounce back from the adversities, make their bounce back motto and to take a positive approach towards solving their problems.

The second session was based on making students confident, making them believe that they are important and no problem in life is greater than their own life.

The third session focused on the calming the mind and body of the students. Thus a Yoga session was conducted in which students were made aware of the benefits of meditation and were taught how to perform basic yoga.

The fourth session comprised of the management of important components of resilience which are 'anger' and 'stress'. This session emphasized on the aftermaths of anger and stress on one's body. Participants were given practical training in different ways of reducing stress and to controlling anger.

The last session comprised of sharing problems which can be a best reliever. The session was based on developing trust, feeling of oneness among the students.

After the treatment a post test was given.

ANALYSIS OF DATA

To analyze the quantitative data descriptively the researcher used Mean and Standard deviation. For inferential analysis t-test was used.

Testing of hypothesis

Hypothesis 1

The Null hypothesis states that:

There is no significant difference in the pre-intervention and post-intervention Resilience scores of Standard VIII students of SSC School.

Table 1: t value of pre-intervention and post-intervention Resilience scores of Standard VIII students of SSC School

Variable	Group	N	Mean	S.D.	Df	Tabulated value	't' ratio	l.o.s.
Resilience scores of VIII	Pre-test	18	54.33	15.9448	34	At 0.05 level = 2.021	6.76	S
	Post-test	18	81.66	6.333		At 0.01 level = 2.704		

Interpretation of 't' test:

The obtained value of 't' ratio for Pre-test and Post-test is 6.76 which is more than the table value 2.704. Thus 't' ratio is significant. Hence the Null hypothesis is rejected.

Conclusion:

There is significant difference between pre-intervention and post- intervention Resilience scores of Standard VIII students of SSC school.

Discussion:

Thus, the alternate hypothesis is accepted which states that, there is significant difference between pre-intervention and post- intervention Resilience scores of Standard VIII students of SSC school. The mean of the of the post- intervention resilience score is 81.66 which is higher than the pre-intervention scores of resilience.

Hypothesis 2

The Null hypothesis states that:

There is no significant difference in the pre-intervention and post-intervention Resilience score of Standard IX students of SSC School.

Table 2: t value of pre-intervention and post-intervention Resilience score of Standard IX students of SSC School.

Variable	Group	N	Mean	S.D.	df	Tabulated value	't' ratio	l.o.s.
Resilience scores of IX	Pre-test	37	56.59	12.162	72	At 0.05 level = 1.980	11.15	S
	Post-test	37	81.10	5.556		At 0.01 level = 2.617		

Interpretation of 't' test:

The obtained value of 't' ratio for Pre-test and Post-test is 11.15 which is more than the table value 2.617. Thus 't' ratio is significant. Hence the Null hypothesis is rejected.

Conclusion:

There is significant difference between pre-intervention and post- intervention Resilience scores of Standard IX students of SSC school.

Discussion:

Thus the alternate hypothesis is accepted which states that, there is significant difference between pre-intervention and post- intervention Resilience scores of Standard IX students of SSC school. The mean of the of the post- intervention resilience score is 81.10 which is higher than the pre-intervention scores of resilience.

Hypothesis 3

The Null hypothesis states that:

There is no significant difference in the pre-intervention and post-intervention Resilience score of secondary Male students of SSC School.

Table 3: *t* value of pre-intervention and post-intervention Resilience score of secondary Male students of SSC School.

Variable	Group	N	Mean	S.D.	df	Tabulated value	't' ratio	I.o.s.
Resilience scores of Male students of Standard VIII and IX	Pre-test	39	57.00	12.723	76	At 0.05 level = 1.980	11.33	S
	Post-test	39	82.00	5.281		At 0.01 level = 2.617		

Interpretation of 't' test:

The obtained value of 't' ratio for Pre-test and Post-test is 11.33 which is more than the table value 2.617. Thus 't' ratio is significant. Hence the Null hypothesis is rejected.

Conclusion:

There is significant difference between pre-intervention and post- intervention Resilience scores of secondary Male students of SSC school.

Discussion:

Thus the alternate hypothesis is accepted which states that, there is significant difference between pre-intervention and post- intervention Resilience scores of secondary male students of SSC school. The mean of the of the post- intervention resilience score is 82.00 which is higher than the pre-intervention scores of resilience.

Hypothesis 4

The Null hypothesis states that:

There is no significant difference in the pre-intervention and post-intervention Resilience score of secondary Female students of SSC School.

Table 4: *t* value of pre-intervention and post-intervention Resilience score of secondary Female students of SSC School

Variable	Group	N	Mean	S.D.	df	Tabulated value	't' ratio	I.o.s.
Resilience scores of Female students of Std VIII and IX	Pre-test	16	53.062	15.013	30	At 0.05 level = 2.042	6.45	S
	Post-test	16	79.562	6.683		At 0.01 level = 2.750		

Interpretation of ‘t’ test:

The obtained value of ‘t’ ratio for Pre-test and Post-test is 6.45 which is more than the table value 2.750. Thus ‘t’ ratio is significant. Hence the Null hypothesis is rejected.

Conclusion:

There is significant difference between pre-intervention and post- intervention Resilience scores of secondary Female students of SSC school.

Discussion:

Thus, the alternate hypothesis is accepted which states that, there is significant difference between pre-intervention and post- intervention Resilience scores of secondary female students of SSC school. The mean of the of the post- intervention resilience score is 79.562 which is higher than the pre-intervention scores of resilience.

Hypothesis 5

The Null hypothesis states that:

There is no significant difference between pre-intervention and post- intervention Resilience scores of secondary students of a SSC school.

The statistical technique to test this hypothesis is ‘t’ test.

The following table shows the relevant statistics of the pre-intervention and post- intervention Resilience scores of secondary students of SSC school.

Table 5: t value of pre-intervention and post- intervention Resilience scores of secondary students of a SSC school.

Variable	Group	N	Mean	S.D.	df	Tabulated value	‘t’ ratio	I.o.s.
Resilience Scores	Pre-test	55	55.85454545	13.40870113	108	At 0.05 level = 1.980	12.92	S
	Post Test	55	81.29091	5.769244		At 0.01 level = 2.617		

Interpretation of ‘t’ test:

The obtained value of ‘t’ ratio for Pre-test and Post-test is 12.92 which is more than the table value 2.617. Thus ‘t’ ratio is significant. Hence the Null hypothesis is rejected.

Conclusion:

There is significant difference between pre-intervention and post- intervention Resilience scores of secondary students of SSC school.

Discussion:

Thus, the alternate hypothesis is accepted which states that, there is significant difference between pre-intervention and post-intervention Resilience scores of secondary students of SSC school. The mean of the post-intervention resilience score is 81.29091 which is higher than the pre-intervention scores of resilience.

CONCLUSION

Resilience and Transformation are two words which have different meanings but they go hand in hand in human beings. Resilience is the ability to withstand any difficult situations, and to be able to come out strong, healthy and successful after a tragic or major life changing event. Transformation means changing the situation and adapting to the environment. They are the essential components that need to be cultivated in an individual in order that they overcome tragic situations. A child who is at the growing age (adolescence) when he faces any adversity can be compared to a pupa who is still trying to grapple with his problems. The struggle of pupa to weave itself into a cocoon and then fight the battle to spread its wings and come out from the cocoon into a beautiful world as a butterfly is a very difficult task. However if proper care, nourishment and correct environmental conditions are provided then results are positive. Similarly, a child who is at the onset of adolescence is enclosed in a cocoon of his/her thoughts and struggle of role identity. A child needs appropriate amount of care along with time to understand his problems and to overcome them successfully. He needs to be trained to overcome adversities and bounce back in life. Here schools play a vital role. Thus, education for resilience needs to be an integral part of a child's education. From the above research it is evident that if proper training is given to adolescence, they will be more resilient, and our country will have a young future workforce which will overcome the hardships of life without any mental or emotional trauma. Thereby emerging as, beautiful butterflies ready to explore the world.

The study has been conducted under the guidance of Mrs. Nahida Mandviwala, Asst. Professor, Rizvi College of Education. Resilience and Adversity Quotient are her areas of research interest.

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CHILDREN WITH SPECIAL NEEDS –SOCIAL JUSTICE AND ITS IMPACT ON THEIR PSYCHOLOGICAL WELL BEING

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Abstract

In this paper, the primary focus is on inclusive education and its impact on child's psychology in the long run. It broadly talks about factors which enhances inclusive education and bottlenecks towards inclusion. Inclusion needs to begin from family, proceed to neighbourhood, peers, school, community and finally society. The sense of self-respect largely depends on the way one looks at oneself and the way society treats him/her. The level of inclusion determines the level of social justice. But many a times, children with special needs are not catered with social justice element due to various barriers like personal, social and political barriers to inclusion. Inadequate funding and Infrastructure, lack of trained professionals, reluctance to accept inclusive policies has caused many children not availing their basic right to education. The feeling of being deprived from a common learning environment leads to isolation and exclusion. Creating awareness session, making barrier free environment, introducing assistive technology and devices, will facilitate inclusiveness and a healthy psychology.

INTRODUCTION

Social justice –Personal and Social viewpoint

Social justice is a concept which means an individual is expected to perform some duties and responsibilities for society and in return he/she gets some facilities, services from society. The institutions of society include public health, educational institutes, public transport, law and order agencies, public agencies etc. Every child has some potential so do children with special needs. Their potential needs to be identified and channelized in a fruitful manner. This is possible only when society is open to accommodate them.

A Jesuit priest named Luigi Taparelli is typically credited with coining the term, and it spread during the revolutions of 1848 with the work of Antonio Rosmini-Serbati.

Social justice is determined by various factors like peers, parents, family environment, teachers and self. The acceptance of an individual depends largely on how society (family, friends, neighbourhood, educators) treat him /her. However social justice is hugely determined by perceptual point of view too. The perceptual point of view is shaped and formed as a result of one's past experience, childhood experiences and family dynamics. A child with special need needs empathy, respect and equality of treatment denial of which generates insecurities.

PSYCHOLOGICAL WELL-BEING

Psychological wellbeing is a state of happiness and contentment. It is within an individual who affects ones relationship with others, self-esteem, interpersonal skills and judgements about others. Psychological well-being consists of positive relationships with others, personal mastery, autonomy, a feeling of purpose and meaning in life, and personal growth and development. Psychological well-being is attained by achieving a state of balance. The state of balance is attained when given both challenging and rewarding life events. The concept of inclusiveness irrespective of domain social, education, cultural etc determines a great scope of sense of belongingness.

Correlation between Social Justice, Psychological Well-being and Inclusive Education

Social justice and Psychological well-being go hand in hand. Both social justice and psychological well-being are subjective in nature. External factors like family, society, peers, neighbourhood, determine the extent of justice given or not given. That in turn determines the mental health and psychological well-being of a person. Nevertheless some are affected more and some are affected less though hail from similar circumstances. This is due to personal factors like attitude, tolerance, will power, survival instinct etc.

Education is a right given to each child to prepare them for a productive, positive and meaningful social and family life. RTE act came into effect on April 1, 2010, incorporates free and compulsory education for children in the age group of 6-14 years. To achieve the aim, it is important to address the learning needs of all children with a specific focus on those who are vulnerable to exclusion.

Inclusive education is to ensure that all children regardless of their challenges and skills they have, are provided with common learning environment. They are entitled for equal opportunities in all spheres academics and co-curricular activities to maximize their potential to attain success.

Significance of inclusive education towards promoting social justice and psychological well-being

To ensure non-discrimination and equality of education. Several children with special needs are devoid of opportunities to practice their right to quality and just education due to various social, political, economy and personal factors. Inclusive education enables each child to practice this right and provide equal opportunities to explore & learn. To promote democratic education.

To encourage equal participation and ensure no child should be left behind- Inclusive education is not only within the classroom rather it is inclusion in all sphere's sports, dance, and music. It supports a child with special need to commute and communicate in his peer group, community and society.

To enhance quality of education and professional development of teachers. It requires specialised training and continuous up gradation to work in an inclusive set up. The setting up of inclusive education requires some accommodation and modification in curriculum, flexibility in classroom arrangement, designing of teaching materials. This leads to enhancement in quality of both education and professionals.

To build the concept of togetherness and develop feeling of self-worth and self-identity. Inclusive education means inclusion of children despite of their varying challenges and skills in a common learning environment. It provides all an opportunity to learn new ideas, new philosophy and new methodology. It develops sense of sensitivity, tolerance and flexibility in their personality. Thus, inclusive education facilitates both independence and interdependence.

However inclusive education is not justified in what it claims to be due to various barriers existing at different levels and in varying capacities. These barriers can be mainly grouped into three categories viz. personal, social and political.

SOME OF THE BARRIERS WHICH SIGNIFICANTLY HAMPERS THE PHILOSOPHY OF INCLUSIVE EDUCATION

Fear of stigma: Parents of children with special needs undergo immense amount of stress and anxiety. Their biggest threat is their child being labelled. As a consequence of this fear, they are reluctant for any kind of assessment and avail any accommodation/facilities as part of inclusion. This fear is transferred to child's psychology also. In the long run, it affects the self-esteem and confidence of the child.

Family pressure: Usually in joint family setting, child is taken for any educational and psychological evaluation only after seeking approval from his/her grandparents. So despite of parental consent, school readiness to provide facilities, the family dissent prohibits the child from availing special education services. The tussle within the family induces uncertainty in child's mindset. It has a negative impact on child's mental health.

Inhibition and reluctance amongst school management and teachers to adopt inclusive principles.

Lack of adequate training and exposure towards inclusive education

Intolerance and negative attitude: Many people are not willing to practice and support inclusion. They do not want to interact with people with disabilities. In such school and community settings, children with disabilities often are victims of bullying and sarcasm. This leads to isolation and exclusion. It shatters the self-worth of the child and sense of belongingness. It leads to maladaptive behaviour and associated concerns of lying, stealing, attention seeking etc.

Physical Barriers: Many schools/institutions and places like malls, playgrounds etc do not have the adequate and required infrastructure to suit to the needs of a child with special needs. They do not have ramps to support children on wheelchair. The child has to be lifted to commute from one place to another. This hampers the self-identity of the child. Environmental barriers also include doors, passageway, and recreational areas. Some children with special needs like children with hearing and visual impairment can be helped with the aid of assistive devices. Inaccessibility of this infrastructure makes them helpless in handling the regular affairs at home, school and their community.

Inadequate political will: The government's inability to disseminate and allocate funds and resources towards inclusion is a major challenge. Lack of trained professionals, resource lab, proper infrastructure and scarcity of resources, teaching aids, assistive devices etc are major bottlenecks for inclusive education.

These barriers hinder a child from accessing the basic right to education. That in turn deprives him to explore cognitive, emotional, social and psychological domain. It leads to retarded growth both psychological and physical. It also causes maladaptive personalities and ill-behaviours. It is vital to strengthen inclusive education to develop a more liberal, free and flexible society.

FACTORS /ELEMENTS TO STRENGTHEN INCLUSIVE EDUCATION

Creating Awareness: Inadequate awareness about special education and inclusive education amongst family and institutions cause inaccessibility to existing resources. Conducting awareness campaigns, orientation programmes both for parents and schools will enhance inclusion.

Training: Providing relevant training programmes for school management and regular school teachers will equip them to modify curriculum, develop teaching modules and teaching materials as required by a child with special need.

Peer and Family Sensitization: It is important to sensitize the society to be more flexible and accommodating to children with special needs. It will prevent any kind of biased and discriminatory behaviour.

Funding: Adequate funding is needed for quality resources, trained professionals and infrastructural changes like ramps, handrails, assistive devices and appliances. Availability, training and use of aids and appliances (Braille, White cane, Abacus, Low vision aids, magnifiers etc) should be ensured.

CASE STUDY

Name of the child:- ABC

Diagnosis:- A child aged 11 and half years with Speech and language delay and sensory issues.

Background Information:

As reported by parents, his physical milestones were on time. His communication was mostly in the form of crying, pulling, scratching, and banging. They were worried when he attained 3 and he was communicating mainly by pulling his parent's hand and using few words. As part of early intervention, he attended therapy under the guidance of speech and language pathologist for few months. But as the family was not much aware and convinced about the condition, the therapy sessions were soon discontinued.

He was put in a play school. He finished 3 years of schooling in play group.

He got admission in another school with Resource lab facility in Bangalore. The first few discussions with family indicated their reluctance to accept the facts. They believed it was hereditary though they also expressed readiness to work with child in terms of attending therapy sessions.

After initial few months, teachers found it difficult to handle the child. They tried their best possible way to support the child. However despite of various efforts taken, the child could not be managed in the classroom. This led to:

- Growth of Fear and anxiety in child's psychology.
- Downfall of his confidence and self-esteem
- Discrimination faced by child
- Behavioural concerns were on rise like pushing, hitting, fighting.
- Unfavourable environment at home
- Tussle amongst family members.

Frequent meetings were held with parents to express the concerns about him. After a very difficult phase for both school and family, school change was decided for the child. The reasons which made the child leave school are:

- Complaints from other parents.
- Lack of flexibility in the curriculum.
- Inadequate skills and training to handle the child.
- Lack of required support from the parents.
- Reluctance in the family to accept the condition.
- Lack of peer sensitivity

He was a frequent target of being ridiculed, defamed in school by peers and by family. For a year he was put in various schools. He could not stay in any school for more than 2 and half 3

months. His behavioural concerns and sensory needs were not being catered to. After enormous efforts as a final resort mother started home schooling. He was also receiving therapy by an Occupational therapist. Now he is 11 years old. He has not attended any school from past 3 years.

Current Status:

- Academic- Grade appropriate
- Social: - Likes to play with peers. He is lagging in basic Social pragmatic skills.
- Emotional: - As reported by family, he feels he is not being given what he deserves. It seems family, friends and neighbourhood has been very unfair to him. He expresses his emotions of all kinds like happiness, sadness, anger.
- Communication- He can communicate all his needs. He can comprehend commands. He can convey his thoughts to his parents, peers and relatives.
- Behaviour: - As reported by his parents, he throws a lot of tantrums when his needs are not met. He speaks very rude irrespective of people, time, place and situation. He loses interest very frequently
- He wants to attend school as he expresses it very often. But he has a clarity that he would not sit in a conventional classroom.

The details indicate that his psychological wellbeing is highly affected as a result of various barriers at various levels. However his academic is at par as home-schooling benefitted him. If he is provided with inclusive set up, he can be saved from further damaging. Rather with all support from family and society he would show up his talent and skills

CONCLUSION

Children with special needs are targets of biased and discriminatory behaviour. They face discrimination from family, peers, teachers, friends, and neighbourhood. They are often denied right to education, the basic right which each child is entitled for in democracy. They are usually excluded from any school programme due to psychological and physical barrier. It hampers overall psychological well-being of the child.

It is important to understand that society is created by us. If we start believing the significance of inclusion, the society will automatically follow the belief. The first and foremost barrier exists in our mind. This barrier of our psychology hampers our psychological wellbeing as well as of others who are at the receiving end. Thus to begin with, it is utmost important to eradicate this mental barrier and welcome the concept of inclusive education whole-heartedly.

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EMOTIONAL AND SOCIAL MATURITY OF B.ED TEACHER TRAINEES

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Abstract

The study has been conducted on a sample of 1540 pre-service teachers selected from different 25 colleges of Education in Mumbai. A standardised scale of Emotional Maturity constructed by Yashvir Singh and Social Maturity Scale, constructed by Dr. Nalini Rao are used. The F test and t- test was used to examine the significance difference among religion. The findings show that the overall Emotional and Social maturity of the teacher trainees was moderate. Gender of the Teacher Trainees does not influencing their Emotional Maturity and Social Maturity and Religion of the Teachers Trainees is influencing their Social Maturity but not their Emotional Maturity.

EMOTIONAL MATURITY

The emotionally mature person is one who has gained normal controls over emotions, emotionally responsive to different people and situations, within reasonable limits. It is the state of coordination and harmony within the life of a person. The important attribute of maturity is a sense of reality, flexibility and adaptability. It is the ability to tolerate a reasonable amount of frustration. An emotionally mature person has a of sense direction, sense of values which influence his thoughts and actions, emotions are organized and integrated, have emotional stability or calmness under stress and consistency in the behavior and ability to do right thing at a right time. It is the effective determiner of the personality which helps in growth and development of a man.

SOCIAL MATURITY

Social maturity means knowing what to do and striving for it by following role models to reach the desired level of acceptable social behaviour. Social maturity is the long process. To the socially mature, students should be exposed to those people who are socially mature so that they can pattern their behaviour accordingly. The student can try to reach the expectations of the social system, parents, teacher, siblings and peers who matter to them. Social maturity deals with learning to properly relate to acquaintances, friends and intimate relationship. It also involves understanding how to honour and respect those in authority; civil, parental, employer or spiritual.

TEACHER TRAINEES

It is the education that teacher gets before joining the profession of teaching. The person desirous of adopting teaching as his profession is required to undergo a well-devised course of teacher education offered by various institutes. This training course leads to a certificate or degree. Teacher Education is the professional course.

NEEDS AND SIGNIFICANCE

In the present situation it is seen that life became too complex. Human being suffering through much pressure, rapidly changing demands also seriously affecting life. To maintain proper mental health required balance among individual, social and emotional development. So it is necessary to understand what is the role of pre-service teachers as individual, emotional, social and spiritual development in their life? With this behavior teacher can easily fulfill their needs and live happily and effectively. Therefore investigator wants to make an attempt to study the emotional maturity and social maturity on the basis of religion.

STATEMENT OF THE PROBLEM

Emotional and Social Maturity of B.Ed. Teacher Trainees

OPERATIONAL DEFINITIONS OF THE KEY TERMS

Operational definition of Emotional maturity: Emotional maturity is taken to be a process in which the personality is continually striving for greater sense of emotional health, both intrapsychically and intra-personally. In brief emotional maturity reflect five areas, Emotional stability, Emotional progression, Social adjustment, Personality integration and Independence

Operational definition of Social maturity: Social maturity is taken to be the level of social skills and awareness than an individual has achieved relative to particular norms of the society in which he is a member. It is a measure of the development competence of an individual with regard to inter-personal relation, behavior appropriateness, social problem solving and judgment. Social maturity encompasses attainments in several domains, including independent functioning, effective inter-personal communication, interaction and responsibility

Aims of the Study

- To study Emotional Maturity of Teacher Trainees
- To study Social Maturity of Teacher Trainees

Objectives of the Study

- O1-To study the difference in the Emotional Maturity of the Teacher Trainees on the basis of Religion
- O2-To study the difference in the Social Maturity of the Teacher Trainees on the basis of Religion

Hypotheses of the Study

- H1**-There is no significant difference in the Emotional Maturity of the Teacher Trainees on the basis of Religion.
- H2**-There is no significant difference in the Social Maturity of the Teacher Trainees on the basis of Religion.

Variables of the Study

Dependent variable:-Emotional maturity and Social maturity

Independent variables-Religion i.e. Hindu, Muslim, Christian and Others Religion

Research Tools

- Emotional Maturity Scale, standardised scale constructed by Yashvir Singh (1977).
- Social Maturity Scale, standardised scale constructed by Dr. Nalini Rao.

Delimitations of the Study

- The sample of the study was confined to 1540, student teachers of 25 different colleges of Education affiliated to University of Mumbai in Mumbai district only.
- The study is limited to only two dependent variables i.e. Emotional Maturity and Social Maturity and about independent variables like Religion i.e. Hindu, Muslim, Christian and Others religions.

O1-To study the difference in the Emotional Maturity of the Teacher Trainees on the basis of Religion

Table No.1

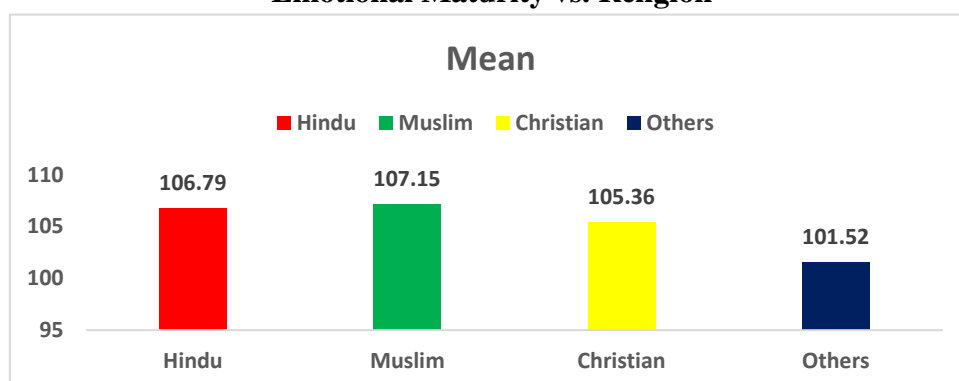
Descriptive Statistics of Emotional Maturity vs. Religion

Variable	Groups	N	Mean	Median	Mode	S.D.	KU	SK
Emotional Maturity	Hindu	954	106.79	105	99	23.06	0.94	0.64
	Muslim	328	107.15	105.5	92	21.04	0.17	0.46
	Christian	198	105.36	102.5	98	23.41	0.87	1.62
	Others	60	101.51	100	106	21.49	0.77	0.48

Table no. 1 indicates that the mean score of Muslim Religions Teachers is more than Hindu, Christian and Others Religions Teachers. Therefore Emotional Maturity of Muslim Religions Teachers is comparatively more than Hindu, Christian and Others Religions Teachers.

Graph No.1

Emotional Maturity vs. Religion



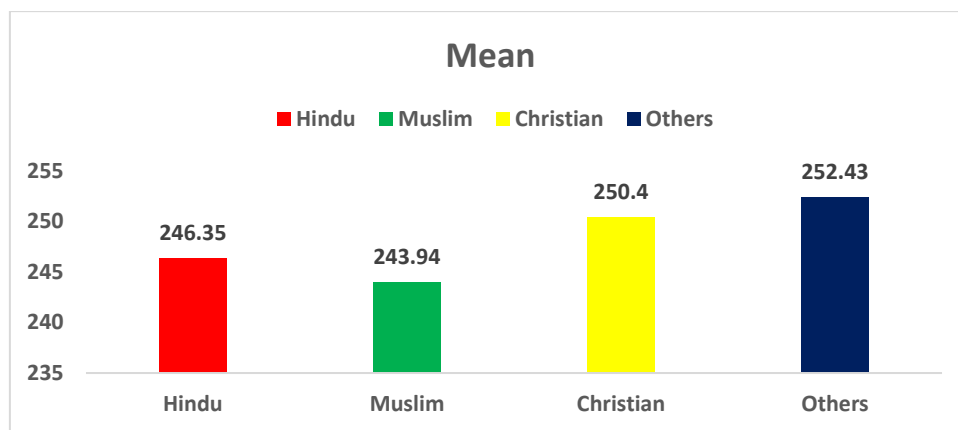
O2-To study the difference in the Social Maturity of the Teacher Trainees on the basis of Religion

Table No.2

Descriptive Statistics of Social Maturity vs. Religion

Variable	Groups	N	Mean	Median	Mode	S.D.	KU	SK
Social Maturity	Hindu	954	246.35	246	251	23.38	0.23	-0.05
	Muslim	328	243.95	244	244	20.40	0.94	-0.23
	Christian	198	250.40	252	252	26.48	17.46	-2.30
	Others	60	252.33	251.5	278	20.52	-0.63	-0.03

Table no. 2 indicates that the mean score of Others Religions Teachers is more than Hindu, Muslim and Christian Religions Teachers. Therefore Social Maturity of Others Religions Teachers is comparatively more than Hindu, Muslim and Christian Religions Teachers.



Graph No.2

Social Maturity vs. Religion

INFLUENCE OF RELIGION ON EMOTIONAL MATURITY AND SOCIAL MATURITY OF TEACHER TRAINEES

Religion and cultural values have effects on emotional maturity and social maturity. Religion has the potential to offer security and significances in life as well as valuable human relationship, to foster mental health. Religion also provides coping skills to deal with stressor or demands perceived as straining. In such a scenario the present study also investigates for the impact of the religion on the two variables i.e. Emotional Maturity and Social Maturity.

Testing of Hypothesis

H1-There is no significant difference in the Emotional Maturity of the Teacher Trainees on the basis of Religions.

In order to find out if there would be any variance among the teachers trainees in their emotional maturity based on their religion, Analysis of Variance was calculated and it is presented in the table.

Table No.3
Emotional Maturity of the Teacher Trainees: Religions (F)

Source of Variation	SS	df	MS	F-value	F critical value	Level of Significance
Between Groups	1962.4485	3	654.14951	1.23	2.60	0.05*
Within Groups	786543.71	1536	512.07273			
Total	788506.16	1539				

* Accepted

Interpretation

There is no significant difference found in the Emotional Maturity of the Teacher Trainees belonging to different Religions i.e. Hindu, Muslim, Christian and Other religions

The critical / table value of F for $df = 3$ and $df = 1536$ at 0.05 level as significant 2.60. The obtained value of $F = 1.23$, which is less than the table value 2.60. Therefore the null hypothesis is accepted.

Conclusion

Hence, hypothesis - 1, formulated that there is no significant difference in the Emotional Maturity of the Teacher Trainees on the basis of Religion is accepted.

The mean score of Emotional Maturity of the Teacher Trainees belonging to Hindu religion is 106.79 with variance being 531.61, while that of Muslim Teacher Trainees is 107.15 with variance being 442.67, while that of Christian Teacher Trainees is 105.36 with variance being 547.88 and Others religions teacher Trainees is 101.52 with variance being 461.67.

This could be because all religions guide and give emotional support to all individuals in the same manner. By these routes religions has the potential to develop positive emotions, which provide security and significance in human life. Religion is an influencing factor in deciding to maintain emotionally mature person in the society. All religions suggest to mind other people's feelings or to show consideration for others and a concern for each one.

Testing of Hypothesis

H2-There is no significant difference in the Social Maturity of the Teacher Trainees on the basis of Religions.

In order to find out if there would be any variance among the teacher trainees in their social maturity based on their religion, Analysis of Variance was calculated and it is presented in the table.

Table No.4
Social Maturity of the Teacher Trainees: Religions (F)

Source of Variation	SS	df	MS	F-value	F critical value	Level of Significance
Between Groups	7260.9209	3	2420.3070	4.53	2.60	0.05*
Within Groups	819874.68	1536	533.77258			
Total	827135.60	1539				

*** Rejected****Interpretation**

There is significant difference found in the Social Maturity of the Teachers Trainees belonging to different Religions i.e. Hindu, Muslim, Christian and Other religions.

The critical / table value of F for $df = 3$ and $df = 1536$ at 0.05 level as significant 2.60. The obtained value of $F = 4.53$, which is significant higher value than 2.60.

Therefore the null hypothesis is rejected.

Conclusion

Hence, hypothesis - 2, formulated that there is no significant difference in the Social Maturity of the Teacher Trainees on the basis of Religion is rejected.

Table No. 5
Social Maturity of the Teacher Trainees: Religions (t)

Variable	Description	N	df	Mean	% of Mean	Variance	t-value
Social Maturity	Hindu	954	1280	246.35	68.43	546.55	1.65 ^{NS}
	Muslim	328		243.95	67.76	415.94	
Vs.	Hindu	954	1150	246.35	68.43	546.55	2.17*
	Christian	198		250.40	69.55	701.32	
School Medium	Hindu	954	1012	246.35	68.43	546.55	1.97*
	Others	60		252.43	70.12	421.06	
Vs.	Muslim	328	524	243.95	67.76	415.94	3.13*
	Christian	198		250.40	69.55	701.32	
School Medium	Muslim	328	386	243.95	67.76	415.94	2.96*
	Others	60		252.43	70.12	421.06	
Vs.	Christian	198	256	250.40	69.55	701.32	0.55 ^{NS}
	Others	60		252.43	70.12	421.06	

*Significant at 0.05 level

NS=Not Significant at 0.05 level

- There is no significant difference found in the Social Maturity of the Teacher Trainees between Hindu and Muslim Religion. The critical / table value of t for $df = 1280$ at 0.05 level as significant 1.96. The obtained value of $t = 1.65$, which is less value than the table value 1.96.
- There is no significant difference found in the Social Maturity of the Teacher Trainees between Hindu and Christian Religion. The critical / table value of t for $df = 1150$ at 0.05 level as significant 1.96. The obtained value of $t = 2.17$, which is significant higher than the table value 1.96.
- There is no significant difference found in the Social Maturity of the Teacher Trainees between Hindu and Others Religion. The critical / table value of t for $df = 1012$ at 0.05 level as significant 1.96. The obtained value of $t = 1.97$, which is significant higher than the table value 1.96.
- There is significant difference found in the Social Maturity of the Teacher Trainees between Muslim and Christian Religion. The critical / table value of t for $df = 524$ at

0.05 level as significant 1.96. The obtained value of $t = 3.13$, which is significant higher value than the table value 1.96.

- There is significant difference found in the Social Maturity of the Teacher Trainees between Muslim and others religion. The critical / table value of t for $df = 386$ at 0.05 level as significant 1.97. The obtained value of $t = 2.96$, which is significant higher value than the table value 1.97.
- There is significant difference found in the Social Maturity of the Teacher Trainees between Christian and Others Religion. The critical / table value of t for $df = 256$ at 0.05 level as significant 1.97. The obtained value of $t = 0.55$, which is less value than the table value 1.97.
- Therefore the null hypothesis is rejected.

OBSERVATIONS

The mean score of Social Maturity of the Teacher Trainees belonging to Hindu religion is 246.35 with variance being 546.55, while that of Muslim Teacher Trainees is 243.95 with variance being 415.94, while that of Christian Teacher Trainees is 250.40 with variance being 701.32 and Others religions Teacher Trainees is 252.43 with variance being 421.06

FINDINGS

The findings of the present study indicate that there is distinction between the teachers belonging to Hindu and Christian, and Hindu and others religions as evidenced by t value obtained 2.17 and 1.97 respectively which is significant at 0.05 levels. There is also distinction between the Teacher Trainees belonging to Muslim and Christian, and Muslim and others religions as evidenced by t value obtained 3.13 and 2.96 respectively which is significant at 0.05 levels. There is no distinction between the Teacher Trainees belonging to Hindu and Muslim, and Christian and others religions as evidenced by t value obtained 1.65 and 0.55 respectively which is not significant at 0.05 levels.

DISCUSSION

Teachings of all the religions are same but people are more inclined towards their own religion. This could be because there is socially contact and regular interaction with same religions people in planning and celebrating various activities of their own religion literally. According to their surrounding area in which people lived and worked together also. Good bonding seen between Muslims and Hindu, and Christian and others religions people.

CONCLUSIONS OF THE STUDY

- Religion of the Teachers Trainees is influencing their Social Maturity but not their Emotional Maturity.

EDUCATIONAL IMPLICATIONS

Co-curricular activities related to the affective domain should also be incorporated in the curriculum which should be a compulsory part of the curriculum. Value-oriented education in this light of moral education and moral awareness should be provided. Students should be allowed to listen to teachers and adults moral judgements. Students should lead discussions in groups in which they will have a chance to grapple actively with moral issues. Students will develop not because they are shaped through external reinforcements but because their curiosity, by participating in discussion, is aroused.

SUGGESTION FOR FURTHER RESEARCH

- A similar study can be carried out on students of D.Ed. and M.Ed.
- In the present study cross sections that have been investigated are male/female, rural urban. Many other cross sectional comparisons of various other categories of students like poor/ rich studying in government/private schools may be carried out.
- A similar study can also be carried out to see the effect of school environment on the emotional maturity.
- A study may be taken to explore the comparison between emotional maturity of teachers and college students.
- A study may be conducted to see whether it is possible to enhance emotional Maturity through some training programs. Hence, experimental studies may be taken up to evaluate the effectiveness of such training programs.

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IMPACT OF PEER FEEDBACK PRACTICES DURING PRESENTATIONS BY CLASS XI STUDENTS IN TERMS OF SELF CONFIDENCE

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Abstract

Feedback is an advice or criticism about quality of performance, products or ideas for new steps. It is a remark on student's work which may initiate constructive reflection by the learner. Feedback provides students an opportunity to understand own skills and capabilities. Students are required to identify strategies for improving way of presentation as well as success in work. Review indicates that self-confidence about own capabilities, beliefs and efficiency may be inter related with observations and feedback in simulated circumstances. From this point of view, the researcher conducted the present study. The objective was "to compare mean ranks of positive and negative differences of post and pre-self-confidence scores in the group treated through peer feedback practices for class XI students". Hypothesis of the study was "there will be no significant difference between mean ranks of positive and negative differences of post and pre-self-confidence scores in the group treated through peer feedback practices for class XI students". The random sampling technique was used to select school from the list of CBSE affiliated schools. Twenty-one students were exposed to peer feedback practices after seeking permission from Alpine Academy, Indore (M.P.). The self-confidence scale developed by Dr. D. N. Sansanwal and Dr. Smita Bhawalkar (2011) was administered for data collection. It employed pre-test post-test single group design. The collected data was analyzed by applying Wilcoxon Signed Rank test due to the small sample size. The findings indicate that the mean post and pre-self-confidence scores at pre and post-test stage of students treated through peer assessment practices differ significantly. As a result, peer- feedback practices were found to be effective in terms of self-confidence. In the previous researches, researchers also reported significant improvement in the academic and non-scholastic performance of students after the practice of peer- feedback. It is a stepping stone to get progress in various spheres of life to achieve success. The teachers should avoid it to be considered as an assessment, but instead as an essential competence for self- regulation. There is a need to consider it as a need for improvement without any comparisons in the peer group. It requires proper exposure which has never been provided by prior education system to develop the self- assessment skills. This paper is an attempt to find ways for improving the level of self confidence in the learners for transferring it into daily routine life experiences.

Keywords: Peer- feedback, Self- confidence, Self- awareness, Presentation skills.

INTRODUCTION

Feedback is an important aspect of evaluation. It is a statement of opinions about a new product or performance for getting perfection and success. It is an advice or criticism about quality of performance, products or ideas for new steps. It is a remark on student's work which may initiate constructive reflection by the learner. Feedback provides students the opportunity to understand own skills and capabilities. It is useful for modification of the next action to take place during any process by clarifying areas where improvement is required. It involves comments intended to help them to do it better. It is an essential element of the learning process and training programs. Feedback can be seen as informal (day- to- day interactions between teachers- students or trainers- trainees, between peers) or formal (as part of written or verbal assessment). It may be formative feedback or summative feedback, evaluative or descriptive feedback, formal or non-formal feedback, by a teacher, peer or self. The students study different subjects in school and provided with feedback after attempting any task. Science is a core subject in education system at primary as well as secondary level. Lack of interest and motivation makes it difficult to learn science therefore the teachers needed to foster student's interest. Active participation of the learners along with suitable strategies can be planned for maintaining interest. One can judge other's performance, assess and interpret the classroom events in more meaningful ways if he / she get an opportunity to observe other's way of performing. As a result, they can integrate knowledge with practical situations and understand the quality of performance.

RATIONALE

Education is a process of developing individuals in the group settings for developing society and nation. It is not possible to produce specialists with logical and aesthetic capabilities through the training of intellect only. Conventional examination formats are highly controlled and not enough for all round development. Involvement of learners in performance assessment is also recommended by the learning theories. Learning and teaching are multi-dimensional therefore assessment also ought to exhibit different aspects. Review of related literature reveals that most of the studies on peer- assessment have been co- relational with self and teacher assessment. Mrudula Patri (2002) found that peer- feedback favors students to judge peer's performance comparatively than teachers. Juwah (2003) reported peer- assessment as an effective way to ensure desired knowledge and skills development. According to Reese (2003) peer evaluation is an active learning technique. Mark Langan, et al. (2008) found significant differences between assessment done by; tutors, peers and student's own. Chao- hsiu Chen, (2010) observed differences between student- grading and teacher- grading. Semiral ÖNCÜ and Erhan ŞENGEL (2011) reported peer evaluations may effectively contribute to improved performances. Corgnet (2012) reported negative impact of peer evaluation and undermine team performance when group is already in contact. İrfan Yurdabakan (2012) found peer- assessment; good predictor for self- assessment. According to Adeyemi Alaba Adediwura (2015) peer- feedback practice affects the retention ability. Manal Alshammari (2015) peer- assessment contributes to the performance of the students. Relationship between peer-

feedback and other variables had been studied by the different researchers. Previous researches found on the effectiveness of peer- assessment on student's satisfaction, active learning technique, academic performance and retention ability. On the other hand, researchers also found negative impact; Corgnet (2012) reported negative impact of peer evaluation and undermine team performance. Review indicates that there is lack of researches on peer- feedback in India. There is a gap in the trend of researches on peer- feedback and the researcher attempted to fill the gap through present area of research.

STATEMENT OF THE PROBLEM

The study has been entitled as:

Impact of Peer Feedback Practices during Presentations by class XI Students in terms of Self Confidence

- a. **Objective:** Objective of the study was framed as;
To compare mean ranks of positive and negative differences of post and pre-self-confidence scores in the group treated through peer- feedback practices for class XI students
- b. **Hypothesis:** Hypothesis of the study was;
There will be no significant difference between mean ranks of positive and negative differences of post and pre-self-confidence scores in the group treated through peer feedback practices for class XI students
- c. **Methodology:** The methodology of the present study was as follows:

Sample: The sample consisted of students studying in class XI at private unaided school, English medium, co- education, CBSE affiliated higher secondary school. The researcher got a list of schools situated in Indore city. The random sampling technique was used to select schools. Twenty chits were prepared indicating names of twenty schools were randomly chosen. Chits were picked up one by one, then listed. The researcher contacted for permission sequentially as per the list. Intact group of the selected school was considered as a sample. Twenty-one students were exposed to peer- feedback practices after seeking permission from Alpine Academy, Indore (M.P.).

- **Tool:** Standardized tool was administered for collecting data about dependent variables. Details of the tool are as follows:

Self-confidence scale: For the assessment of self-confidence of the students a standardized self-confidence scale was used. It is developed by Dr. D. N. Sansanwal and Dr. Smita Bhawalkar (2011) for 14 year to 18 year of age. It is comprised of 23 items; each followed with three alternatives. Scoring criteria has been provided with the tool. Content validity and face validity were established by the author. Concurrent validity as per the manual found to be 0.43.

Reliability was found to be 0.84 and 0.464 by split half method and test- retest method respectively.

- **Experimental design:** The present experiment was designed as; pre test- post test single group design. The layout of this experimental design is as follows:

O X O

O represents pre test and post test

X represents treatment

- **Procedure of data collection:** The treatment was scheduled as follows;

Table 1.1: Day wise schedule of treatment

S. No.	Days for treatment	Schedule for treatment
1	Day 1	Orientation of the peer- feedback
2	Day 2	Pre-test
3	Day 3 to 16	Peer- feedback along with discussion (alternate day) on the assessment process
4	Day 17	Post-test

One intact groups belonging to class XI at selected school was provided with mnemonics based study material on the topics Krebs's cycle and Calvin cycle. They were introduced for involvement in the process of peer- feedback during presentation sessions. The researcher assured all of the participants that their responses will not affect final examination's result and it will be used only for the research purpose. The researcher instructed to read carefully all the items in the provided tool and don't leave any item. The participants were pre-tested by administering the selected tool for the variable self-confidence. The peer- feedback practice session was scheduled for fourteen days; three student's joint presentation @ 50 minutes per day. After the pre-test all of the students had to give presentation using mnemonics on the topic Krebs's cycle and Glycolysis (sugar- splitting). The group was exposed for peer-feedback practices along with teacher's guidance. Each student had to provide feedback to other five randomly allotted students. They could discuss with peers and concerned teachers for clearing the doubts. The same tool was administered in the experimental group for the purpose of post testing the variable self-confidence.

- d. **Statistical analysis:** For the analysis of collected data Wilcoxon Signed Rank test was found to be suitable, as the sample size was less than 30 students.

e. **Results and interpretation:** The objective of present study was “to compare mean ranks of positive and negative differences of post and pre self-confidence scores in the group treated through peer- feedback practices for class XI students”. The values as per Wilcoxon Signed Rank test are as follows;

Table 1.2: Test wise self-confidence, sum of ranks, mean rank, Z value and significance level

Self confidence	Ranks	N	Sum of Ranks	Mean Rank	Z	Sig. level
Post Score – Pre-Score	Negative Ranks	5	31.50	6.30	2.38	0.017
	Positive Ranks	13	139.50	10.73		
	Ties	3				
	Total	21				

From the table 1.2, it is evident that the calculated z value is - 2.38 which is approximately normally distributed for the sample. The t value is 0.017 which is less than critical value 0.05 level, therefore it is significant at 0.05 level of significance with N= 21. It means post and pre self-confidence scores differ significantly. Hence, the null hypothesis “there will be no significant difference between mean ranks of positive and negative differences of post and pre-self-confidence scores in the group treated through peer feedback practices for class XI students” is rejected in favor of directional hypothesis. Further it is clear from the calculations that sum of positive rank is 139.50 which is greater than sum of negative ranks 31.50. It can be concluded that post self-confidence scores are significantly higher than pre-self-confidence scores in group. Finally, peer feedback practices practice found to be effective in enhancing self confidence level.

DISCUSSION ON FINDINGS

The researcher found that the exposure of students for peer- assessment practices was favourable for the students. Mrudula Patri (2002), Juwah (2003), Reese (2003), Mark Langan, et al. (2008), Chao- hsiu Chen, (2010), Semiral ÖNCÜ and Erhan ŞENGEL (2011), İrfan Yurdabakan (2012), Adeyemi Alaba Adediwura (2015) and Manal Alshammari (2015) reported in their studies that peer- assessment practices exerted positive effect on student’s performance, knowledge and desired skills development, active learning, comparative scoring and retention ability. During peer- feedback students involved in checking the responses along with monitoring own nature of thinking to identify strategies. This might be supportive for improved understanding as well as self-confidence. Similar general conclusions have been drawn by researchers who have collected evidence on peer- feedback through questionnaires, observation, interviews, and other tools. On the other hand, according to Corgnet (2012) peer evaluation exert negative impact and undermine team performance. It might be due to lack of attention by students or absence of doubt clearance. Most of the studies reported positive influence of innovative and interactive assessment and similar results are obtained from the present study.

CONCLUSION

Peer- feedback depends on observation strategies which help students to evaluate other's way of presentation and understanding about peer group. Awareness about performance criteria enables individuals to control over processes of thinking and products of learning. Students gradually assume responsibility for assessing outcomes, framing learning objectives, identifying ways of improvement and developing student autonomy. It can be said that peer-assessment is a way of feedback to an individual about his or her work's particular qualities of performance. It is a suggestion for improvement but no place for any comparisons with other learners. It can be concluded that peer- feedback can support to enhance the interest and motivation level of students for the enhanced self confidence level which may lead to better academic performance and enhanced learning.

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EFFECTIVENESS OF STRESS REDUCTION PROGRAMME ON ADOLESCENTS: AN EXPERIMENTAL STUDY

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Abstract

Adolescence is a period of great turmoil for the girls and boys. Stress during adolescence can be very taxing on them and will affect their wellbeing critically. The reasons for stress during adolescence are many, like - disturbed family dynamics, peer pressure, school pressure, drug abuse, lack of competence etc. It is essential to develop skills of managing stress in the adolescents. The present study in this direction implemented a stress reduction programme on the standard IX students of an aided school in Mumbai. A pre-experimental one group pre-test – post-test design was adopted for the study. T-test for correlated groups and hypothesis testing was done. Results showed that there is no significant difference in the stress scores of the students due to the effect of the programme. The reasons could be the inadequacy of the programme and the time allocated for it. The programme could be modified by including more appropriate activities and carried out for a longer duration.

Keywords: Stress, Adolescents, Stress Reduction Programme

INTRODUCTION

Being a teenager is, perhaps, one of the most interesting, intense, and complicated periods in the life of almost any person. Teenagers face real world problems more often, as well as encounter their first serious challenges and problems: at home, at school, in their relationships. The majority of teenagers in the India as well as in the rest of the world, are exposed to stressful factor, which is studying at school or at higher level education. This group of stress factors includes teenagers' fears about their future life and career which are often inspired by parents; trying to receive good grades or to achieve self-realization among classmates; large amounts of assignments; a necessity to prepare for exams, and so on. Perfectionism, academic concerns become a powerful stress provocateur.

Yet another group of factors that can cause stress and depression among adolescents is relationships. This group includes the personal relationships of a teenager with their parents, peers, and the opposite sex. Adolescence is an age that makes individuals encounter various

social and personal challenges; respectively, this period is associated with an increased number of potentially-stressful factors.

MEANING OF STRESS

Stress is a state of mental or emotional strain or tension resulting from adverse or demanding circumstances by oxford dictionary

DEFINITION OF STRESS

Stress is defined as “a state of psychological and physiological imbalance resulting from the disparity between situational demand and the individual's ability and motivation to meet those needs. In a medical or biological context stress is a physical, mental, or emotional factor that causes bodily or mental tension.

TYPES OF STRESS

There are two types of stress: -

Positive stress: A positive reaction towards an event. It is termed as “Eustress”. It has a positive effect spurring motivation and awareness, providing the stimulation to cope with challenging situations.

Negative stress: A negative reaction towards a particular event. It is termed as distress. It is a contributory factor in minor conditions such as headaches, digestive problems, skin complaints, insomnia and ulcers. Excessive prolonged and unrelieved stress can have a harmful effect on mental, physical and spiritual health. This condition is called distress.

CAUSES OF STRESS AMONG ADOLESCENTS

School Pressure – Home works, assignments, project completion examinations and routine school work pressurizes students leading to stress. Competitive co-curricular activities add to this stress.

Peer Pressure – In the adolescence phase of identity seeking students become vulnerable and try out new things like drinking, smoking, and drugs to get acceptance by their peers. In that process, they create an accepted social image and are under constant pressure to maintain it which can be stressful.

Unhealthy Competition- students usually indulge in healthy competition in academics, sports and extracurricular activities which encourages their performance. Unhealthy competitions on the other hand results in feeling of jealousy and resentment and it could add to academic stress.

Sibling rivalry - Differences between siblings are normal, but if it goes up a few notches and turns into war, it can be stressful for both the parties involved. Teenagers may develop feelings of jealousy and hatred for their younger siblings who get more attention from the parents.

Family Problem- Teenagers can also feel stress at home because of family pressures and problems. If they have gone through a parents divorce, experienced economic hardship that affected quality of life or found new living arrangements that reduce their privacy, this may impact teenager's stress levels. Argument with siblings and parents may also contribute to more stress.

Sense of Loss - Teens may also feel stress and anxiety when experiencing a sense of loss. In addition to dealing with the health problems or the death of a friend or family member, “loss” can mean the end of a relationship, friendship or cherished extracurricular activity.

Poor Self Esteem - Teenagers have a lot of questions and doubts about the different emotions and physical changes they go through. Self-doubt or poor self-esteem is the worst among them. Financial Stress Kids from low-income families deal with poverty-related stress almost all the time and become troubled teens and adults. Teenagers may worry about college tuition and scholarships, which can be very stressful.

Drastic Change - Drastic changes like moving to a new school or city, addition of new members to the family such as a step-parent, step-siblings, etc., can make the life of teenager stressful.

STRESS MANAGEMENT

Meaning:A method of limiting stress and its effects by learning ways of behaving and thinking that reduce it - by Cambridge dictionary

Definition: Stress management is a wide spectrum of techniques and psychotherapies aimed at controlling a person's level of stress, especially chronic stress, usually for the purpose of improving everyday functioning.

STRATEGIES OF STRESS MANAGEMENT

Teenagers and adolescents can use the help of the following activities to deal better with stress.

- Breathing Exercise
- Mindfulness
- Creative Visualisation
- Co-sharing
- Dancing
- Artwork

- Exercise
- Healthy Diet

REVIEW OF LITERATURE

The study conducted by Jose and Valsaraj (2015) about the effectiveness of academic stress management programme on academic stress and academic performance showed a significant difference in pre-test and post-test stress level and academic performance. The study indicated that academic stress management programme was effective in reducing academic stress but not effective in improving academic performance. Another study conducted to examine the relationship between academic stress and depression among adolescents by Jayanthi, Thirunavukarasu and Rajamanickam(2014) found that control group showed low percentage of academic stress score whereas case group showed high percentage. Adolescents with academic stress were found to have 2.4 times more risk of having depression than the adolescents without academic stress. A descriptive study conducted by Gomez, José, Zavala-Bervena, Cisneros, Pérez, Da Silva, Novack ,(2018) which aims at determining the general level of stress among high school students indicated normal to low level of stress but women reported significantly high level of stress than men it indicated that the main source of stress was examinations, choosing a career path, and family troubles. The data showed no major risk factor as the sample reported normal stress.

NEED OF THE STUDY

Studies have shown that worldwide stress level among adolescents range from 20% to 45% of their population. India being a young population country this number is very high. World Health Organisation (WHO) warns that stress in adolescents may lead to depression. Several risk factors identified in Indian adolescents are female gender, academic difficulties, parental fights, strained familial relationships, school absenteeism, school dropout, and other school related factors that contribute to psychiatric morbidity. Approaching examinations creates high stress among school and college students. Here teachers plays a pivotal role a by developing a good rapport with students so that they feel comfortable and share their thoughts. Teacher can act as a counsellor and guide students to deal with stress. As a researcher the need of this study is to find the level of stress among adolescents and develop and implement effective strategies to help them deal with it.

STATEMENT OF THE STUDY

Effectiveness of a Stress Reduction Programme among IX Standard Students: An Experimental Study.

OPERATIONAL DEFINITIONS OF THE TERMS

Stress is defined as a state of mental or emotional strain or tension resulting from adverse or demanding circumstances.

Stress reduction means stress management

Stress management is a process for controlling an individual's level of stress.

OBJECTIVES OF THE STUDY

- To assess the stress level of students of Std IX of an aided school of Mumbai.
- To develop a stress reduction programme.
- To study the effectiveness of the stress reduction programme on the stress level of Std. IX students.

HYPOTHESIS OF THE STUDY

The following null hypothesis was framed.

There is no significant difference in the stress level of Std IX students due to the effect of the stress reduction programme.

RESEARCH DESIGN

Method of the Study

The method adopted for the study is Experimental and the design is a Pre-Experimental one.

The design is One group Pre-test – Post-test Design.

O_1 X O_2 [X- study group; O_1 – Pre-test; O_2 – Post-test]

Sample

The sample used in the study was 53 students from the standard IX class of an aided school of state board syllabus in Mumbai. Convenience sampling technique was used.

Tools and Techniques

1. The Rating Scale

The tool used for pre-test/ post- test is a rating scale “Perceived Stress Scale (PSS)” by Sheldon Cohen.

Scoring of the scale: PSS scores are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items. Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress. Scores ranging from 0 to 13 would be considered low stress.

Scores ranging from 14 to 26 would be considered moderate stress. Scores ranging from 27 to 40 would be considered high perceived stress.

2. Stress Reduction Program

Intervention 1

Activity 1- Deep Breathing

Deep breathing can help body to feel immediately more relaxed and refreshed. Deep breathing exercises are the most portable one can do them anytime anywhere. Deep breathing calms down the nervous system, helps in reduction of anxiety a person feels. A calm mind and relaxed body can bring clarity in thinking and makes better decisions.

Activity 2 – Trataka

Trataka is a method of meditation that involves staring at a single point such as a small object, black dot or candle flame. Its helps Improve concentration, memory and willpower and visualization skills

Intervention 2

Activity 1 - - Deep Breathing

Activity 2- Visualization

This technique involves the systematic practice of creating a detailed mental image of an attractive and peaceful setting or environment which helps in reduction of stress.

Visualization and guided imagery will have an effect on overall cognitive abilities, helping to focus more, have more concentration power and increases memory power. It helps to increase mental well- being and can help with depression and anxiety.

Intervention 3

Activity 1 - Trataka

Activity 2 – Story Telling

In the shared story games, one person begins a story by setting a scene with a character in it. Then the next student has to pick up the story and add more. Go back and forth until you run out of ideas, the more people involved the more interesting story begins. Encourages use of imagination and creativity. Stories provide examples to children of how people meet the challenges and face them.

Intervention 4

Activity 1 – Anulom Vilom

Anulom Vilom pranayama also called the alternate nostril breathing technique is an incredible energiser, which works effectively to relieve stress and anxiety. It helps to cure mental problem like stress, Anxiety, depression, tension. It increases oxygen supply throughout the body, making one feel calm and peaceful.

Activity 2- Visualization

Intervention 5

Activity 1- Trataka.

Activity 2- Mandala Colouring.

Mandala means “Circle”. The main circle shape of a mandala is filled with a variety of geometric shapes and symbols. Colouring a mandala combines the benefits of meditation and art therapy into a simple practice that can be done at any time and place. The activity relaxes brain from distraction around. A simple act, such as colouring takes attention away from yourself and onto the present moment, allowing yourself to be calm and de-stress.

STATISTICAL TREATMENT

Descriptive statistics like Mean, Median, Mode and Standard Deviation were calculated. Inferential statistics, t-test and Hypothesis Testing were done.

PROCEDURE OF THE STUDY

The researchers conducted the Pre-test on the sample and obtained the stress level scores. Then the researcher carried out the Stress Reduction Programme for a period of 08 hours spread over 3 weeks. Then the post test was administered and scores obtained and analysed.

STATISTICAL ANALYSIS

The data was analysed both descriptively and inferentially.

Descriptive Analysis

The pre-test post-test mean, median, mode and standard deviation values were calculated on excel sheets and presented in the following table.

Table1 showing the mean, median, mode and standard deviation of the pre test and post test stress scores

Group	Mean	Median	Mode	Standard Deviation
Pre- test	18.72	18	15	4.59
Post-test	17.56	17	16	4.51

The above table shows that the pre-test value of the stress scores is lower than that of the post test scores. This shows that the Stress reduction has helped in lowering of the stress level of the students.

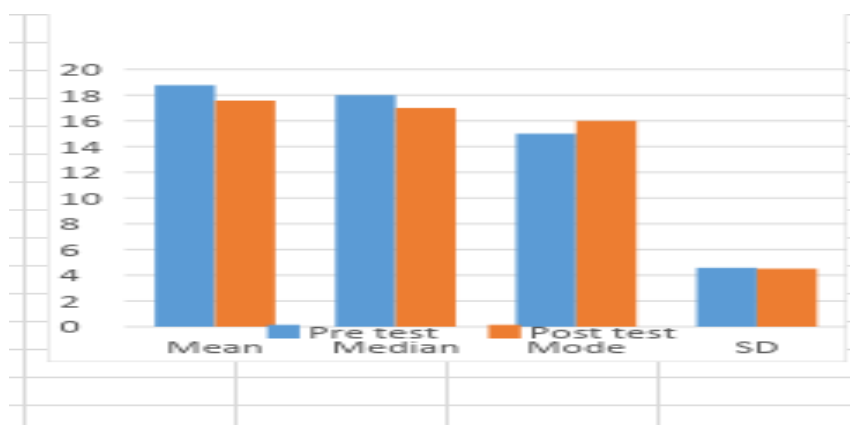


Fig 1: Graphical representation of the mean, median, mode and standard deviation of the pre test and post test stress scores

INFERENCEAL ANALYSIS

On the sample of IX std students, a pre test of stress was done. The scores were calculated. After implementation of the stress reduction programme a post test was given to the students. The post test scores were calculated. The mean values of pre test and post test were calculated. For carrying out inferential statistics the means were compared using t test for correlated samples. The value obtained for t-ratio is given in the table. The obtained t values is compared with the table values at 0.01 and 0.05 levels of significance.

Table 2- inferential analysis

Test	Df	Mean	SD	t-ratio	Table value
Pre-test	104	18.72	4.59	1.37	0.01 Level 2.62
Post test		17.56	4.51		0.05 Level 1.98

HYPOTHESIS TESTING

The null hypothesis was framed for the study. The calculated t-value 1.37 is lower than the table values at 0.01 and 0.05 levels of significance. Therefore the null hypothesis is accepted. There is no significant difference in the stress level of standard IX students due to the effect of the stress reduction programme.

RESULT OF THE STUDY

The result of the study shows that there is no significant difference in the stress level of standard IX students due to the effect of the stress reduction programme. So the null hypothesis is accepted.

Discussion of results

The result implies that the stress reduction programme provided was not adequate in successfully managing the stress of the students. The possible reasons could be that the programme was organized for a very short duration of eight hours spread over three weeks. The programme needs to be implemented in a more intense fashion dedicated for longer time. The activities included in the programme could be modified with addition of adolescent relevant ones. One other measure to be adopted is to ensure the whole group is present for all the activities on all days. This study should not be a conclusive one, but should in fact be the beginning and efforts should be continued in a more rigorous manner.

CONCLUSION

Adolescence being a period of transition is highly sensitive and stress during this period may hamper the growth and development of the student. Investigating more on the stress, stressors and its outcomes are helpful for planning and implementing health promotion as well as preventive strategies during adolescence. Teachers need to be equipped in detecting and dealing this stressful period of their students by incorporating stress management programmes as a routine. Counselling services by experts and training of parents should also be arranged by schools.

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A STUDY TO MEASURE THE CIVIC RESPONSIBILITY ATTITUDE OF NSS AND NON-NSS DEGREE COLLEGE STUDENTS

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Abstract

Today's children have to be trained to become tomorrow's responsible citizens. The attitudes they develop at the growing stages of their development will shape the quality of life for all of us. Young people need to be able to understand their community and its institutions, to develop decision-making and evaluative skills. The present study thus aims to find if there is any significant difference between the civic responsibility attitude of NSS and Non-NSS degree college students. The sample for the present study comprised of 102 degree college students. The researcher divided the sample into 2 groups i.e., NSS students and Non-NSS students. The tool for data collection comprised of a readymade tool. 'T' test was used for data analyses. The results indicate that the civic responsibility attitude scores of the NSS students are higher than those of students who are not members of NSS. Thus, the researcher proposes that Service Learning approach in education is the need of the hour.

Keywords: Civic responsibility, NSS students, non-NSS students, Degree College, service learning

INTRODUCTION

India is a country of diversity in languages, cultures, traditions and so on. It's a country which depicts unity. However in the past decade the very fabric of the country has been overshadowed by the wrong doings of some people. Everyday there are reports and news on murder, rape, theft, violence on women and children, etc. To be literate alone doesn't mean that one is educated. As educationists we need to work out a way to ensure complete development of an individual.

As teenagers step into adulthood they need to be educated about their role as responsible members of the society. They need to learn about the society they live in, its problems, solutions, find ways for its progress, etc. Thus school and colleges promote community work. Colleges encourage students to participate in National Social Service (NSS).

The National Service Scheme, popularly known as the NSS, is a major activity intended to engage the volunteers of colleges and universities in community services on a voluntary basis.

Over the years, NSS has emerged as India's largest student youth movement in linking with the community. Participation in NSS develops among students a sense of *Civic* responsibility.

Civic responsibility means active participation in the public life of a community in an informed, committed, and constructive manner, with a focus on the common good. Civic Responsibility entails that one should have connection to the community, civic awareness and civic efficacy. Through NSS students are encouraged to work with different sections of society. This in turn shape students and instills in them Civic responsibility as they exhibit the following characteristics:

- Addressing problems of society in an informed manner
- Respect for laws
- Implementing the concept of participatory democracy
- Being an active citizen as against passive citizenship
- Establishing a balance between rights and responsibilities
- Appreciative of common good
- Involving the community in decision-making processes
- Exhibiting stewardship, i.e., being responsible for one's community
- Recognizing the value and human dignity of each person

This study examines the extent to which participation in NSS program contributes towards enhancing the civic responsibility of students. It addresses the following research question: Does participation in NSS program at the degree college level influence the development of Civic responsibility among students? Specifically, this research will evaluate the Civic responsibility attitude of NSS and Non-NSS members.

NEED OF THE STUDY

Today our society is surrounded with problems like intolerance towards people, disrespect for the other gender, self-centered attitude of citizens, etc. and thus we as a society are failing. It is high time that Education trains its students to be fully responsible citizens. Students must be sensitized towards the social reality. The youth of our country are the most effective agents and catalysts for social change and they play an important role in the development of the country. The Indian student community needs direction which is provided by NSS. It instills in them a sense of being a responsible member of the society and encourages them to work towards the social development of the country. It promotes that education and training are the key to youth development. The researcher upon going through the literature review found that the more an individual participates in a service learning program the more it leads to one's personal development. It instills in them self-efficacy, potency (one's belief that he/she can make a difference), resilience, social competence, acceptance of diversity, and related constructs (S. Billig, 2000).

Thus the researcher felt that there is a need to study if being a member of NSS can bring about Civic responsibility among degree college students.

OPERATIONAL DEFINITION

National Service Scheme (NSS) is a part of academic expansion. Participation in NSS inculcates the spirit of voluntary work among students and teachers through sustained community interactions. Bringing academic institutions closer to society thereby illustrating how to combine knowledge and action to achieve results which are desirable for community development.

Civic responsibility attitude includes addressing social problems in an informed, committed, and positive manner and is not an intuitive process. Where the focus is on the common good.

OBJECTIVE OF THE STUDY

The following objectives were framed.

1. To compare the civic responsibility attitude of NSS and non-NSS students.
2. To compare the Connection to Community scores of NSS and non-NSS students.
3. To examine the civic efficacy and civic awareness of NSS and non-NSS students.

HYPOTHESES

The present study is intended to find if there was any significant difference between the civic responsibility attitude of NSS and non-NSS degree college students. Thus the following null hypothesis were framed-

- There is no significant difference between the civic responsibility scores of degree college Non-NSS and NSS students.
- There is no significant difference between the Connection to Community scores of degree college Non-NSS and NSS students.
- There is no significant difference between the Civic Awareness scores of degree college Non-NSS and NSS students.
- There is no significant difference between the Civic Efficacy scores of degree college Non-NSS and NSS students.

METHODOLOGY OF THE STUDY

The research methodology adopted by the researcher was quantitative. The purpose of the study was to generate insight if there was a significant difference in the civic responsibility scores of degree college Non-NSS and NSS students.

SAMPLE

The sample comprised of a total number of 102 degree college students enrolled for the arts/science/commerce programs. 51 students were member of NSS whereas the remaining were non-NSS students. For the purpose of the present study convenience sampling technique was used by the researchers.

TOOLS USED

The data for the present study was collected from degree college students using the following readymade tool:

The Civic Responsibility Survey (1998) was developed by A. Furco, P. Muller, and M.S. Ammon at the Service-Learning Research & Development Center, University of California, Berkeley. It is a 24-item survey used in its entirety as a measure of civic responsibility.

RESULTS AND DISCUSSION

Hypothesis 1

The Null hypothesis states that:

There is no significant difference between the civic responsibility scores of degree college Non-NSS and NSS students.

The statistical technique to test this hypothesis is 't' test.

The following table shows the relevant statistics of the Non-NSS and NSS students civic responsibility scores of degree college students of University of Mumbai.

Table 1: t value of the civic responsibility scores of degree college Non-NSS and NSS students.

Variable	Group	N	Mean	S.D.	df	Tabulated value	't' ratio	I.o.s.
Civic Responsibility attitude	Non-NSS Students	51	81.0196	12.532	100	At 0.05 level = 1.980	3.01	S
	NSS Students	51	88.53	12.690		At 0.01 level = 2.617		

Interpretation of 't' test:

The obtained value of 't' ratio for the civic responsibility scores of degree college Non-NSS and NSS students is 3.01 which is more than the table value 2.617. Thus 't' ratio is significant. Hence the Null hypothesis is rejected.

Conclusion:

There is significant difference between civic responsibility scores of degree college Non-NSS and NSS students.

Discussion:

Thus the alternate hypothesis is accepted which states that, there is significant difference between the civic responsibility scores of degree college Non-NSS and NSS students.

Hypothesis 2

The Null hypothesis states that:

There is no significant difference between the Connection to Community scores of degree college Non-NSS and NSS students.

The statistical technique to test this hypothesis is 't' test.

The following table shows the relevant statistics of the Non-NSS and NSS students Connection to Community scores of degree college students of University of Mumbai.

Table 2: t value of the Connection to Community scores of degree college Non-NSS and NSS students.

Variable	Group	N	Mean	S.D.	df	Tabulated value	't' ratio	l.o.s .
Connection to Community	Non-NSS Students	51	16.549	2.838	100	At 0.05 level = 1.980	2.53	S
	NSS Students	51	17.9608	2.7650				

Interpretation of 't' test:

The obtained value of 't' ratio for the Connection to Community scores of degree college Non-NSS and NSS students is 2.53 which is more than the table value 1.980 at 0.05 level. Thus 't' ratio is significant. Hence the Null hypothesis is rejected.

Conclusion:

There is significant difference between the Connection to Community scores of degree college Non-NSS and NSS students.

Discussion:

Thus the alternate hypothesis is accepted which states that, there is significant difference between the Connection to Community scores of degree college Non-NSS and NSS students.

Hypothesis 3

The Null hypothesis states that:

There is no significant difference between the Civic Awareness scores of degree college Non-NSS and NSS students.

The statistical technique to test this hypothesis is 't' test.

The following table shows the relevant statistics of the Non-NSS and NSS students Civic Awareness scores of degree college students of University of Mumbai.

Table 3: t value of the Civic Awareness scores of degree college Non-NSS and NSS students.

Variable	Group	N	Mean	S.D.	df	Tabulated value	't' ratio	I.o.s.
Civic Awareness	Non-NSS Students	51	47.0392	5.098866	100	At 0.05 level = 1.980	1.79	Not S
	NSS Students	51	48.9608	5.72699		At 0.01 level = 2.617		

Interpretation of 't' test:

The obtained value of 't' ratio for the Civic Awareness scores of degree college Non-NSS and NSS students is 1.79 which is less than the table value. Thus 't' ratio is not significant. Hence the Null hypothesis is accepted.

Conclusion:

There is no significant difference between the Civic Awareness scores of degree college Non-NSS and NSS students.

Discussion:

Thus the alternate hypothesis is rejected which states that, there is a significant difference between the Civic Awareness scores of degree college Non-NSS and NSS students.

Hypothesis 4

The Null hypothesis states that:

There is no significant difference between the Civic Efficacy scores of degree college Non-NSS and NSS students.

The statistical technique to test this hypothesis is 't' test.

The following table shows the relevant statistics of the Non-NSS and NSS students Civic Efficacy scores of degree college students of University of Mumbai.

Table 4: t value of the Civic Efficacy scores of degree college Non-NSS and NSS students.

Variable	Group	N	Mean	S.D.	df	Tabulated value	't' ratio	I.o.s.
Civic Efficacy	Non-NSS Students	51	41.4314	6.232993	100	At 0.05 level = 1.980	3.35	S
	NSS Students	51	45.6078	6.35005		At 0.01 level = 2.617		

Interpretation of 't' test:

The obtained value of 't' ratio for the Civic Efficacy scores of degree college Non-NSS and NSS students is 3.35 which is more than the table value. Thus 't' ratio is significant. Hence the Null hypothesis is rejected.

Conclusion:

There is significant difference between the Civic Efficacy scores of degree college Non-NSS and NSS students.

Discussion:

Thus the alternate hypothesis is accepted which states that, there is significant difference between Civic Efficacy scores of degree college Non-NSS and NSS students.

CONCLUSION

The research results are indicative of the fact that being a member of NSS has a significant impact on shaping the civic responsibility attitude of students. Thus it is important that teachers engage students in responsible and challenging actions for the common good. Students must be provided structured opportunities to reflect critically on not only the service they provide to society but also how each component they learn in their course of education can be implemented for the betterment of the society. Thus educators need to adopt the service learning approach to education.

Service learning is the combination of community service and classroom instruction, with a focus on critical, reflective thinking as well as personal and civic responsibility. Service learning provides opportunities to not only foster civic responsibility but also it enables students to engage directly in their communities and meet community needs through the content they have learnt in their course work. With the belief in the potential of service learning in mind, the youth of our nation will be motivated to work towards the progress of all.

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VIOLENCE ON ADOLSCENT GIRLS – AN ANALYSIS BASED ON PLACE OF VIOLENCE

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Abstract

Girls and boys have the same entitlement to human rights but they face different challenges in accessing them. Girls experience more violence and sexual harassment and are often expected to work hard on domestic chores which make it more difficult for them to study. Violence faced by girls can be physical, sexual or emotional with each varying in severity with most times leading to consequences that can last a life time. According to the International Police data of 2015, girls aged 12-17 are violently victimised at a rate nearly six times higher than that for younger girls, and almost twice as high as the rate for adult women [WHO, 2018; Women's Rights, 2017]. A lot of this violence takes place at their Educational Institutes or while travelling to or from their institutes. Violence at Educational Institutes becomes one of the barriers in front of girls and compels them to give up their education. Hence, through this study, researchers are trying to analyse the rate and type of violence experienced by adolescent girls at home, educational institutions and public places and generate awareness about the same. This information is designed to help support efforts in Teacher community to develop and implement effective child-friendly violence prevention strategies as well as improve service provision for adolescent girls.

Keywords: Adolescent Girls, Violence, Educational Institutes

INTRODUCTION

Violence is defined by the World Health Organization (WHO) in the World Report on Violence and Health [WHO, 2018] as the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in an injury, death, psychological harm, mal-development or deprivation. This definition emphasizes that a person or a group must intend to use force or power against another person or a group in order for an act to be classified as violent [Rutherford, 2007]. Violence is thus distinguished from injury or harm that results from unintended actions and incidents. This definition also draws attention not only to the use of physical force but also to the use of threatened or actual power [I.Sharma, 2015]. Such power or force may be used against oneself, against an individual or against a group or community as in gang violence or repression of ethnic groups.

For this study, we have considered three types of violence: Physical/Sexual, Verbal and Mental. Further, this study caters to the three most visited places by an average adolescent girl child and measures their vulnerability in these areas. The areas under consideration for this study are: Home, Educational Institution and Public Places.

HYPOTHESES OF THE STUDY

Hypothesis is a supposition or explanation (theory) that is provisionally accepted in order to interpret certain events or phenomena, and to provide guidance for further investigation [Mertler C., 2012]. A hypothesis may be proven correct or wrong, and must be capable of refutation. If it remains unrefuted by facts, it is said to be verified or corroborated. Following is the hypothesis for the study:

- i. There is no significant relation between public places and violence
- ii. There is no significant relation between educational institutions and violence
- iii. There is no significant relation between home and violence

PROCEDURE OF STUDY

1) Tool Development

The tool used for this study was prepared and validated by our project supervisor, Mrs. Pooja Manghirmalani Mishra. This tool was developed after several years of study and work in this area. After carefully analysing the most affected places w.r.t occurrences of violence, the three dimensions of the place of violence were settled for. Within these places of occurrence of violence, the type of violence and its probability of occurrence was determined and the three dimensions of types of violence were incorporated in this tool. The questions were carefully crafted to cover each place and type dimensions of the study.

2) Data Collection

The data for this study has been collected from two organisations (name not revealed in order to maintain the privacy of the institution and the subjects) and the targeted subjects were IX and X standard girls. After selecting and finalizing the tool for data collection, the researcher visited one organisation for carrying out an investigation personally after obtaining prior permission from the Principal of the organisations. Teachers and students were explained about the nature and purpose of the study. Good rapport was maintained with the students of the concerned schools to ensure that they are sharing their experiences. Before assigning the task, instructions of each question used in the study were made clear. The students were administered the tool administrative behaviour scale. The procedure of filling the scale was made clear to all of them. In order to obtain their response to the questions free and frankly, honestly and sincerely, the girl students were made aware there are no right or wrong answers to these questions and their career would not be affected as it was only an exercise for research purpose and their response would be kept strictly confidential. The organisation under consideration have subjects belonging to middle and

lower-middle class. The sample size for the study is of 65 items that have been collected over the span of 1.5 months.

3) Scoring Pattern

The students had to attempt a Questionnaire where one to five marks were awarded for every answer. There was a total of 42 questions wherein the student could score a minimum of 14 / 70 and a maximum of 70 / 70. The tool has 14 questions targeting each place and type of violence where 26 positive questions and 16 negative questions. Its validity and reliability have been calculated and approved. Each of the place of violence which is the focus of this study, all three categories of places in which violence occurs have 14 questions where the maximum score is 70 and minimum score is 14.

4) Range

The tool observes the following range:

14 to 25	Rarely any Violence experienced
26 to 40	Occasional experience of Violence
41 to 55	Violence is experienced very frequently
56 to 70	Violence is experienced almost everyday

RESULTS

Analysis of data is a process of inspecting, transforming, & modelling data with the goal of discovering useful information, suggesting conclusions and supporting decision making. Data analysis has multiple approaches, encompassing diverse techniques under a variety of names, in different domains. For the present study, the researcher has done an analysis of the data using Descriptive and inferential research techniques.

i. *There is no significant relation between Public places and Violence*

Table 1- Descriptive analysis of hypothesis 1

Average	Percentage	Minimum	Maximum
46	85%	30	60

As per the Hypothesis 1, nearly 85% girls have experienced violence or feel unsafe at public places. Hence this hypothesis is rejected. It can be rightly concluded that there is a significant relationship between violence experienced by adolescent girls and public places. Public places, which include public transport like buses, metro, monorail can be a cause for worry. Public toilets, playgrounds and gardens are a part of this as well. Through this study, a conclusion could be made that open spaces and closed structures are equally unsafe for adolescent girls.

ii. *There is no significant relation between Educational Institutions and Violence*

Table 2- Descriptive analysis of hypothesis 2

Average	Percentage	Minimum	Maximum
39.85	65.2%	24	54

As per the Hypothesis 2, nearly 65.2% girls have experienced violence or feel unsafe at Educational Institutions. Hence this hypothesis is rejected. It can be rightly concluded that there is significant relationship between violence experienced by Adolescent girls and Educational Institutions. Educational Institutions are mostly of Co-Ed type in which an unwanted situation can get out of hand if not managed in time. Each student comes from a different background. The Adolescent age is very crucial for both boys and girls. Students are sometimes made to sit late at schools to ensure completion of the syllabus. Such situations are susceptible to this type of violence

iii. *There is no significant relation between Home and Violence*

Table 3- Descriptive analysis of hypothesis 3

Average	Percentage	Minimum	Maximum
40.47	73.22%	30	54

As per the Hypothesis 3, nearly 73.22 % girls have experienced violence or feel unsafe at Home. Hence the hypothesis is rejected. It can be rightly concluded that there is violence experienced by Adolescent girls at Home. The type of violence is experienced by both, lower as well as upper strata of society. Drunken behaviour, Stress at office may lead to such situations at home. Some well-built cousins/friends try to flex their muscles and show their might at home.

Since we are dealing with adolescent girls, the maximum responsibility lies with their parents. The girl child needs to be constantly guided and observed. Observation is also required for the environment in which she studies and travels. Parents need to be vigilant. Beyond a certain threshold, they need to engage with the school management and frankly discuss issues related to the comfort and safety of their daughters.

Educating adolescent girls in Life skills can help them develop critical thinking, build self-esteem, communicate and negotiate effectively and solve their problems in a co-operative way. It can help build skills required to cope with violence if and when such incidents occur. Helping reduce a girl's vulnerability, expanding her opportunities, including increasing her access to social, health and economic resources is an integral component of empowerment.

IMPLICATIONS

Following are some of the implications that could be implemented.

- i. Schools should have:
 - a. Appropriate surveillance systems (e.g. CCTV, Incident reporting systems)
 - b. Counselling sessions and Psycho-therapy sessions.
 - c. Talks delivered by Experts (e.g. Police Inspectors, Members of State Women Commission, Lawyer etc.)
 - d. Grievance Cells
- ii. Curriculum restructuring and co-curricular activities can help provide young people with tools and expertise to understand the root causes of violence. Inculcating reflective thinking activities can lead to awareness and consciousness of the probable offence doers.
- iii. Educators should be alert when identifying victims of violence and guide them appropriately. They should ensure that the name of the victim is kept secret.
- iv. Consideration in scoring can be granted to victims of violence. e.g. Grace marks can be awarded to enable a student to pass the subject in the final examination.
- v. Teachers & parents should open up with their female adolescents; discuss issues of society and encourage them to speak about their experiences and problems. e.g. girls can possibly share their experience and issues they face with a person whom the trust. In most cases, this trusted person is their teacher who needs to take on the role of a Counsellor.
- vi. Establish and strengthen Girls' clubs and Boys' clubs in Educational Institutes. The clubs shall be empowered to give peer education, report and follow up on violence and abuse in and around the school.
- vii. Establish and strengthen school's student protection committees with representatives from students and school communities, including female teachers, who will be responsible for monitoring violence and abuse against girls within the school, on the way to and from school, and in the home/community. Encourage practices like buddy-teaming which can become an anti-depressant activity where two unfamiliar people can share and seek each other's advice.

CONCLUSION AND ACKNOWLEDGEMENT

From the Findings of the study, one can conclude that today's girl (irrespective from which strata of the society she belongs to) feels unsafe and is prone to acts of violence. It is important for a girl to develop appropriate social skills and beliefs. Appropriate social skills will not only increase the success of a student's social relationships but will also play an important role in making her academic performance successful and in avoiding negative responses from others as a Teacher, it becomes our moral duty to create a safe, friendly and comfortable environment for our students where they can get educated without any fear, disturbance and a feeling of uneasiness in their minds. We need to make the schools as secure as a home by inculcating a sense of belonging and a feeling of family within the premises.

For this study, we would like to acknowledge the support and trust shown by the School from where we have collected the data. Without their approval, guidance and faith in our study, this project wouldn't have had been possible. We would also like to thank our supervisor Ms. Pooja Manghirmalani Mishra for her valuable inputs, suggestions and guidance.

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USING INTELLIGENT GAME BASED LEARNING (GBL) TO ENHANCE TEACHING-LEARNING OUTCOMES

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Abstract

Interactive gaming creates stimulus environment which attracts the NETgeneration (NETgen). When game-based learning is blended with machine intelligence, new and advanced educational resources could be developed. In this study, a game-based learning model is proposed for the Indian XI and XII grade students of Commerce stream as a research prototype to ensure that it will cater to the Bloom's Taxonomy of teaching-learning outcomes and support the Gardner's multiple intelligence theory. This approach of teaching-learning caters to improve the attention and concentration level of the adolescent students along with improving their general interest in learning, creativity, problem-solving, attitude towards others, empathy, and social relationships.

Keywords: Game Based Learning, Machine Intelligence, Teaching-Learning, Learning Outcomes

INTRODUCTION

Digital Games are -simulated environments in which players are allowed to role-play parts and maybe experience situations which they usually will never be able to do. Most players who are 'addicted' to these computer/multimedia games are adolescents who are often seen to be unenthusiastic in putting substantial efforts and time into their studies but are often enthusiastically willing to put endless hours into digital games [Brown, 2005]. Studies over the past decade have often suggested that inculcating gaming into education system can be a way to improve students' affect, interest, and motivation towards education, and in turn improve their learning [Wideman et al., 2007]. In particular, it has been suggested that games lead to positive effect states [cf. Sherry, 2004], physical and mental changes that take place as a person experiences an emotion [Picard, 1997]. With the right directional learning (via gaming), the impact on the cognitive, affective and psychomotor domain of the learner (player) can be maximised and learning outcomes could be achieved.

When intelligent gaming is considered, the point here is to make the game adapt to the learner's cognitive reception and modify its levels and functioning based on the responses received from the learner. Here, this could be done by developing different situations for different types of learning by combining levels/stages of the game with the player's multiple intelligences. Here is where Gardner's theory of Multiple Intelligence comes into the picture. The theory of

multiple intelligence discriminates the human intelligence into specific 'modalities', rather than seeing intelligence as dominated by a single general ability [Howard Gardner, 1983].

It is necessary for games (while considering GBL) to provide appropriate reinforcement to the players. Without reinforcement, the player might not be interested to play further. Reinforcement in gaming could be through points, levels, money (artificial), perks, special powers, etc. Acquiring such reinforcements, the player feels a sense of pride and receives encouragement sufficient enough to play the game and achieve the next level. For GBL, such positive reinforcements will be an equivalent assessment in learning.

To merge the idea of implementing intelligent educational games to have GBL amongst adolescents, evolutionary algorithm under the branch of machine intelligence could be implemented where the algorithm will modify its behaviour and develop new and unfamiliar situations based on the response of the player. The algorithm here evolves according to the need and cognitive development of the player. In machine intelligence, an evolutionary algorithm is a subclass of a genetic algorithm where it uses mechanisms inspired by biological evolution, such as reproduction, mutation, recombination, and selection [Vikhar P.A, 2016].

NEED FOR INTELLIGENT GAMING FOR NETgen

Based on the classes conducted by Commerce teachers during this study in Maharashtra state's Mumbai city's south and suburban junior colleges, there was a steep decline in the interest level, classroom responses and test results of the XI graders. The initial curiosity of entering a new educational setup faded quickly, and attendance level was severely affected. This not only demotivated the teachers of the subject but also severely affected the learning process of the student.

Junior college students are adolescents and are the internet generation (NETgen) of today. Their life revolves around social media and applications. It is commonly seen that they are deeply involved in online gaming (REF). As per the survey, the commonly played games over the past 5 years by the concerned age group are PokemonGO, PUBG, Clash of Titans, Candy Crush and Angry Birds. Certain features of these games attract the masses and their dedication towards the game is worthy of applause. Keeping the intrigued interest of the learners in mind, this paper proposes commerce-based gaming system which is self-pace and progress based on the learning pace and style of the learner.

PEDAGOGICAL ASPECT OF GAMING IN TEACHING-LEARNING PROCESS

Post analysis of the scores of Junior College Commerce stream students by formative and summative tests, we can state that the entire generation of students (of the past 5 years) have shown low success outcomes. Topics of the subjects dealt with abstract to general thinking, part to whole ideas, multidimensional analysis of problems, creative ideas and competence to derive solutions have the poorest responses.

When analysing the concept of digital gaming, it usually requires abstract thinking, problem analysis and solving, foreseeing issues, creativity that will lead to better scores in the game, level-by-level analysis of situation and scenarios. This concept mapping has led us to the aim of designing an intelligent game so as to fulfil the curriculum requirement which should be best suited the students' needs. In this study, the analysis of different aspects like learning theories, learning strategies, learning styles, cognitive styles, along with Gardner's theory of multiple intelligences is carried out.

After several studies on the available internet applications and tools used by the educators (catering to different subjects and pedagogies), it could be rightly concluded that it is very essential to introduce modern and intriguing strategies in the course of Commerce in Indian Education system so that the learners are fascinated by the subject and develop a passion towards it. Once the interest is developed, the educators can get assured that the learning will take place. The role of the teacher here will be to correlate stages of the game with the subject matter. This will not just make the students understand the ideas but it will open the arena of passionate and healthy discussions where best ideas will surface on its own.

For the trial purpose, the subject of Economics in the stream of Commerce is considered. The main objective of the economics-based game is to awaken interest in the subject through the concept of a digital gaming. Researchers in this study suggest the use of the game concept, which will be based on two components: a) Learners must explore the subject's objective through its interpretation in the scenarios presented in the game. b) Learners must analyse, foresee and solve the problems arising in the game system.

FRANCIS' FOUR-FOLD MODEL OF GBL

The gaming proposition has the following pedagogical aspects with intelligent gaming based on the Francis' four-fold model [Francis R., 2006].

- i. *Situated learning (in a virtual environment)*: In gaming, the player role plays the character of the game. This way, the learner can develop a personified empathy for their virtual counterparts and takes problem-solving seriously and as a challenge.
- ii. *Open instruction and Insightful discussion*: Apart from the game, the teacher leads a discussion that inspires analytic reflection in the student. Here, the teacher's role becomes passive as the student's role becomes active. The teacher has to later just stir the discussions in the direction of the content w.r.t the curriculum.
- iii. *Practical media production*: Here, production tasks are assigned which also require a re-application of knowledge w.r.t a specific point of view.
- iv. *Critical framing*: Role-playing games allow for a flipped over outlook on its side, having the potential for bottom-up history which is not usually presented in traditional sources such as textbooks and chalk-board lessons.

COGNITIVE GROWTH USING GAMING

A well-recognised advantage of games is the cognitive development which the games inculcate in players. Games offer a deep learning experience and train the player in the skills game developer is looking for. While playing video games a wide range of cognitive skills are developed. If a teacher can map the type or genre of game with the skill it targets, then he/she can best use the GBL in the teaching-learning process. Based on the studies [Kolb D.A, 1971], GBL caters to the following cognitive growth of the players [Kristijan K, et al., 2012].

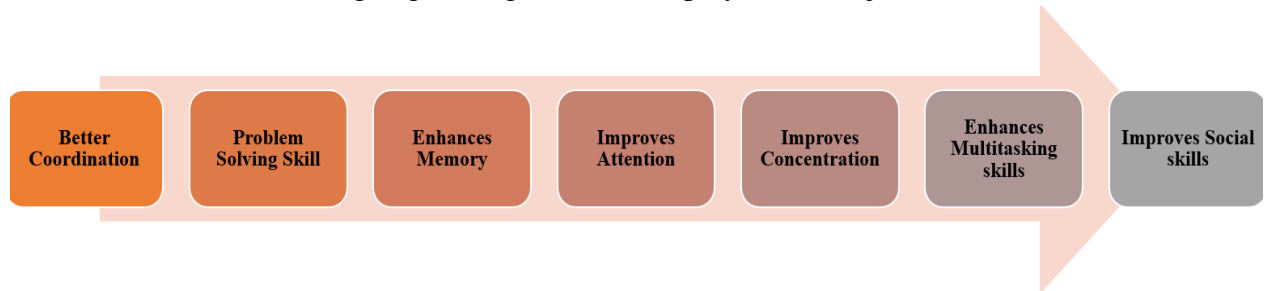


Figure 1: Flow of cognitive skill development using GBL

TYPES OF GAMERS

Based on the gamers model proposed by Bartle in 1990 which was based on observing and analyzing the behaviors people playing together in a multi-user game, holds that there are four different kinds of play style interests, each of which is given a descriptive name: Killers, Achievers, Explorers, and Socializers.

- Killers: interfere with the functioning of the game world or the play experience of other players
- Achievers: accumulate status tokens by beating the rules-based challenges of the game world
- Explorers: discover the systems governing the operation of the game world
- Socializers: form relationships with other players by telling stories within the game world

These four styles emerged from the combination of two primary gameplay interests, which are called Content and Control, each of which has two mutually exclusive forms. Content is defined to mean either acting simply and directly on objects in the game world, or interacting more deeply with world-systems. Control refers to how players want to experience the game world -- either through the dynamic behaviors of other players, or with the relatively static world of the game itself.

Killers and Achievers both turned out to be mostly interested in acting on things or people, treating things and people as external objects. At the same time, Explorers and Socializers both seemed to prefer a deeper level of interacting with things or other people, focusing on internal qualities.

Similarly, Killers and Socializers both seemed eager to have the opportunity to control how they are able to play dynamically with others in the game world, while Achievers and Explorers

seemed most interested in controlling their relationships with the developer-defined objects in and properties of the game world itself.

PROPOSED MODEL OF GBL

The GB model of learning is formalised by [Bartle R., 1990] where author has outlined the four basic types of game players viz the Achievers, the Socializers, the Explorers and the Killers. Achievers are the learners who concentrate on the win, challenge, show off, compare and create. Socializers are the game based learners who comment, greet, gift, help and share. Explores type of learners explore, rate, review situations, vote and curate while Killer category of learners are the ones who harass, hackle, cheat, hack and troll.

Howard Gardner's (1983; 1995; 2011) well-known theory of multiple intelligences names eight distinct intelligences are said to exist independently of one another: linguistic, spatial, logical-mathematical, musical, bodily-kinaesthetic, interpersonal, intrapersonal and naturalist. Gardner explained that individuals have different entry points to learning depending on the strength of their various intelligence.

When combining the two theories, this paper proposes a gamified model of intelligence which directly targets the NETgen of adolescent gamers viz different types of learners possessing different combinations of intelligence (multiple intelligence).

INTELLIGENT GAMING STRUCTURE

Intelligent Gaming is a way to instrument motivational learning in adolescents where the regular chalk-talk methodology of teaching fails to produce desired learning outcomes. GBL aims for psychological outcomes like motivation, fun and attitude, which in turn can lead to behaviour changes like preparing for a task or working together in a team. Below is a flowchart of the proposed methodology of GBL.

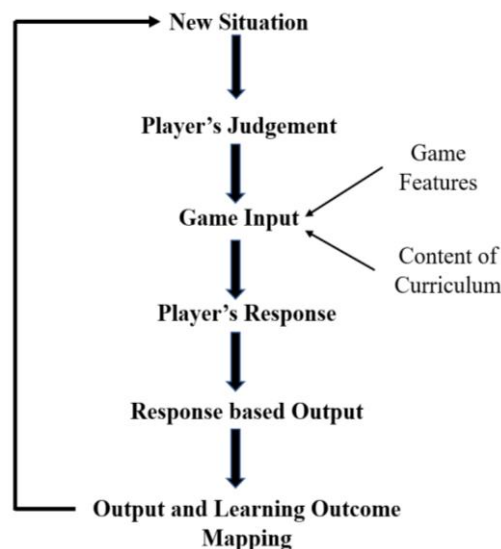


Figure 2: Flow Chart of Intelligent GBL

The proposed Game Flow is as follows:

- i. The player is given a new situation
- ii. The player uses his/her judgment and chooses a path (option)
- iii. Based on the player's selection, game inputs its different features based on the content to be taught to the player
- iv. The player responds based on his/her understanding
- v. Based on the response, the output is generated
- vi. Output generated is mapped subtly to the expected learning outcome
- vii. The game goes back to the initial stage to develop a new situation for the player to learn from

SELF-EVOLVING – THE INTELLIGENT FEATURE IN GAMING

The proposed model is based on the concept of self-evolving algorithms where the situations proposed in the game will alter based on the response of the player and the targeted learning outcome to be matched. The game will keep putting forward new situations until the player doesn't take the desired situational decision. This will encourage self-learning and develop self-realisation in the learner.

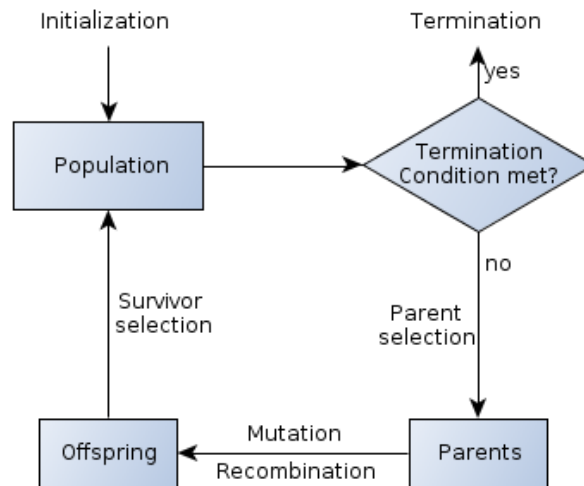


Figure 3: Evolutionary algorithm flow chart

Stage wise description:

- *Initialization*: The Game start state
- *Population*: Based on the player (last known stage in the game, if any) a new situation is generated
- *Termination condition met*: Checking stage where the response of the player is mapped with the learning outcome. If yes, that stage of the game terminates wherein the stage is crossed by the player; if no, the game proceeds forward.
- *Parents*: A new parent (scenario) is referred.
- *Mutation and Recombination*: New parent is combined with one of the previous parents which is, the new situation merged with the certain features of the present situation.

- *Offspring*: Due to the mating of a new and an old parent, new offsprings (situations) are generated
- *Survivor Selection*: The most appropriate offspring is selected by the player to proceed in the game

EDUCATIONAL LINKAGE OF THE PROPOSED MODEL

Section 4 the flow of the proposed game and the revamp of the gaming scenario based on the player's response using the evolutionary algorithm. The blend of GBL and evolutionary algorithm not just cater to the type of learner but also to the combination of multiple intelligence he/she possesses. This algorithm is based on the output expectancy of the teacher.

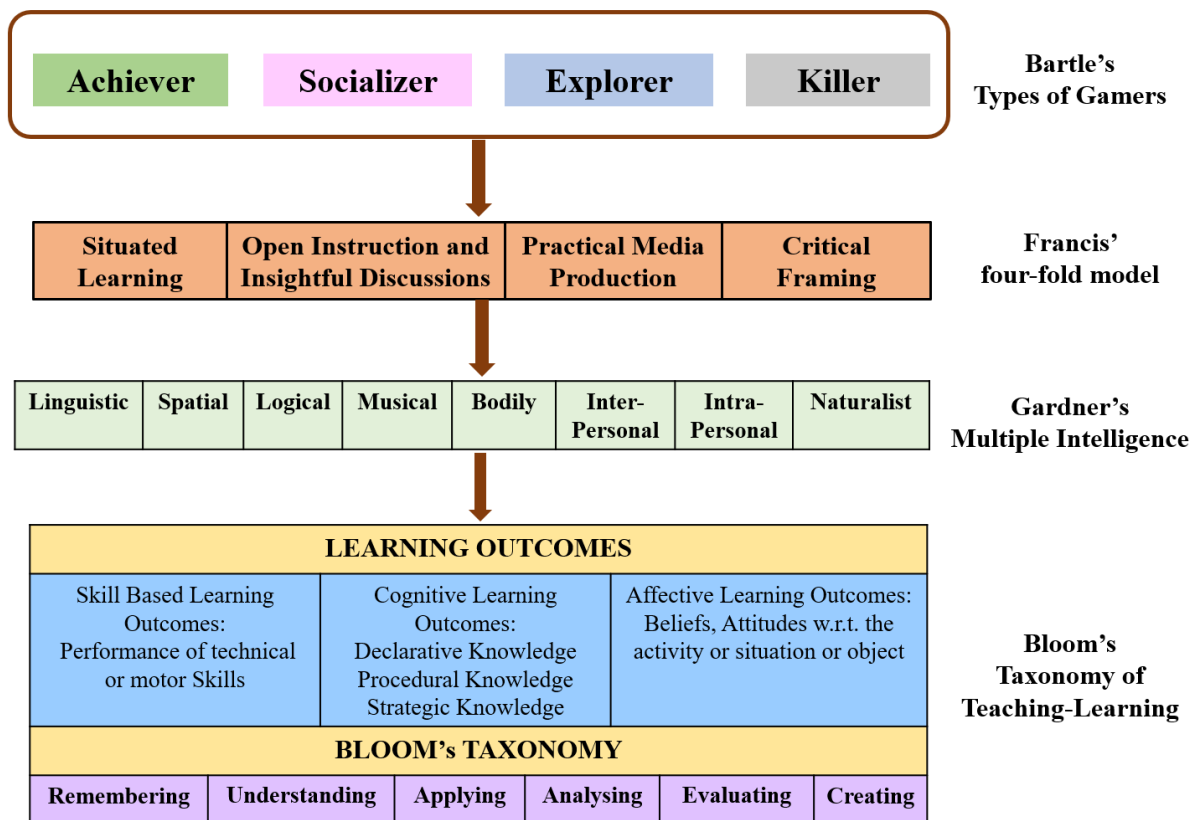


Figure 4: Blending of theories in Intelligent GBL system

Figure 4 shows the mapping of the four theories discussed in this research manuscript. The final goal of the type of NETgen gamer with the Bloom's taxonomy of T-L is achieved.

CONCLUSION

Using the above discussed flow and concept of intelligent GBL, the following features of GBL w.r.t the types of game-based learners is mapped with Gardner's theory of multiple intelligence.

Table 1: catering the Gardner's theory of Multiple Intelligence w.r.t. different types of Gamers

	Linguistic	Spatial	Logical	Musical	Bodily	Inter- personal	Intra- personal	Naturalist
Achievers	yes	yes	yes	--	yes	yes	--	--
Explorers	yes	yes	yes	yes	yes	yes	yes	yes
Socializers	yes	yes	yes	--	yes	yes	yes	--
Killers	yes	yes	yes	--	yes	--	yes	yes

This paper links the theory of multiple intelligence with the Bartler's type of gamer and pairing it with the Francis' four fold model. Once all these theories satisfactorily fulfilled in the gaming setup, the final merge with Bloom's Taxonomy of teaching learning is done. In this paper, the researchers are ensuring that the new situations developed using evolutionary algorithm of Artificial Intelligence fulfil the learning outcomes pertaining to the three domains of Blooms' Taxonomy viz, Cognitive, Affective and Psychomotor domain. Such gaming could be equally impactful for distance mode learners and the assessment could be done by tracking their responses (and scores) on the game repository. The process of implementation of this gaming system is under process and hence learner feedback is not added in this study.

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LEADERSHIP, NATIONAL SERVICE SCHEME AND SERVICE LEARNING

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Abstract

Service learning is a form of experiential education designed to promote student learning and development. The National Service-Learning Clearinghouse defines *service-learning* as a teaching and learning strategy integrating meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities (Ryan, M 2012). The objective of community based service learning is to increase sense of civic and social responsibility towards the society among students and to encourage lifelong civic engagement through direct experiences, Tosado (2011). But service learning is also effective in developing learners' life skills applicable to real-world circumstances. In particular, it promotes learners' knowledge and understanding by integrating service learning with learning experience, life skills, and civic education. Leadership is a commonly explored student outcome of service-learning (Eyler & Giles, 1999; Middleton, 2005). The present study tries to understand to what extent does a community service learning experience lead to leadership outcome among student teachers. Understanding the leadership style of students helps to know how much would the younger generation be ready to play leadership roles. Though leadership is a skill in the business setting, it is important to understand what leadership styles are preferred by students in the community settings and to what extent does the service learning experience prepare students as the future leaders of tomorrow. This paper tries to understand the relation between service learning and extent of leadership qualities developed among degree college students who volunteer for community service through National Service Scheme. The sample for the study would comprise of approximately 50 degree college students. . Quantitative data analysis would be used for the present study.

BACKGROUND

Wagner (2010) and the Change Leadership Group at Harvard University identified leadership as one of the survival skills to face life, work and citizenship. Leadership is identified as one of the important 21st Century life skills. Leadership is required in every phase of life, personal as well as professional life. Leadership development and management are the core life skills. More than just academic intelligence, service employers search for life skills and leadership skills (Van Linden, J.A., and C.I. Fertman, 1998) is one among them. Employers are keen that Universities and colleges of higher education train graduates with the necessary leadership skills (Al-Omari, A., Tineh, A., & Khasawneh, S. 2008). Higher education system in India do provide sufficient opportunities for students to act in the capacity of leaders. But community

settings could also be one more settings which would help students to become effective leaders. Higher education system does promote community service through NSS or NCC. The National Service Scheme, popularly known as the NSS, aims to engage degree college students into community service voluntarily. The present paper focuses on determining the extent of leadership qualities developed among degree college students who volunteer for National Service Scheme. Leadership is a trait a quality that is developed. Leadership is not management or leading only yourself but it is equally managing your own self with respect to decision making, solving problems and use of critical thinking skills.

OBJECTIVES OF THE STUDY

The objectives of the study is to understand the extent of leadership qualities developed among National Service Students of degree college students of Arts, science and Commerce Stream

SAMPLE FOR THE STUDY

The sample for the study consist of 37 degree college students belonging to the Arts, Science and Commerce Stream of Mumbai University.

STATISTICAL MEASURES

Percentage analysis is used to measure the extent of leadership qualities developed among National Service Students

FINDINGS OF THE STUDY

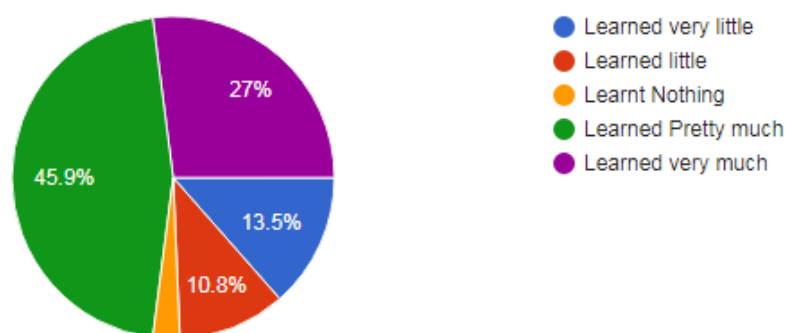


Figure 1: Share their workload with others

Pie diagram 1 shows that 27% degree college students leaned very much to share their workload with others, 45.9% learned very much to share their workload, and only 13.5%

learned very little to share their work load. This shows that NSS has helped students to share their workload with others.

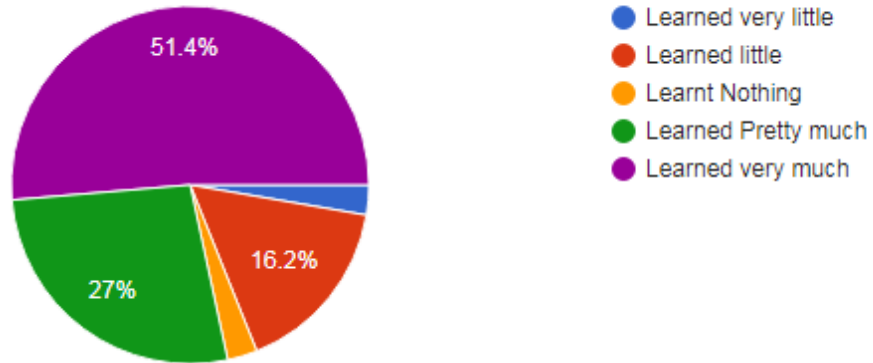


Figure 2: Learned to listen to others

Pie diagram 2 shows that 51.4 % of degree college students learnt to listen to others, 27% learned very much to listen and only 16.2% learned little when it came to listening to others. NSS has also helped to develop the listening skills of students.

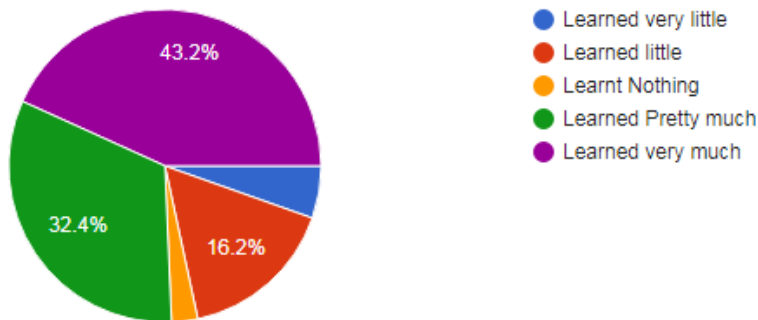


Figure 3: Learned to apply Individual talents and knowledge to improve community work

Pie diagram 3 shows that 43.2% degree college students learnt very much to apply individual talents and knowledge to improve community work. 32.4% learned pretty much to apply individual talents and knowledge.

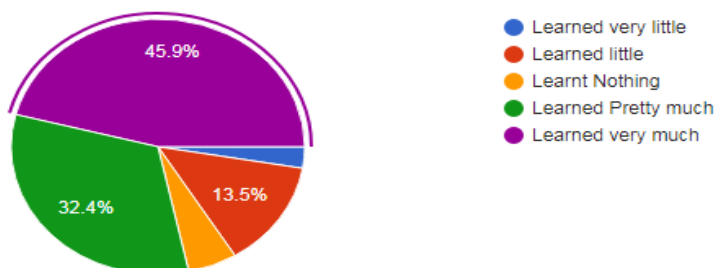


Figure 4: Form important program goals

Pie diagram 4 shows that 45.9% of students learnt very much to have important program goals. 32.4% learnt pretty much to have important goals. NSS helped the degree college students to have important goals or objectives towards the program being conducted.

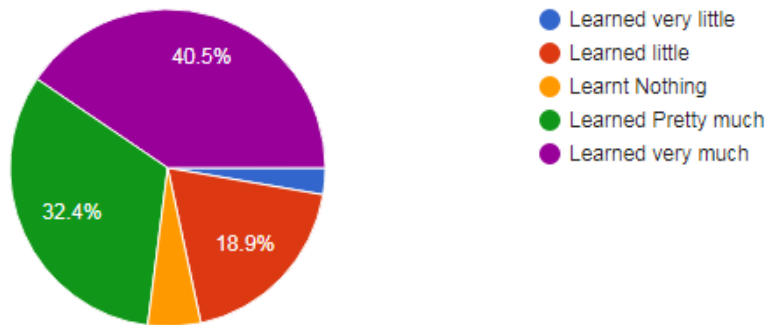


Figure 5: Interact professionally with others

Pie diagram 5 shows 40.5% learned very much how to interact professionally with other community programs, 32.4% learned pretty much to interact professionally with other community programs.

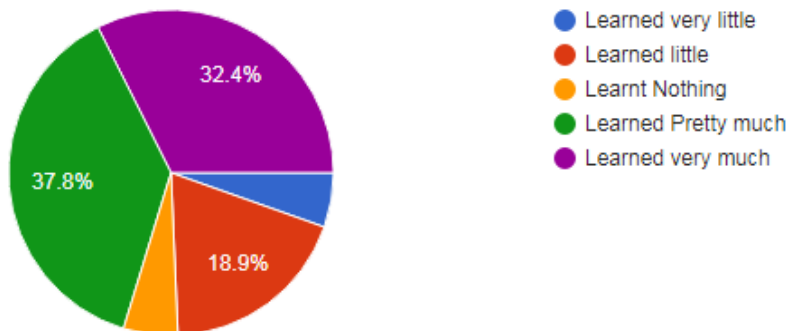


Figure 6: Express their viewpoint to others

Pie diagram 6 shows how volunteering with community program development helps the degree college students to express their personal viewpoints to others. 37.6% degree college students learned pretty much, 32.4% degree college students learned very much and 18.9% degree college students learned only little of expressing their view points on others.

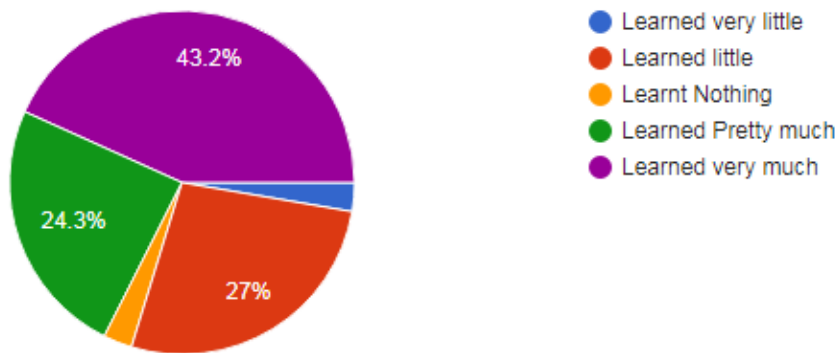


Figure 7: How to look at an issue or decision critically

Pie diagram 7 shows that 43.2% learned very much how to look at an issue or decision critically, 27% learned little on how to look at an issue or decision critically and 24.3% learned pretty much on how to look at an issue or decision critically.

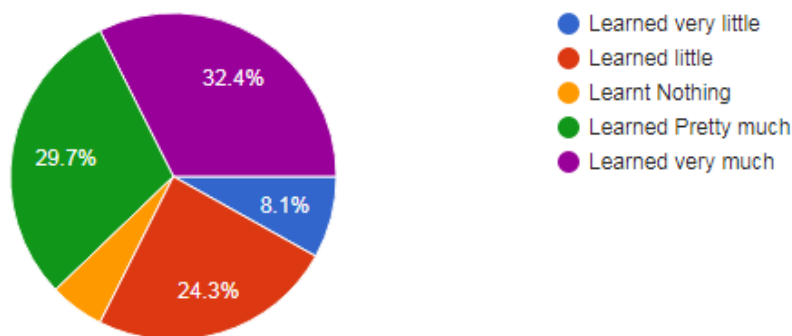


Figure 8: Learnt about conflict management and meditation skills

Pie diagram 8 shows that 32.46% degree college students learnt very much about conflict management and meditation skills, 29.7% learned pretty much about conflict management and meditation skills and only 21.3% learned little about conflict management and meditation skills.

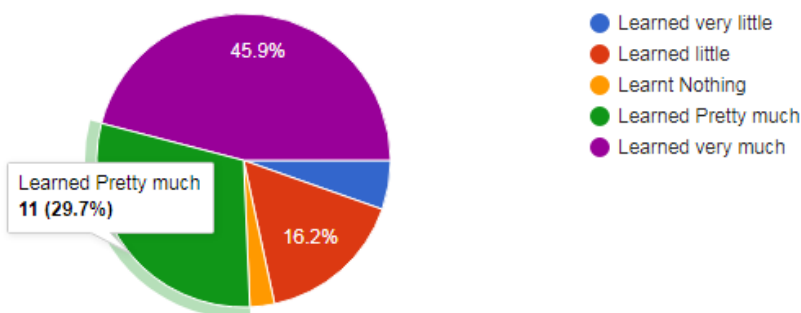


Figure 9: Learnt about skills students use at home

Pie diagram 9 shows that 45.9% learned very much about skills that help the degree college students at home, 29.7% learned pretty much about skills that would help degree college students at home and 16.2% learnt skills that would help them at home.

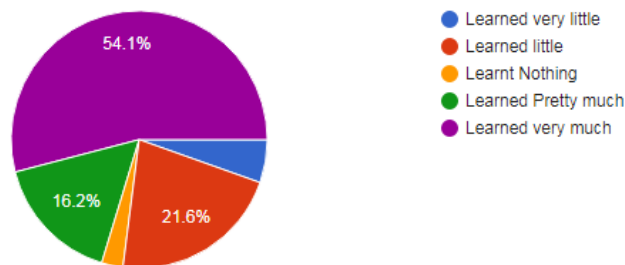


Figure 10: Learnt about skills required for social interaction

Pie diagram 10 shows that 54.1% of degree college students learnt very much about skills required for social interaction, 16.2% learned pretty much about social interaction skills and 21.6% learned little about social interaction skills.

DISCUSSION ON THE FINDINGS

Leadership definitely means to lead a group and lead in a manner where the leader becomes an example for others. But to lead others or to be a setting example for others requires certain qualities or traits that an individual possesses. The researcher through this survey study has attempted to understand and find the leadership qualities that are developed through National Service Scheme. The findings reveal that NSS has helped students to develop leadership qualities among degree college students. Leadership requires that leaders possess listening skills, along with listening equally important is expressing the view points to others. The NSS program requires students to work in different community settings like elder care, child youth center, social service, health center, within environment settings. Probably working in these settings helps students to develop the listening ability, and also expressing themselves in the different settings. The NSS experience has also helped the degree college students to improve their social skills, use one's talent and knowledge in trying to provide the best service within the community. Conflict is a part of any experience and through the NSS service students could also handle or manage better conflict skills among themselves.

CONCLUSION

This paper attempts to understand how NSS as one of the mediums of community service has helped students to increase their leadership abilities. As service learning is a pedagogy which combines academic service learning with community experience, it is suggested that integrating service learning along with a particular course within the subjects of Degree College is a sure way to increase students' leadership qualities. Such an integration would also help the students in personal as well professional front. There are numerous benefits associated with service learning and if the higher education system wants to have future citizens who are

vibrant with creative thoughts and far sighted it is important that service learning is adopted and practiced in the higher education system.

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YOGA AS AN UNCONVENTIONAL PRACTICE TO ENHANCE THE MENTAL HEALTH OF TRAINEE TEACHERS

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Abstract

The purpose of this study was to examine the perceived benefits of incorporating yoga activities on the mental health of trainee teachers. The sample comprised of 30 trainee teachers, was from Rizvi College of Education Bandra West, Mumbai. Yoga, as an ancient system of exercise, is being used more and more by people of all ages to promote overall health and fitness. Yoga has been recommended as a great supplement to current physical activities at schools and colleges teachers. For trainee teacher's yoga is hailed as a mindfulness exercise as it enhances one's self-awareness including breathing, posture, diet, and behaviors, and it has the potential to influence the whole person. Present research with 30 trainee teachers examined the effect of 10 Yogic sessions (one hour) as interventional strategy on the mental health of trainee teachers. These trainee teachers, in turn, implemented the yoga-based activities for 1 hour in week for 3 months. Depression test, Concentration test and students' Yogic inventory were used to compare before and after to assess the effect of yoga on trainee teachers mental health. The data so collected was analyzed statistically by employing mean, S.D and t-test. The results revealed that there is significant effect of yoga to manage depression level of trainee teachers; yoga significantly improved the concentration level and healthy life habits of trainee teachers.

Keywords: *Yoga, Unconventional and Mental health.*

INTRODUCTION

The purpose of this phenomenological study is to explore the effect of yoga practice on the mental health of trainee teachers. In present study to enhance the mental health of trainee teachers postures or *asanas* form an important basis of this program. Though, other yogic activities have also been included in the same program which were eight limbed path of yoga: Yama (moral codes), niyama (self-discipline), asana (postures), pranyama (breath practices promoting life force), pratyahara (sensory transcendence), dharana (concentration), dhyana (meditation), samadhi (state of bliss). Yoga is an individual activity that has social educational implications. Those teachers who regularly participate in yoga typically interact with the world in calmer and more reasonable ways. More positive social interactions and relationships are one of the ripple effects of yoga practice. Teachers experience the benefits of inner peace and healthier body. When practices such as yoga are accessible to all students and teachers, larger effects are possible. Without overstating the impacts, potential consequences of large scale population mental well-being initiatives such as there are less mental issues, aggression,

learning and concentration related problems, less addiction, greater ability to be authentic with one and others.

YOGA

The word 'Yoga' is derived from Sanskrit root *yuj* which means 'join' or 'unite'. This may be taken as the union of body, mind and soul, and is used in the literature both as an end as well as means. Yoga signifies 'integration of personality' at the highest level. Depression is an unavoidable part of teachers working life. Over the last decades, teaching has been widely acknowledged as a profession full of depression, less concentration and poor wellbeing. The number of teachers suffering from depression-related illnesses – particularly stress and anxiety – seems to be on the increase. Such distressing symptoms are brought about by teachers' current working conditions and the pressures under which they find themselves. Kyriacou (2000) mentioned that the level of teaching stress led to teaching being categorized as one of high stress occupation parallel to other stressful jobs like the police, the prison service, air traffic controllers, doctors and nurses. All types of stressors are considered as barriers or difficulties perceived by teachers that interfere with or hinder the instructional process carried out to achieve learning objectives and which would explain a high level of burnout (Schwarzer & Greenglass, 1999; Blasé, 1982).

PERSPECTIVES ON MENTAL HEALTH

Mental health is defined by the World Health Organization (WHO, 2005, p. 2) as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community”. The three components of this definition are (1) well-being, (2) effective functioning of an individual, and (3) effective functioning for a community (WHO, 2005, p. 2). Mental health is too often presumed to be the opposite of mental illness and seen as the absence of mental illness, such as depression or anxiety (Keyes, 2005; Westerhof & Keyes, 2010). Although it has important consequences for individual functioning and society, mental illness represents only part of a person's functioning and mental health (Westerhof & Keyes, 2010).

Depression

Depression as one aspect of stress among teachers can affect the quality of teaching in the class which, in turn, brings about some hardships in facilitating the process of learning and meeting the course objectives. Depression is a subjective state of internal discomfort. It is a normal emotion with adaptive value, in that it acts as a warning system to alert a person to impending danger. Sadness and rejection are the most silent emotional symptoms of depression. Several times teachers feels hopeless and unhappy; equally preserve is loss of gratification or pleasure in life. Activities that used to bring satisfaction become dull and joyless; the depressed teachers gradually loss interest in teaching and learning, hobbies, recreation, and family activities. Depression is associated with a constellation of psychological, behavioral and physical symptoms as well (Cassano & Fava, 2002). The depressed teachers has negative thoughts, low self-esteem and low motivation for progress.

Like other therapies, yoga is not a complete solution to mental health concerns for teacher's mental health. In conjunction with other approaches, yoga has great potential to lead them towards greater mental well-being. In this paper, researcher provides evidence for yoga as an intervention strategy for better mental health promotion. Researcher has been selected depression as a dimension of mental health, researcher planned 10 days workshop for promoting mental health of trainee teachers for that at the first day of workshop researcher collected the data on depression questionnaire and the last day of workshop she again collected data on same questionnaire. After the statistical analysis of data, researcher found that trainee teachers decrease the level of depression after yoga workshop. This research paper gives radiance that like other therapies, yoga is not a complete solution to mental health concerns of teachers but yoga has great potential to lead teachers towards greater mental well-being.

OBJECTIVES FOR THE PRESENT STUDY

The main objectives of this study are as follow:

- To measure the level of depression, concentration level and overall wellbeing of trainee teachers.
- To study the effectiveness of the yogic intervention programme in enhancing the concentration level of trainee teachers.
- To study the effectiveness of the yogic intervention program in managing the depression of trainee teachers.
- To study the effectiveness of the yogic intervention programme to improve the overall wellbeing of trainee teachers.

HYPOTHESES FOR THE PRESENT STUDY

- There is no significant effect of yogic intervention programme in managing the depression level of trainee teachers.
- There is no significant effect of yogic intervention programme on overall wellbeing of trainee teachers.
- There is no significant effect of yogic intervention programme on the concentration level of trainee teachers

METHODOLOGY FOR THE PRESENT STUDY

a. Population and Sample

In this study researcher consider trainee teachers from Rizvi College of Education, Bandra (Suburban Mumbai) as population and the yogic intervention given to whole population. From the population researcher selected 30 trainee teachers as a sample by convenient sampling.

b. Tools used

How Depressed are you? test developed by Hollon and Kendall (Cognitive Therapy and Research, 4, 383–95, 1980) developed the Automatic Thoughts Questionnaire to assess the sorts of cognitions that are associated with depression. Their goal was to develop a test that would be useful in gauging the progress of psychotherapy, but it can also be useful for those of you who are prone to experiencing these feelings.

Short orientation memory concentration test by Katzman R, Brown T, Fuld P, Peck A, Schechter R, Schimmel H. “Validation of a short Orientation-Memory-Concentration Test of cognitive impairment. *Am J Psychiatry*. 1983;140;734-739. A well-studied test, which is (so far) little used. It has been validated against neuropathology, and was derived from the longer Blessed scale. Reliability not formally tested. The score correlated highly ($r = 0.92$) with the full scale and it was almost as sensitive as the longer test. Any error score of 0-6 is within normal limits. Scoring is difficult as originally devised and as shown, and it is more easily understood if scored positively, subtracting from maximum (for item) for each error. This gives a 0-28 score with a higher being better, scores over 20 being ‘normal’.

The Student Survey by David Dapeng Chen and, Linda Pauwels were designed to determine the students’ perceptions of the benefits they had received from participation in the yoga-based activities, organized by their teachers, who had been trained by certified Yoga instructors. These benefits included: 1) mental well-being (e.g., relaxation, concentration, calmness, self-confidence, joy and happiness), 2) social well-being (e.g., ability to get along with others, listening skills), 3) physical well-being (postures, sleep, fatigue, eating and diet), and 4) positive behaviors (e.g., responsibility, behavioral changes). These items of assessment are consistent with the areas of study that have dealt with yoga.

PROCEDURE FOR THE PRESENT STUDY

Descriptive method of research was employed for the present study. The tools employed in the study were administered on the trainee teachers before and after the yogic intervention. The response received on different tools were analyzed through statistical applications using Mean, S.D., and t- test to analyze the effect of yoga intervention programme on the mental health of trainee teachers.

General Guidelines for Yogic Practices

- Yoga renders self-education. Yoga is nothing but the education of self-awareness. Yoga teaches how to live with wisdom, not with the worldly orientations. Before the starting of Yogic workshop Trainee teachers instructed by researcher the following guidelines:
- Regularity of practice is essential both in the physical and mental aspects of yoga.
- Patience is an important requirement for yoga. Do not despair if you do not succeed today in doing a certain *asana* or in following a right principle of conduct. Perseverance in your efforts is needed. Success will come with time.
- Yogic practices should be learnt under the guidance of experienced teacher. Some yogic practices should be practiced on an empty or on a very light stomach.

- Early morning is the ideal time for yoga practice but it can also be practiced in the evening.
- Yoga should not be practiced in hurry or when you are exhausted.
- Yogic practices should not be performed on hard surface. A durry, a mat or a blanket can be used for this purpose.
- Clothes should be loose and comfortable while performing the yogic practices.
- Breathing should be as normal/natural as possible. It is not to be manipulated unless instructed specifically to do so.

Some Common Yogic Practices as intervention were as following

For *depression* management, better concentration and effective mental and physical wellbeing of trainee teachers perform various yogic asana and *pranayam*. these practices helped them to relax their body and mind. The practices which can strengthen the systems especially the autonomic nervous system with the dominance of para-sympathetic system of body are also beneficial for managing depression and stress. Here, some *asanas*, *pranayamas*, *kriya* and relaxing practices which were practiced by trainee teachers were as following:

Surya Namaskara (Sun Salutation), Tadasana (Palm Tree Posture), Mandukasana (Frog Posture), Bhujangasana (Cobra Posture) Makarasana (Crocodile Posture), Shalabhasana (Locust Posture), Dhanurasana (Bow Posture), Shavasana (Corpse Posture), Kapalabhati (Frontal Brain Cleansing ,Anuloma-viloma Pranayama(Alternate Nostril Breathing), Dhyana/Concentration with the help of Tratak, Trikonasana etc.

RESULTS

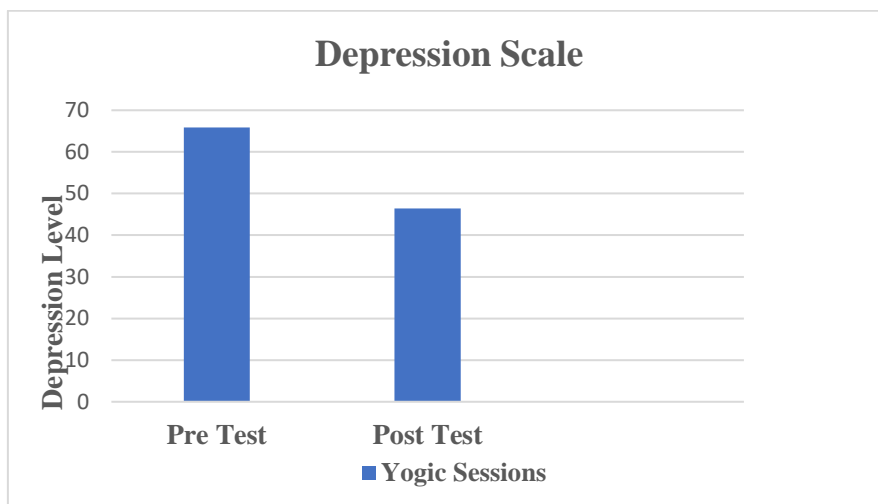
Descriptive method of study was employed for the present study. Three different tools were employed to assess the mental health of trainee teachers and as an intervention Yogic activities given to them. After the intervention again same tools were employed to them and post test data were collected. The results are as following:

Table no. 1

Depression Scale			
	A	B	TOTAL
n	30	30	60
$\sum x$	1975	1392	3367
$\sum x^2$	142619	69776	212395
Mean	65.833	46.4	56.1167
SD	20.84	13.37	--
Mean A- Mean B	--	--	19.4333
t	--	--	+4.3

df	--	--	58
P one tailed	--	--	<.001
P two tailed	--	--	<.001

Table 1 indicated that there are significant differences between the trainee teacher's depression level in pre and post mean. The pre-depression mean is 65.83 and post intervention depression mean is 46.4 which clearly indicated that yogic intervention decrease the level of depression of trainee teachers. The obtained t-values on, is 4.3 which is significant on .001 level of significant. Hence the first hypothesis, i.e. "There is no significant effect of yogic intervention programme on depression level of trainee teachers" is rejected.



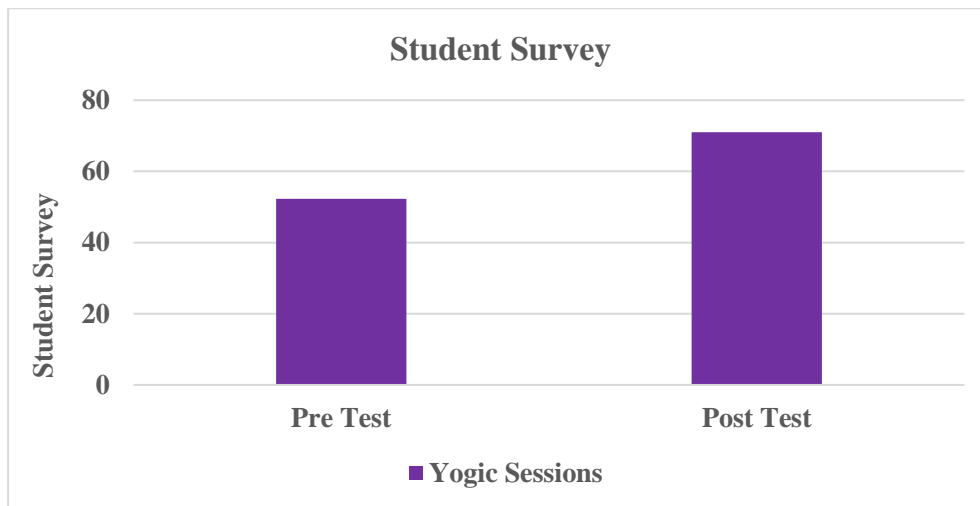
Graph 1: Outcome of the Depression Scale

Table no.2

The Student Survey			
	A	B	TOTAL
n	30	30	60
$\sum x$	1568	2130	3698
$\sum x^2$	85916	153076	238992
Mean	52.2667	71	61.633
SD	11.68	7.97	--
Mean A- Mean B	--	--	-18.7333

t	--	--	-7.25
df	--	--	58
P one tailed	--	--	<.001
P two tailed	--	--	<.001

It is evident from the Table no. 2 that the mean scores of pre student survey and post student survey are 52.26 and 71 respectively. The t-ratio of both groups is -7.25 which are highly significant at .001 level of significance. It indicates that yogic intervention improves mental well being, physical well being and positive behavior of trainee teachers. Thus hypothesis 2 that “There is no significant effect of yogic intervention programme on overall wellbeing of trainee teachers.” is rejected.



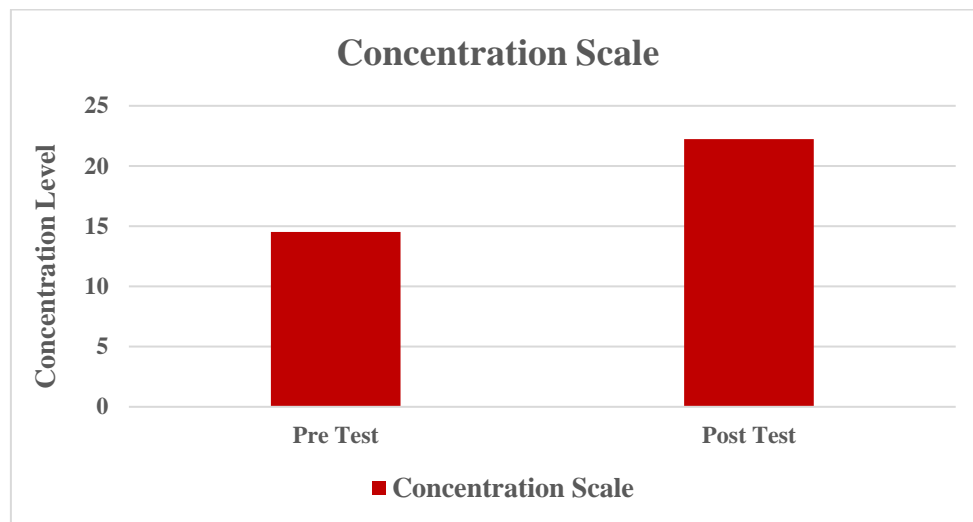
Graph 2: The Student Survey

Table no.3

Concentration Test			
	A	B	TOTAL
n	30	30	60
$\sum x$	436	667	1103
$\sum x^2$	6596	1469	21565
Mean	14.5333	22.2333	18.3833
SD	2.99	2.19	--

Mean A- Mean B	--	--	-7.7
t	--	--	-11.37
df	--	--	58
P one tailed	--	--	<.001
P two tailed	--	--	<.001

From the table 3, it is clear that pre mean of concentration level and post mean of concentration are 14.53 and 22.23 respectively, where post mean is higher as compare to pre concentration test. The t. score is -11.37 which are highly significant on .001 level of significance. Hence the hypothesis no 3 that is “There is no significant effect of yogic intervention programme on the concentration level of trainee teachers” is rejected.



Graph 3: Concentration Scale

CONCLUSIONS AND DISCUSSION

Teachers trainers in different situations experience a wide range of emotions that could vary from positive to negative such as happiness, satisfaction, sadness, anger, frustration, etc. They have expectations from themselves that may be further reinforced by students during internship, parents and environment around them. There are many occasions when they may get stressed or feel angry or frustrated. It is natural for trainee teachers that due to over pressure of their work they might experience both positive and negative emotions. Simultaneously, it is necessary for them to be aware of their feelings and emotions. In today's life, stress is becoming a major cause of many psychological and physical problems of teachers. In the present study finding indicated that the practice of Yoga interventions improves and promote mental health of trainee teachers. Trainee teachers, who participated in this study and practiced yoga, frequently report a sense of deep relaxation, calm and happiness at the end of yogic session

they improved their concentration level as well as overall wellbeing. It is also relieving depression of trainee teachers. Present research finding focuses that yoga is an effective interventional strategy which improves a variety of mental and physical health measures such as depression, mental physical and emotional wellbeing as well as concentration level of trainee teachers.

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S.T.E.A.M STORYTELLING: RENEGOTIATING THE ‘E’

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Abstract

STEM Education is teaching and learning in the fields of science, technology, engineering, and mathematics which typically includes educational activities across all grade levels—from pre-school to post-doctorate—in both formal (e.g., classrooms) and informal (e.g., afterschool programs) settings, essentially in an integrated format. The paper examines renegotiation E in STEM for environment and handling it from arts perspective through story telling.

INTRODUCTION

STEM approach to education is designed to revolutionize the teaching of subject areas such as mathematics and science by incorporating technology and engineering into regular curriculum by creating a ‘meta-discipline.’ STEM Education attempts to transform the typical teacher-centered classroom by encouraging a curriculum that is driven by problem-solving, discovery, exploratory learning, and require students to actively engage a situation in order to find its solution. All students benefit from the STEM program because it teaches independent innovation and allows students to explore greater depths of all of the subjects by utilizing the skills learned; these skills are going to be required in order for today’s students to be tomorrow’s global leaders. All jobs are requiring workers to have a greater ability to think critically, work as a member of a team and independently, and close the performance gap between

INTEGRATION OF CURRICULUM

The four parts of STEM have been taught separately and most of the time independent from each other for years. By adopting the STEM philosophy Science, Technology, Engineering, and Mathematics all play an integral part in the teaching of the whole. The science, engineering, and mathematics fields are made complete by the technology component that provides a creative and innovative way to problem solve and apply what has been learned.

RISE OF STEM EDUCATION

In 2015, the United States educational system received some sobering news. The Program of International Student Assessment (PISA) ranked 15-year-old U.S. high-school students 40th in mathematics and 25th in science. These results were based on data from 71 participating nations. Some of the nations with higher student scores included much smaller and far less

wealthy nations like Estonia, Slovenia and Vietnam. It was apparent that the U.S. educational system needed significant improvement in these areas if the students who would be the workforce of tomorrow were to have a competitive edge in a globalized, high-tech marketplace. National and state educational policymakers renewed efforts begun in 2006 to improve the overall mathematics, science and technology literacy of U.S. students.

According to the National Science Foundation, it is predicted that 80 per cent of the jobs created in the next decade will require some form of math and science skills. Despite having the best of the brains in India, the exam focused education model had limitations related to innovation, problem solving and creativity.

FROM STEM TO STEAM

STEAM represents a paradigm shift from traditional education philosophy, based on standardized test scores, to a modern ideal which focuses on valuing the learning process as much as the results. *STEAM is an educational approach to learning that uses Science, Technology, Engineering, the Arts and Mathematics as access points for guiding student inquiry, dialogue, and critical thinking. The end results are students who take thoughtful risks, engage in experiential learning, persist in problem-solving, embrace collaboration, and work through the creative process. These are the innovators, educators, leaders, and learners* Innovation remains tightly coupled with Science, Technology, Engineering and Math – the STEM subjects. Art + Design are poised to transform our economy in the 21st century just as science and technology did in the last century. Whether today's students go on to be artists, doctors or politicians, we know that the challenges their generation faces will demand creative solutions. We should fully expect that, in the coming decades, many of our best leaders will come from art and design backgrounds. STEAM is an integrated approach to learning which requires an intentional connection between standards, assessments and lesson design/implementation

- True STEAM experiences involve two or more standards from Science, Technology, Engineering, Math and the Arts to be taught AND assessed in and through each other.
- Inquiry, collaboration, and an emphasis on process-based learning are at the heart of the STEAM approach.
- Utilizing and leveraging the integrity of the arts themselves is essential to an authentic STEAM initiative.

STEAM Storytelling: Children (and adults!) love stories – tales that excite, inspire, intrigue and captivate our attention. Storytelling taps into a part of our brains that helps concepts resonate. To start off with writing a story the following essentials must be coherently followed:-

1. **Plot:** If the curriculum were a skeleton, with each bone representing a subject, the plot would be the cartilage connecting them all together.

2. Problem: Every story needs a problem or dilemma. It's what generates the dramatic tension that keeps us reading. For students, having a problem is even more important, since it fuels learning by giving them an authentic reason to deepen their understanding of the subject.

3. Passion: Engaging students' passions is another crucial component. Giving students the creative freedom to take the plot in their own direction also makes a difference.

Story writing and storytelling in STEAM subjects can be extremely fulfilling if integrated judiciously in an interdisciplinary manner. Below is a story that is framed keeping in mind the core subject and STEAM subjects.

Example of Bringing Arts (storytelling) to S.T.E.M Subjects (E-renegotiated for Environment)

Subject: Environmental Education integration through Arts

Grade: Primary

Concepts: Ecology, Environmental Awareness, Best out of waste, Reuse-Recycle.

A New Dream

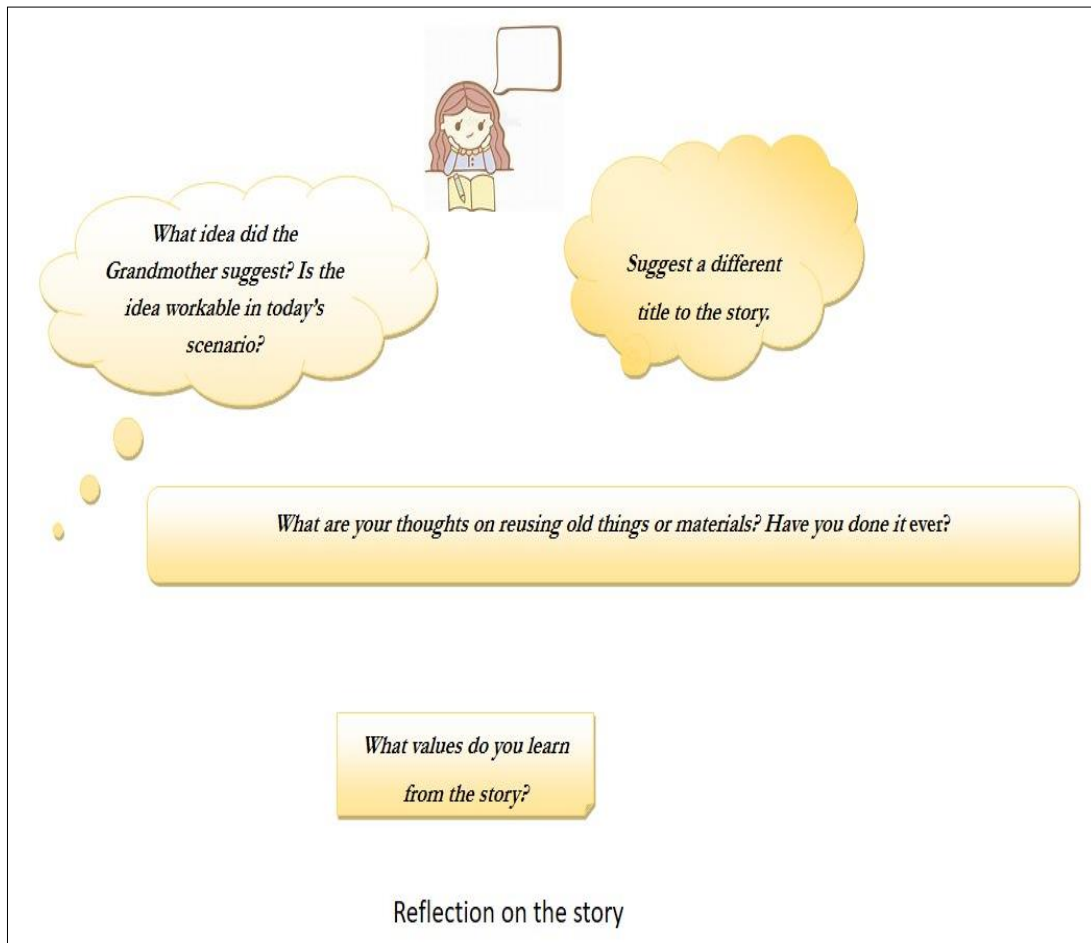
Priya was very unhappy. The Christmas party in the school was coming up and she had nothing to wear. She was looking forward to the party, but what was the use? Her Mumma had explained that this year she had to make do with her old Christmas frock as they had no money. How could she wear the same frock again? All her classmates would laugh at her. While she was brooding over the whole idea, her grandmother approached her. "What are you sad about my little girl?", she asked. "Mumma said I will have to wear my old frock again this year too for the Christmas party."

"Oh, darling, is that what you're worried about? You know we have to get by on what your Mumma makes at the shop", said grandma. "Never mind, I know and understand, I don't mean to complain but I'm just sad," said Priya. Looking at Priya's bent head; her grandma came to a sudden decision. "If you're going to wear the same frock, there's no reason why we can't make it prettier", she said. Priya looked at her grandma perplexed, what was her grandma thinking? Priya looked at her grandma and exclaimed, "Prettier! How?"

Grandma got out her sewing box and her pouch of sewing discards. "Go, get your dress child" said granny. Priya ran and fetched her old, plain, green poplin dress. "See child, this scrap of green taffeta will make a fine sheer over the skirt." Grandma tucked on the taffeta over the skirt of the dress. "And this silk strip will make a fine frill". Priya was getting caught up in all the excitement. "Grandma wait!" exclaimed Priya. She ran to the garden to get some green beads. I found them in the garden and they are just right for the front." Grandma smiled and said, "I have just the thing to sew on it." She tacked a strip of maroon velvet on the front and quickly sewed it and the beads on the front. The dress was already looking much better. Then grandma exclaimed, "Oh dear me! I almost forgot." She reached the bottom of her drawer and rummaged through it.

She came back with a coil of finest lace. "This was part of my wedding dress, in fact the only

part left, lets sew it on the collar.” Priya was aghast. ” I can’t take that. ” Of course, you can. A bit of an old dream is just what you require to make a new dream come true, Princess. ” Priya had tears in her eyes as she hugged her grandmother tight.



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A STUDY OF ACADEMIC ACHIEVEMENT IN RELATION TO COGNITIVE DOMAIN RELATED CHARACTERISTICS

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Abstract

Cognitive domain related characteristics refer to the characteristics related with the mental skills. Use of latest technology to enhance learning effectiveness is one of the important cognitive domain related characteristics. Internet is one of such technologies. This study was aimed to find out correlation between Internet Usage Skills (IUS) and Academic Achievement (AA) of IIT students. Survey based research methodology was adopted, for which all first year students of all IITs were the population. For sampling purpose, 250 students of first year students of two IITs were drawn randomly. The ICQ-A (Internet Competency Questionnaire developed by Azizi, E.) was used as tool to find out internet usage skills of the students, in which there were 72 items grouped in 6 various components. The reliability coefficient of this tool was 0.97. JEE (Advanced) scores of individual students were considered as academic achievement of the students. The data analysis was carried out by using statistical methods of mean, t-test and Pearson's Correlation Coefficient. Results of the study revealed that there was no significant relationship between IUS and AA of IIT students.

Keywords: Academic Achievement (AA), IITs, Internet Usage Skills (IUS)

INTRODUCTION

Cognitive domain related characteristics refer to the characteristics related with the mental skills. Use of latest technology to enhance learning effectiveness is one of the important cognitive domain related characteristics. Internet is one of such technologies. Present age is age of information technology and internet. Internet is one of the most influential discoveries in history of mankind like fire, wheel, printing press etc. It has changed the way of development of human civilization. Internet is basically network of billions of computer networks. In this era, one requires to be competent enough to use internet in order to part of today's internet driven knowledge society. All kinds of communication technologies being used in our day-to-day live are based on internet. One of the important goals of education is academic achievement throughout the world. The benchmark of a successful education institution is increasing or maintaining high academic achievements of its pupil. Wikipedia has defined academic achievement or academic performance as the extent to which a student, teacher or institution has achieved their short or long-term educational goals. Usually cumulative GPA and completion of educational benchmarks such as acquiring secondary school certificates, degrees or diplomas. Academic achievement may be defined as successful completion, through effort,

of the acquisition of academic content and skills. Based on the study of various research literatures, it is observed that though several researches have been conducted separately on academic achievements taking various kinds of variables exhibiting cognitive domain related characteristics viz. intelligence, learning strategies, internet competencies etc. and very few studies have been carried out taking the variable internet usages skill. None of the studies were conducted in respect of the IIT students. The students are generally considered as extra ordinary students due the high level of credibility of the entrance test JEE for admission in IITs and teaching and research facilities of IITs. Hence the output of the study is very much important for the society in terms of revealing internet usages skill and its relationships with their academic achievement of the IIT students, so that prospective students can follow the same.

Internet usages skill (IUS) refers to the ability of a person to use the Internet and its services. IUS is a combination of knowledge and skills of using the Internet to improve performance in effectively completion of a tasks or jobs viz. achieving good academic scores. IUS includes general knowledge about computers, computer usages ability, communication and collaboration, general webpage using ability, information management and information search over internet.

The main objective of the study was to find the relationship between internet usages skill of the first year students of IITs and their academic achievement. For the purpose, following null hypotheses were formulated: -

H0-1: There is no significant difference between Male and Female first year IIT Students in their internet usages skill.

H0-2: There is no significant relationship between internet usages skill of first year IIT Students and their Academic Achievement.

METHODOLOGY

Survey based research was conducted. All first year students of all IITs was the population. Convenience random sampling technique was used to select sample for the study from two IITs. Total 250 students consisting both male and female students of first year were part of the sample. All these student were admitted in IITs from the same entrance mechanism that is JEE (Advanced). The ICQ-A (Internet Competency Questionnaire developed by Azizi, E.) was used as tool to find out internet usage skills of the students, in which there were 72 items grouped in 6 various components. The reliability coefficient of this tool was 0.97. In addition to items in the questionnaire, data on the demographic aspects and JEE (Advanced) score was also collected in the same response sheet. JEE (Advanced) scores of individual students were considered as academic achievement of the students.

The responses of the questionnaire were arranged in MS-Excel and the excel sheet was later on converted into SPSS compatible file for data analysis purpose. Independent samples' t-test and Pearson correlation coefficient analysis was carried out to test the hypotheses formulated as H0-1 and H0-2.

DATA ANALYSIS AND RESULTS

In order to test the first null hypothesis (H0-1) that there is no significant difference between Male and Female first year IIT Students in their internet usages skill, t-test was carried out to find the difference between mean scores of the learning style of male and female students under study. Output of the t-test is presented in the table-1 below: -

<i>Table-1: Results of Independent Samples t-test for Mean scores of IUS of Male and Female first year IIT students</i>						
	<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>S.D.</i>	<i>t-value</i>	<i>p-value</i>
<i>IUS</i>	M	135	32.80	13.05	3.52	.001*
	F	115	38.64	13.33		
	* df= 248, p<0.01, Significant					

Table-1 indicates that the 't' value for IUS is found to be significant at 0.01 level of significance. Hence the null hypothesis H0-1 that there is no significant difference between Male and Female first year IIT Students in their IUS is rejected. Accordingly we can conclude that there is significant difference between Male and Female students in the Mean scores of internet usages skill (IUS). It is also found that Mean scores on learning styles of female students is higher than those of Male students.

Further in order to test the second null hypothesis (H0-2) that there is no significant relationship between IUS of first year IIT Students and their Academic Achievement (AA), Pearson correlation coefficient was computed. Output of this computation is presented in the table-2 below: -

<i>Table-2: Pearson Correlation Coefficients between IUS and AA of the students</i>		
<i>IUS</i>	<i>Academic Achievements</i>	
	<i>R-value</i>	<i>p-value</i>
	-0.38	.542*
	* at 0.01 level of significance, Not Significant	

From the table-2, it is clear that Pearson Correlation Coefficient between IUS and academic achievements (AA) of the first year IIT students is found to be not significant at 0.01 level of significance. Hence the null hypothesis H0-2 that there is no significant relationship between Learning style of first year IIT Students and their Academic Achievement is not rejected. Thus we conclude that there is no significant relationship between internet usages skill and academic achievements of the first year IIT students.

CONCLUSIONS

One of the topics in today's societies related to educational researches is how to improve the academic achievement of students. As our world is developing exponentially, the educational researchers are trying to know the factors for coinciding academic performance improvement. Particularly factors influencing the academic achievement of the IIT students will be able to give a path to the prospective students preparing for admission in IITs, one of the prestigious public institutions in the country. Present era is the era of Internet. It has broken down several barriers of communication as it is accessible from anywhere around the world. It does not have restrictions on content or format. Though internet has a limitless range of services and facilities assisting user community to access the infinite source of information on click, but there are certain problems too such as internet addiction. The present study revealed that: -

- There is significant difference in the internet usages skill between Male and Female first year engineering students of IITs.
- The Mean scores of Female first year students of IITs are higher than that of Male first year students of IITs in internet usages skills.
- There is no significant relationship between internet usages skills and academic achievements of first year students of IITs, which supports results of Yangkim (2009).

Based on the above study, we can advise the students that they should not spend their valuable times on surfing internet for vain activities.

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ACCESS TO LOW FEE PRIVATE SCHOOLING CHOICE OF THE DISADVANTAGE PARENTS IN RANCHI CITY, JHARKHAND

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INTRODUCTION

“The illiterate of the future is not those who can’t read or write but those who cannot learn, unlearn and relearn.”-Alvin Toffler

Education plays an important role in the life of a human being. After home, school is the second place for most children where socialisation and learning takes place. School is therefore considered to be the place where overall development of a child begins. We can only imagine the situation and future of a child, who by some reasons miss this opportunity and his/her right of going to school.

The rise in low-fee private schooling (LFP) is one among them. Since last decade LFP unregulated schools in India have emerged as a cost- efficient, high-quality and equitable solution for the education of the poor and as a site for viable business option (Nambissan, 2014). These LFP School’s fees are affordable to disadvantaged groups, thus LFP school aimed at the poorer strata of the society and rapidly growing from small town to metro cities. There are some reasons for choosing LFP schools, such as poor qualities of education served by many of the government schools. Parents choose to send their children to these LFP schools because they perceived that the public schools are bad in all ways, from school infrastructures to school management, curriculums and teaching patterns (Tooley, 2013). The abrupt increase in tuition fees in many expensive private schools also makes it difficult for several parents to send their children. Nevertheless, LFP schools who claims to provide the quality education and equipped with basic infrastructure, easily influence the parents to send their children to these in school.

Every day new schools are getting built in small spaces equipped with basic infrastructures such as limited classrooms, regular class, and organized extracurricular activities. All these qualities attract the parents. Members of school management also do their best to advertise the school's information in a very innovative way that convinces and influences the parents to enrol their kids in these private schools a parents who identified school facilities as the most influential factor in their decision-making, also pedagogy and medium of instruction in English make parents feel that if their child learns in English medium schools, he will get a better job in future. Therefore, parents have no other alternative options rather than join LFP schools that claim to provide quality education for their children' (Harma, 2011).

Education plays an important role in the development of a state and nation. It acts as a catalyst for socio-economic prosperity. According to 71st National Sample Survey (NSS), 2014 literacy rate in India was about 75.4 percentages and Jharkhand it was 70.3 percent. According to

District Information System for education (DISE) in 2014-15, the total number of elementary schools in the state stood at 46,773 out of which 40,603 were government run schools, while 2354 were private schools. State government Plans in elementary education and free distribution of textbooks under SarvaSiksha Abhiyan, but in private schools these facilities are not available. 17 District Institutes of education and Training (DIETs) and primary Teachers Training Colleges (PTTCs) to conduct pre in services training programs for elementary teachers, but in private schools, teachers are not well trained (Jharkhand Economic Survey 2015-16).

Despite all these crucial issues LFP school choice is continuously increasing everywhere, therefore this research was to understand the access to low-fee private schooling choice of the marginalized parents in Ranchi city, Jharkhand.

Jharkhand has high percentage of children who drop-out from primary school. National University of Education Planning and Administration (NUEPA) reports that children who complete class five but don't get enrolled in class six, was the highest in Jharkhand (36.39 percent) in 2008-2009. The situation in rural areas is even worse. Approximately 78% of population in Jharkhand is living in rural areas. Although the literacy rate in Jharkhand has seen upward trend and is 67.63 percent as per 2011 population census, still a major chunk of its children is not going to school or are dropping out from school.

Jharkhand a major segment of its population belongs to scheduled tribes and scheduled castes, both in urban and rural areas. According to census 2011, the Scheduled tribe population is 26.3 (rural 31.4% and urban 9.8 %) while the scheduled caste population in Jharkhand is 11.8 percent. As per the Census 2001, the Literacy rate of scheduled tribe is 40.7 percent while scheduled caste population is only 37.6 percent. This difference in the literacy is also found in the case of drop out rates as the drop out rate among scheduled caste children from primary school is large.

According to Jharkhand Economic Survey 2015-16, in urban areas female literacy was 77.5 per cent and in rural areas 55.2 per cent and Jharkhand literacy rate 70.3 per cent. In Jharkhand there are 40,174 government elementary schools, 2,637 secondary schools, and 522 higher secondary schools (Department of School Education and Literacy, Government of Jharkhand 2016 report. According to 10th Annual Status of Education Report (ASER) 2014, a survey by Pratham report showed that 43% children between the age 6 and 14 years were not enrolled into school in 2014.

India has universal enrolment in school but there are two major challenges of school, high dropout and low attendance. According to National University of Educational Planning and Administration 2011 study 'These dropouts are likely to be engaged in semi-skilled and unskilled employment. Expert and researchers found that those children who attend school regularly have better learning outcomes than their peers who do not'.

Table 1: Dropout Rate Primary Level

Average Drop-out Rate at Primary Level	2008-09	2009-10	2010-11 all	Boys	Girls
Jharkhand	15.79	10.49	12.62	13.00	12.23

(Sources: National Institution for Transforming India, NITI Aayog and District Information System for Education 2011-12)

After the constitution of India promised free and quality education to all children. But only in 2009 the right of compulsory and free education is given to children.

With this RtE now there is hope of giving school education to every child. But it will be very important to understand the provisions of RtE and also to understand how they will increase children's enrolment and participation in schools and reduce the dropout rates especially among the marginalised disadvantage children.

JHARKHAND EDUCATION

Jharkhand is the 28th state of India and very rich in natural mineral resources and forest reserves, but it is considered one as of the backward and poor state in India. Majority of it's population belongs to Scheduled Tribes and Scheduled Castes both in urban and rural areas.

Literacy in Jharkhand has improved by 12.85 percentage between 2001 and 2011 males (76.8 percent) and females 55.4 per cent. In Palamu, male literacy was 74 and female literacy was 52 percent in 2011 census of India.

As per Census the female literacy rate among the Schedule Caste of is 44.2 per cent and Schedule Tribe is 46.2 per cent.

Table 2: Social Category Wise Enrolment at Different School levels

Schools	Gender	Schedule Caste		Schedule Tribe		Muslim	
		2014-15	2015-16	2014-15	2015-16	2014-15	2015-16
Primary							
	Boys	15.35	15.32	29.92	29.56	12.54	12.24
	Girls	15.31	15.39	29.92	29.62	12.97	12.74
	Total	15.33	15.36	29.92	29.59	12.75	12.48

(Source: U-DISE School Education India 2014-15 and 2015-16)

The situation in rural areas is even worse. Approximately 78% of population in Jharkhand are living in rural areas. The literacy rate in Jharkhand has seen upward trend and is 67.63 percent

as per 2011 population census. But still major chunk of children is not going to school or getting drop out from school.

OBJECTIVE OF THE STUDY

1. To identify the reasons of dropout among disadvantage children in rural schools.
2. Access to Low Fee Private Schooling Choice of the Disadvantage Parents in Jharkhand.

In the social stratification of Indian society, scheduled caste people were considered as the lowest strata and de-valued by other. Since beginning they were denied right to access education and belonging to all other facilities. Since after Indian constitution has given special attention to Scheduled Caste and Scheduled Tribe people so that they will be able to uplift their social and economic status in society.

Jharkhand in terms of overall development it is considered as one of the most backward state in India. Major population in this state is Scheduled Tribe 26 percent 57 percent of tribal population in Jharkhand depend on farming and 57.13 percent are literate.

Since almost 78 percent of the population in Jharkhand are living in rural areas and condition of schooling in rural area is generally of poor quality.

Getting Education to this community was also one of the important objectives of the state where some necessary and compulsory steps have been taken. But despite of these attempts literacy rate of SCs/STs are very low and dropout rates from school are high. Since most of the family are living in rural areas and many children are not attending schools.

METHODOLOGY

The study is based on qualitative and quantitative methods. Information was gathered from one village and selected for primary data collection.

Sampling method & Data collection tools:

To collect all the possible information the key informants were Schedule Caste (SC)/Schedule Tribe (ST)/Muslim children from age group of ten to eighteen years old, teachers, and parents.

- 4 Primary data collection: The researcher used primary methods of the data collection such as: Interview schedule, five case studies of parents who choose the LFP School.
- 5 Non-participant observation of school, home and community environment observation was for data collection.

Secondary data collection: the study also used secondary data, for example, data from the social welfare department, journals, and newspaper.

Table 3: LFP school child parent's profile

Name (changed)	Age	Caste	Education	Work place	Monthly income (Rupees)
Asutosh	18	SC	6 th	Auto driver helper	4000
Chnadan	16	SC	6 th	Auto mechanic	3050
Vijay	18	ST	5 th	Farming	Nil
Vikas	18	OBC	7 th	Stationary Shop	4000 to 8000
Yamini	14	Muslim	4 th	House work	(not answer)

(Source: fieldwork data collection)

DROP OUT REASONS

Socio-economic Reasons

SC/ST Children' enrolment rate in schools is high while it is only till up to class six and there after continuity rate starts decreasing one important aspect interesting to know are that in this place enrolment and continuity rate increases among girls. Although some section of the society still doesn't want to send their daughters to LFP school or want them to continue schooling.

The general tendency of Schedule Caste Parents/families is that they do not give more importance to children's higher education and those parents who are little bit educated are more concerned about them getting a government job such as policemen or school teacher. The perception of those who are not educated is that they will work in their own land and do farming on the land.

In this city children are more involved in their family business or traditional work or their household work. Most of the parents are not well educated so lack of communication and no educational environment at home also leads to disinterest towards education. Research suggests that these children are vulnerable to dropping out.

DISCUSSIONS WITH DROPOUT CHILDREN

Changing the approach still in school we learn tables (multiplication) learn by heart not to understand or learn how to multiplication even in school teachers not give the examples to multiplication they just thought to learn multiplication the tables like 2 to 20 tables.

Learning through experience

We learn calculation though our experience and everyday dealing money though customers and we learn our memory but earlier it was difficult to calculate and many times it was mistake to return and how much money return or taken we calculate but it is important to take steps in earlier childhood period to develop creative and critical thinking. It is also important to

questions one's belief system and check whether it is right or work as scientific facts. We know our history, Indus Valley Civilization, where mathematical ideas were used for construction and the concept of zero, used and are still important today.

Fear of math and English

During discussion with children which subject you didn't like and why? Almost all have same answer English and Mathematics because it's very difficult to learn and understand in our school teachers are not interested to teach in friendly environment and our peer groups are also not interested to talk or discussion on math and English subjects. Children are not having activity, ability, awareness, aspiration and motivation to take interest in mathematic subjects. Research also looked other students who are continuing their study they have same issues. Even their family background fathers of children work on farming, daily wage work and they are hardly class VIII or class X pass out and mothers are housewife, daily wage worker or farming.

OBSERVATION AND FINDINGS

Education seems to be the only tool through which present or coming generation can equip themselves to fight inequality and deprivation. It is necessary to get basic quality education especially to scheduled caste and tribe people and RtE may be the only tool through which this can be possible.

There are many fake enrolments in government school children are enrol in government schools for the free books, uniforms and other benefits but they are studying in private schools. One LFP school is having looks newly constructed. There were more then ten rooms, while only two rooms were used for smart classroom purpose, computer lab, and library. Classrooms were having all basic facilities of bench or desk, playing activities equipments. These are facilities attract to parents.

Children are very interested in going to school and there are several factors which lead to interest in going to school. Teachers are always engaged with students and conducting academic and non academic activities but, a silent exclusions are more responsible for discontinuity in school. Poor quality of teaching, ignorance by teacher, poor understanding and slow learning in classroom are also the important factors which disinterest children towards education and leads to discontinuity in school, Schools every year increases tuitions and other extra fees demands, compulsory to purchases all school note book, text books even school dress.

Although the constitution of India promised free and quality education to all children only in 2009 the right of compulsory and free education (RtE) was given to children. With this RtE now there is hope of giving school education to every child. But it will be very important to understand the provisions of RtE and also to understand how they will increase children's enrolment and participation in schools and reduce the drop-out rates especially among the marginalised dalit and tribal children.

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RAGA: A MUSIC THERAPY FOR THOUGHTFUL AWARENESS

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INTRODUCTION

Globalization & Modernization has changed the education from a conventional type of campus-based university into an internet based virtual university. The education as prevails today in India is not capable of heralding a new era. It cannot prepare India for a competitive world. A high standard in curriculum leads to excellence but serves only a few students. Sometimes a rigorous curriculum is mistaken for higher standards & often discourages even the brilliant student from opting for it. The children are facing many problems like bad habits, adjustment difficulties in classroom, in school, with friends & other people, face loneliness, cut throat, competition etc. Stress is an unavoidable part of social life today. Our lives are run by deadlines, clock, modern technology, mobile phones, computers, satellites, hundred other demands and pressures of this complex modern society. Many of us have too many tasks & too little time. we have fewer friends, living in a more fragmented isolated society with lower levels of social support which is an important factor of stress. Today's education, instead of becoming a source of knowledge is becoming a source of stress, frustration, depression, irritability, mood disorder, muscular tension, fear etc. Today we need to learn to deal it in a more positive, less destructive manner using skills, knowledge to reduce its effects. We are now in the world of "information explosion" where there is a need to create an environment in which man could achieve diversified knowledge simultaneously by keeping in mind the main aim of education i.e. to develop cognitive, affective & psychomotor domains together.

In the fastest IT era where expectation from students are too high but their stress & Anxiety created from this are being neglected. This stress & Anxiety results in wide difference in the input & output achieved. Researchers have made efforts to develop Music Therapy in combating stress, Anxiety etc. Stress Reduction therapies emphasize on developing the cognitive & affective domain through well defined strategies. Studies have been conducted to find out the effectiveness of Music as Stress Reduction Therapies.

ABOUT MUSIC THERAPY

Music therapy is the clinical and evidence based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credential professional. Its mental, physical, emotional, social, aesthetic, spiritual, physiological, behavioral, communication, all the aspects are, individually or combined to, address student's needs. It is often found as part of stress management programs or used in conjunction with exercise as an effective relaxation tools.

IMPORTANCE OF MUSIC AS RELAXION THERAPY

The beauty of music has the power to heal mind, body & soul. Music is often considered the medicine of the mind. It has a profound effect on human psyche & body. In this fast paced & rapidly changing world, importance of Music Therapy is also on the increase. Turning to Music Therapy help you with the overload of truly chronic stress that is taking over our lives is one of the most positive steps that you can take to bring some relaxation back into your life. Listening to music has an amazing effect on how you feel inside & out.

There has been much research done in the field of Music Therapy and it supports its effectiveness. One of the stronger benefits of Music Therapy lies in its ability to promote relaxation, reduce Anxiety & enhancing Self Esteem. Music Therapy also known as sound healing, is an automatic process of deep inner healing set in motion through the right combinations of sounds that resonate within and fill the space around us. The ancient musicologists and mystics of India, who developed sound therapy, observed that Sound has an invincible power. Nothing is an exception to its laws of natural harmony. Sound therapy is an arrangement of sounds, in a specific order and design, to invoke different feelings that influence our very DNA.

Much scientific study has been done relating how our feelings affect our bodies and minds. When sounds are arranged according to the principles of the ancient music of India, which are based on the natural scale, they are naturally therapeutic. Musical sounds have a natural harmony between them. When combined in a specific manner, they have a dynamic and powerful effect in balancing the energies of the body. Therefore, the arrangement of tones for different times of day, night and seasons, and how they relate with the changing states of body chemistry, were at the very center of study for ancient Indian masters of 'sound' and 'music'.

The human body is like a musical instrument, expressing numerous frequencies and rhythms in a constantly changing spectrum of life. It responds and resonates in consonance with music, sounds, speech and thought from the environment, and undergoes changes of heart beat, breathing, blood chemistry and circulation of energy in various organs of the body. Certain sounds have negative and destructive effects over the body. When such sounds are received and registered by the Chakras (The Energy Centers) and cells, the balance or equilibrium of the energies is disturbed. This abnormality produces a pressure over various organs, systems and cells and ultimately over the entire body. In this system of Sound Therapy, specific sounds are used that deal directly with the root causes of imbalance by:--Purifying and re-organizing the energy patterns that surround the individual in the form of an ever-expanding and contracting magnetic field (AURA). --Penetrating the human body through the skin, the chief sensory organ, and balancing the frequencies of Chakras and cells, thereby regulating the flow of energy throughout the entire body. Music Therapy deals with problems related to the mind and its complexes; to emotional imbalances; and finally to physical problems.

TYPES OF MUSIC THERAPY

One is active mode of Music Therapy. The other one is passive mode of Music Therapy. Music Therapy is helpful in both forms - sickness and wellness. In this both forms, Music Therapy

helps to restore good health and helps to maintain the same. Active mode requires participation of the patients in the Music Therapy sessions, while the passive mode of Music Therapy requires mere involved listening. In the medical field, passive form of Music Therapy plays a dominant role in the betterment of the patients. The active mode of Music Therapy is useful in Pediatric areas and in few of the Neurological problems. In the Pediatric areas, the active mode of Music Therapy helps for the hyper active child to reduce the over activity in a given period of time and enhance the quality of concentration in child.

With regard to speech difficulties in children this active mode of music enhances the quality of fluency in speech. Music training also enhances the Verbal Memory improvement in children. Many of the behaviour problems in children and developmental delays and other problematic behaviours also may be attended through active mode of Music Therapy. Music Therapy in expressive behaviour, imagination development in children, and projecting the ideas while participating etc., are all feasible in this active mode. In the neurological areas the neurological aphasia; both the receptive and expressive aphasia may get the necessary stimulation, required to bring back the needed communication in patients. The lyrics in active music surely triggers the memory folders in the brains of patients and helps to revive the same. The passive mode/form of Music Therapy may surely be implemented in almost in all areas of medical field as an alternative or as an adjunct or as a complement to medicine.

THEORETICAL BACKGROUND

The theory of multiple intelligences differentiates human intelligence into specific 'modalities', rather than seeing intelligence as dominated by a single general ability. Howard Gardner proposed this model in his 1983 book *Frames of Mind: The Theory of Multiple Intelligences*. Gardner proposed seven abilities that he held to meet these criteria:

1. musical-rhythmic,
2. visual-spatial,
3. verbal-linguistic,
4. logical-mathematical,
5. bodily-kinesthetic,
6. interpersonal,
7. intrapersonal
8. existential and
9. moral intelligence

Musical-rhythmic and harmonic Intelligence:

This area has to do with sensitivity to sounds, rhythms, tones, and music. People with a high musical intelligence normally have good pitch and may even have absolute pitch, and are able to sing, play musical instruments, and compose music. They have sensitivity to rhythm, pitch, meter, tone, melody or timbre. In spite of its lack of general acceptance in the psychological community, Gardner's theory has been adopted by many schools, where it is often conflated with learning styles and hundreds of books have been written about its applications in

education. Gardner summarizes his approach with three recommendations for educators: individualize the teaching style (to suit the most effective method for each student), pluralize the teaching (teach important materials in multiple ways), and avoid the term "styles" as being confusing.

Effect of Music on Brain cells

When a neuron (a cell that carries electrical impulses to various parts of the body) interacts with another, this process is called neuron firing. More firing means the brain becomes more active. The study showed that listening to raagas significantly spiked firings. Adding a scientific dimension, the IIT-K researchers found that when the subjects heard the Raga Darbari for 10 minutes, ease of concentration went up. It also improved thoughtfulness and the time in taking decisions reduced.

RECENT News on Music Raagas

As reported by Express News Service dated 12th December 2018

Various studies over time have shown that listening to music can calm a person down and positively impact general well-being. A recent study in Kanpur however, has found that listening to raagas of classical music can help people recover from a host of ailments. The research, carried out by the Indian Institute of Technology- Kanpur, suggests that in addition to overall well-being, these ragas have a positive impact in recovering from heart trouble, metabolism issues and even potentially fatal diseases like Hypertension. A group of 15 students participated in the study conducted by Professor Brijbhushan of the humanities and social science department, Professor Lakshmidhar Behera of the electrical engineering department and research scholar Ashish Gupta. During the study, students listened to ragas that they had not heard before and their brain activity was mapped by an Electroencephalogram (EEG) test.

According to the findings of the study, Raag Darbari can help bust stress when heard in the night. Similarly, listening to Raag Bhimpalasi in the afternoon has a magical impact on elevating the mood. The study also found that when specific raagas were heard at particular hours of the day, it helped cure various ailments like diabetes and hypertension. While Raag Deepak and Raag Jaunpuri ease out acidity, Raag Kalyani and Charukesi take care of the heart. Listening to Raag Puriya Dhanashree provides relief from stomach ailments.

The role of Ragas in Spiritual Enlightenment, Meditation and healing

Ragas are designed to help activate specific chakras, which allows the Kundalini energy to rise easily and energize and nourish the chakra. The raga also influences the chakra to maintain its optimum spin and balance, ensuring a balanced energy supply to different organs that are connected to the specific chakra.

The raga Shyam Kalyan helps activate the Mooladhara chakra. Chastity, innocence and wisdom are established in the process. This raga develops the quality of the Earth Element, i.e., gravity within, and our sense of smell and direction.

The raga Gurjari Todi (close to Subhapantuvarali in Carnatic Music) has a capacity to cool down the Liver. This raga and the raga Yaman help activate the Swadishthan chakra that governs our attention. Both ragas help focus wandering or wavering attention, which is crucial for effective meditation. These ragas also develop the quality of the Fire Element and make our personality creative, balanced, closely attentive and spiritual.

The raga Abhogi helps activate the Nabhi chakra and stimulate the digestion process. When the Kundalini enters this Chakra, the Chakra is cleansed, bringing about a change of attitudes and inner transformation. This raga is also known to bring about de-addiction [addiction cure?] in human beings — it helps one give up vices and impulsive or compulsive habits. This raga helps develop the quality of the water element.

The ragas Bhairav and Durga have a power of Divine bliss and protection. Both help activate the Anahat chakra. When the Kundalini touches the heart chakra, Raga Bhairav activates spirituality in the person. Raga Durga boosts self-confidence and helps develop the quality of the air element. These ragas also enhance the Divinity and Immunity in children.

The Raga Jayjaywanti (Dwijavanti in Carnatic music) helps activate the Vishuddhi chakra, the controller of the sensory organs. This raga also develops the quality of the ether element and the expression of voice, and helps make one's personality loving and sweet. The Raga Bhup (Mohanam in Carnatic) helps purify and open the Agnya chakra. It helps relieve tensions, anger and mental fatigue. The mood created by this Raga helps the Kundalini pass through the Agnya chakra and enter the Sahasrara in the limbic area of the brain. This causes the person to reach a state of thoughtless awareness and has a tremendous impact on our ability to forgive.

Ragas Darbari (Darbari Kaanada in Carnatic) and Bhairavi (Sindhu Bhairavi in Carnatic) are helpful in prolonging the state of meditation and thoughtless awareness. The notes of these ragas help relax and calm the emotionally-related limbic area. The Kundalini energy then soothes and nourishes the Sahasrara chakra and the brain. The result is that one feels, joyous, energetic, peaceful and relieved of tension and depression. The person also enjoys the sensation of a cool breeze on the finger tips and achieves the state of Self-Realization or enlightenment

Indian Classical music evolved out of the sounds and tunes were identified through vibrations of the energy centers; hence, Classical music is the organically ideal method for awakening the energy centers. Classical Indian musical tunes, melodies or Ragas are composed of notes arranged in some logical fashion to create a pleasing effect on the listener. A musician who has already received spiritual awakening already has a live energy system energy centers filled with vibrations. Music is a powerful carrier or medium for these vibrations to flow, and the musical notes rendered by spiritually awakened musicians can create resonance within the listener's energy centers, thereby awakening the listeners' inner energy and providing the ultimate pleasurable experience of vibrations and spiritual enjoyment, as well as complete tranquility and inner peace.

Notes are the atoms of any style or form of music. On the spiritual side, the energy centers in our body (chakras) can be made to vibrate or resonate at specific frequencies that match the

frequency of each of the musical notes. Several thousands of years ago, ancient sages learned original sounds from birds and beasts in nature. With further scholarly studies, they established the basic notes in music known as "Swaras." They established a particular order in the notes with specific intervals. Thus were born the seven basic notes: *Sa, Re, Ga, Ma, Pa, Dha, Ni*, which corresponds to *Do Re Me Fa Sol La Ti* in the Western style of music. Each note corresponds to a specific frequency of sound. In fact, the notes themselves were discovered or determined by ancient sages on the basis of energy vibrations within the inner subtle energy system and cosmic energy. Each note corresponds to the frequency at which a specific principal energy center in our body can resonate. Therefore, when a musician presents a melody or raga or tune, the energy centers can be made to vibrate, once the Kundalini energy has been awakened. The energy itself is first awakened through a combination of the vibrations transmitted by the enlightened artist and a strong desire in the listener.

CONCLUSION

While awakening or spiritual enlightenment can happen through various techniques (such as yoga, meditation or spiritual gurus), music especially Indian Classical (Carnatic or Hindustani) music is a powerful method for evoking spiritual awakening. Music makes it much easier to divert your attention inward, a key requirement for energy awakening. And music has resonance with the energy centers, thus it can naturally energize them more readily than other techniques.

Music has a 'whole-brain effect'. It activates both the right and the left hemisphere, neurodegenerative diseases such as dementia, Alzheimer's and Creutzfeldt - Jakob disease - with the exception of stroke - affect the whole brain, music may be more effective in preventing these diseases. Music therapy induces activity level changes in 'almost all' brain structures and modifies dopamine-pathway 'circuitry'

Whilst there is a great deal of supportive data for the use of music therapy, there is still more that can be done. More time could be spent on addressing the issues with music therapy

We have seen that music therapy has a broad and extensive history, that it has a dynamic relationship with the brain, offers unique advantages in comparison to a drug trial, has a range of positive effects on numerous illnesses or disorders and diseases (both physical and psychological) and we can also note that the science of music therapy continues to be explored in new and exciting ways. Although there is always more research that can be done - as with any area of science, this paper shows that there exists substantial evidence to support the use of music therapy alongside standard care in the prevention and treatment of illness in order to improve the lives of students worldwide.

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ACHIEVING SKILL COMPETENCE THROUGH UNCONVENTIONAL PRACTICES

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Abstract

The traditional conception of a teacher leading a lesson with a piece of chalk, vigorously scratching formulas, themes or motifs across a chalkboard, is ingrained in most of our minds. We grew up in a classroom where knowledge came from two sources: the instructor and the textbook. These may never change, but their ability to educate has been made easier with forward-thinking. Education is sometimes perceived as a sector which is resistant to change, while at the same time it faces a crisis of productivity and efficiency. Innovation could help improve the quality of education, as well as provide more “bang for the buck.”

“Innovation, to me, means finding any way we can to reach all of our students. This means being willing and flexible to adjust what we teach and how we teach. We have to keep our students engaged and excited to learn. We have to create a safe place for them to make mistakes, take risks, and ask questions.” Innovation in education is always seeking knowledge that will support new and unique ideas in instructional techniques that will reach the students in more effective and exciting ways. Innovation in education is stepping outside of the box, challenging our methods and strategies in order to support the success of all students as well as ourselves. This transformation may be small or a complete overhaul, but it is done with purpose and supports the whole student. Innovation in education means allowing imagination to flourish and not be afraid to try new things. Sometimes these new things fail but it’s awesome when they are a success. Without the right attitude, innovation would just be a word and the art of education would miss out on some great accomplishments.

These changes are needed to increase efficiency and improve the quality and equity of learning opportunities.

INTRODUCTION

Learning has to be meaningful for it to be applicable and long-lasting. Learning does not have to be conventional for it to be the best educational approach for a child. We cannot expect all children to take the same, common educational path; education cannot be a one-size-fits-all approach. What if many or all productive educational paths could be considered conventional? More and more, we are seeing a shift in the understanding of how differently children and young adults learn. We see many institutions offering unconventional approaches to education by assessing students based on projects and not on graded tests. Statistics are showing that enrolment in home-schooling is growing at a fast and furious rate. And we see parents and

teachers actively rejecting the common core and the growing overuse of standardized testing. Conventional education, standardized curriculums and across-the-board common goals should not be the only path to an education and future success. One size does not fit all.

Education and an ongoing love of learning is essential for all humans; so we should make sure that we offer a variety of paths to educational success so that each child can feel empowered to fulfil their potential, to have a healthy amount of self-esteem, and to have the knowledge and skills to follow their interests and chase their dreams. So we should provide each child with the appropriate education to find their personal success and happiness. There are many ways to get to there from here, and all productive educational paths should be considered acceptable, even conventional, so every child can feel successful.

UN-CONVENTIONAL TEACHING METHOD

Many renowned educationists of India have come up with unique learning and teaching systems. These unconventional teaching methods and learning practices are aimed to give the students an in-depth exposure of the subjects at hand and fill the educational experience with enlightening values. Some popular among these unconventional teaching and learning methods are:

- a. **Group and Panel Discussions:** in group discussion and panel discussions the students are not the passive recipients of the knowledge and information that sit silently in the classroom. Instead the students are encouraged to express their views, their arguments and points are analyzed and assessment is done of the assimilation of the subject matter.
- b. **Presentations:** There are two basic types of presentations made by the students – the prepared one and the extempore. In the prepared presentations students are assigned to present relevant data, information and illustrations on any fixed day. In extempore presentations students have to present the subject matter right at the very moment. Assimilation and presentation are two different aspects and students are made to learn both.
- c. **Debates and Speeches:** Like discussion and presentations, in debates the students are introduced to a topic and asked to debate on the possible pros and cons. The students are demanded either to speak in support of the premise, against the premise or give it a partial treatment and say about both the aspects. The debates reveal the critical thinking and understanding of the student on any given subject matter.
- d. **Role Playing:** Though it is not very common, but students are sometimes demanded to play the roles of the characters and depict a real situation. This method is employed mostly by educators teaching arts and humanities.
- e. **Film Viewing:** As per this method the students are shown films and documentaries on the subject topic. After watching the film, a test is conducted to note the impact on the students.

Students are asked to write critical appreciation, discuss on important points and put forward their findings.

Apart from the above-mentioned methods, there are many more unconventional teaching and learning methods that have been recommended by the renowned educationists. In education, student engagement refers to the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivation they have to learn and progress in their education. When students are engaged with the lesson being taught, they learn more and retain more. Students who are engaged in the work tend to persist more and find joy in completing the work. Students prefer that work where they can have hands-on activities and get to collaborate with their peers. They tend to be less engaged when listening to teacher lectures or doing repetitive tasks and "busy work."

Let us discuss five innovative teaching strategies that engage students:

- (I) inquiry-based learning
- (II) QR codes
- (III) problem-based learning
- (IV) wisely managed classroom technology
- (V) jigsaws.

These teaching strategies encourage students to use their imagination to dig deep when engaging with the content of the lesson. The students are actively involved with the learning and can work with their peers in collaborative groups to showcase their learning. Many of these strategies take students to levels of learning they never thought possible. The students actively seek knowledge and don't just sit and receive the knowledge from a lecture or worksheet.

I) Inquiry-Based Learning

Inquiry-based learning is one of the most powerful teaching strategies in the classroom because research tells us that students learn best when they construct their own meaning. Inquiry-based learning triggers student curiosity. Teachers act as facilitators during the inquiry-based learning process.

There are four steps in the process:

- Students develop questions that they are hungry to answer
- Students research the topic using time in class
- Students present what they've learned
- Students reflect on what worked about the process and what didn't

In a classroom where students research a topic then present their findings, inquiry-based learning allows students to "learn deeper and wider than ever before". In traditional teaching, students are less likely to ask questions and are expected to listen and answer questions posed by the teacher. Inquiry-based learning allows students to pose the questions and research and convert the information into useful knowledge, thus ramping up the level of student engagement.

II) QR Codes

QR (Quick Response) codes are easy to create and have multiple uses in classrooms at all grade levels. QR codes can lead students to information just by scanning the code on a student's digital device. In the classroom, students can use QR codes to

- Check their answers
- Extend information found in textbooks
- Access video tutorials on the material being taught
- Link students directly to Google maps

QR codes allow students to access information without leaving their seat. Students can even generate QR codes to showcase their learning with peers and parents.

III) Project-Based Learning

Research confirms that project-based learning (PBL) is an effective and enjoyable way to learn. PBL also develops deeper learning competencies required for success in college, career, and civic life.

Project-based learning uses real-world scenarios, challenges, and problems to engage students in critical thinking, problem solving, teamwork, and self-management. Once students solve the problem or challenge, they present their solutions. The problems students solve can be presented to community leaders to solve problems in their own community.

PBL uses collaboration, digital tools, and problem solving skills to come up with a solution to the problem presented. Why are so many educators interested in this teaching method?

- PBL makes school more engaging for students
- PBL improves learning
- PBL provides opportunities for students to use technology
- PBL makes teaching more enjoyable and rewarding
- PBL connects students and schools with communities and the real world.

IV) Wisely Managed Classroom Technology

Many schools have become one-to-one schools, i.e., each student has his or her own technology item (typically a tablet or computer) to work with each day. In some districts, students can take the technology home to complete their homework.

There is a delicate balance with technology use in the classroom. Teachers must use technology in a wisely managed way and with a variety of activities. Several activities that lead to student engagement are Google Docs, YouTube videos. These innovative apps and websites can help teachers engage their students, remind them about upcoming assignments and homework, provide visual learning through videos, organize student learning, provide group collaboration, and provide check-ups on learning through games and online quizzes.

V) Jigsaws

The jigsaw technique is a "tried and true" cooperative learning strategy that helps students create their own learning. Students are arranged in groups and assigned a different piece of information. In their groups, students learn the piece of information well enough to be able to teach it to another group of students.

When using this technique, students become experts on the learning as they teach their peers. Once all groups have learned their information, they are placed into new groups with members from each of the small groups. Each group member shares the knowledge they gained in their informational group. This technique brings lessons to life and challenges students to create their own learning. This challenge engages students and encourages them to share their learning with others.

Each of the techniques use strategies in which student's question, research, use technology, and create meaning from provided materials and research. These techniques also allow students to solve problems, challenge themselves, and present their findings to others. Student engagement builds on curiosity, interest, passion, and attention. All of the techniques showcased incorporate several of these needed items for student engagement. Modern pedagogy in higher education regards students as active participants in the shaping of the learning and teaching environment, not as passive absorbers of knowledge.

Innovative learning technologies Digital and online technology can fundamentally redefine the nature of the classroom. If delivered appropriately and to a high standard, courses that blend pedagogically-sound learning technologies can be highly effective, and participating students derive high levels of satisfaction. Learning and teaching should include real life examples and applications, and should focus on topics with applications that deliver benefit to society.

CONCLUSION

Higher education in the 21st century is about more than acquiring knowledge from a single discipline. Higher order skills, such as critical thinking, creative problem solving, teamwork, and communication, are becoming even more fundamentally valuable. As information and facts proliferate, the ability to navigate across a wide range of disciplines and to critically evaluate, extract and communicate meaning have become essential attributes for success in modern society. The accelerating pace of change of almost every aspect of our lives work, technology, interconnectedness, environment is placing new demands on our students. They must be ready for the future, better equipped to solve complex multidisciplinary problems, able

to bring fresh perspectives to global challenges, and motivated to become leaders in their chosen field. Increasingly, the most important element of modern pedagogy in higher education is not simply the teacher's transmission of information and the student's retention of facts but we must teach students how to handle and interpret concepts, evidence and ideas, how to think and act as experts and, ultimately, how to produce original insights and valuable knowledge for the benefit of society.

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IMPACT OF PHYSICAL ACTIVITIES ON STUDENT'S CONCENTRATION

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Abstract

A physical activity is considered to be correlated with academic performance of students. Physical activities play an important role in schools, as it smoothens and strengthens the entire process of learning and teaching. It creates conducive learning environment and helps the learners to develop a creative thinking and self-confidence. This study assesses how physical activities enhance the concentration level of students in daily classes. In recent years, this concept has been given importance especially in schools as it is observed that students have a low concentration level in studies. Hence, the objective of present research was to evaluate the effects of physical activities on student's concentration.

Keywords: *Physical activities, concentration, teaching learning process, adolescent, academic performance.*

INTRODUCTION

This research is based on a study to find out whether the physical activities practically delivered in a classroom can make a difference in a student's concentration. Physical activities can improve one's health and concentration. It can have an immediate and long-term health and concentration benefits. Most importantly, regular activities can improve the quality of life. A minimum of 30 minutes a day can allow the students to enjoy the benefits of physical activities. Physical activities can have an impact on cognitive skills, attitudes and academic behaviour, all of which are important components of improved academic performance. As the focus on academic achievement has increased, physical activities opportunity in schools has also increased. In an attempt to discover how PA on cognition and academic achievement in children for more than 50 yrs. This review takes a historical perspective on the science of PA. In recent years, the overall quality of the studies has increased, but the results continue to be inconsistent.

The majority of conclusions show a positive effect of physical activities on student's concentration. Future studies should use strong study designs to examine the types of physical activities needed to increase student's concentration. Regular exercise releases brain chemicals key for memory, concentration and mental sharpness. It helps maintain concentration and improves energy, lifts mood, lowers stress and anxiety and keeps the mind fresh, all of which contribute to brain health.

Physical activities can help students focus and stay on task. The best scientific evidence comes from testing school children, but the same most likely applies to us all. Interspersing lessons

with 5 minutes of physical activities improved the attention span of Rizvi Springfield High School students. Due to physical activities the students become more adept at ignoring distractions, multitasking and manipulating information in their minds. Just 10 minutes of playful co-ordination skills, like bouncing two balls at the same time, improved the attention of a large group of students. Physical activities improve the self-esteem of students.

CONCENTRATION

Concentration is the ability to direct one's attention in accordance with one's will. It means control of the attention. It is the ability to focus the mind on one subject, object or thought and at the same time exclude from the mind every other unrelated thoughts, ideas, feelings and sensations. Concentration is a state, in which one's whole attention is engrossed in one thing only, and being oblivious to everything else. Most people lack the ability to control their attention and focus the mind exclusively on one subject.

PHYSICAL ACTIVITIES

Classroom physical activities include physical activities performed in the classroom. It includes integrating physical activities into academic classroom instruction as well as providing breaks from instruction specifically designed for physical activities. It is getting your students moving in the classroom to boost their daily minutes of physical activities and also to improve their behaviour and attention to help them focus on learning when they return to their seats.

TEACHING AND LEARNING PROCESS

Teaching is a set of events, outside the learners which are designed to support internal process of learning. Teaching (Instruction) is outside the learner. Learning is internal to learners. You cannot motivate others if you are not self-motivated. Motives are not seen, but, Behaviours are seen. Is learning a motive or behaviour? Learning is both a motive and behaviour but only behaviour is seen, learning is internal, performance is external. Concept of Learning: Learning is about a change: the change brought about by developing anew skill, understanding a scientific law, changing an attitude. The change is not merely incidental or natural in the way that our appearance changes as we get older. Learning is a relatively permanent change, usually brought about intentionally. When we attend a course, search through a book, or read a discussion paper, we set out to learn! Other learning can take place without planning, for example by experience. Generally with all learning there is an element within us of wishing to remember and understand why something happens.

ADOLESCENT

Adolescent is a term used to describe young people who are no longer children but who have not yet become adults. It also refers to their behaviour. Adolescence typically describes the years between ages 13 and 19 and can be considered the transitional stage from childhood to

adulthood. However, the physical and psychological changes that occur in adolescence can start earlier, during the preteen or "tween" years (ages 9 through 12).

ACADEMIC PERFORMANCE

Academic achievement or performance is the extent to which a student, teacher or institution has achieved their short or long-term educational goals.

OBJECTIVES OF THE STUDY

- To enhance the concentration level of 8th and 9th standard students of Mumbai Suburban School.
- To analyse the effects of physical activities on the concentration of the 8th and 9th students of Mumbai Suburban School

HYPOTHESIS

The following null hypothesis was formulated keeping in view the objectives of the study
There is no significant effect of physical activities on concentration level of 8th & 9th standard students

METHODOLOGY FOR THE PRESENT STUDY

A) Population and Sample: In this study researcher consider *Adolescent school students from English medium school of Suburban Mumbai as population and the physical activities were performed with the whole population.* From the population researcher selected 35 students as a sample by convenient sampling.

b) Tool used: *Short orientation memory concentration test* by Katzman R, Brown T, Fuld P, Peck A, Schechter R, Schimmel H. "Validation of a short Orientation-Memory-Concentration Test of cognitive impairment." *Am J Psychiatry*. 1983; 140; 734-739. A well-studied test, which is (so far) little used. It has been validated against neuropathology, and was derived from the longer Blessed scale. Reliability not formally tested. The score correlated highly ($r = 0.92$) with the full scale and it was almost as sensitive as the longer test. Any error score of 0-6 is within normal limits. Scoring is difficult as originally devised and as shown, and it is more easily understood if scored positively, subtracting from maximum (for item) for each error. This gives a 0-28 score with a higher being better, scores over 20 being 'normal'.

STRATEGIES USED AS INTERVENTIONS

- Carrom - Carrom is a game similar to billiards, but is played on a plywood board using wooden pucks called carom, hitting the coins with force in a set direction, using straight shot, normal shot, straight cut, punch, rebound, press etc. Break, give importance to queen, easy cover, check blocks

- Hit the target – split the target circle in multiple sections (A,B,C,D) the archer that hits with full concentration at the centre wins a point, the next archer go to the shooting line and the game continues
- Lemon and spoon race- a lemon and spoon race is a sporting event in which participants must balance a lemon upon a spoon and race with it to the finishing line. Blow the whistle, signalling the start of the race. The player that reaches the finishing line first wins.
- Yoga session –the word yoga is derived from Sanskrit root ‘yuj’ which means ‘join’ or ‘unite’. This may be taken as the union of body, mind and soul. It helps in increasing concentration.

PROCEDURE FOR THE PRESENT STUDY

Experimental method of research was employed for the present study. The tools employed in the study were administered on school students before and after the physical activities intervention. The response received on different tools were analysed through statistical applications using Mean, S.D and t test to analyse the effect of physical activities on student’s concentration

STATISTICAL ANALYSIS

Descriptive method of study was employed for the present study. The tool (*Short orientation memory concentration test*) was employed to assess the concentration levels of the school students and as intervention physical activities were given to them. After the intervention again, same tool was employed to them and post test data was collected. The results are as following in table 1.

Table indicated that there are significant differences between the students concentration levels in pre and post mean. The pre concentration mean is 17.029 and post intervention concentration mean is 24.3529 which clearly indicated that physical activities increase the level of concentration of the students. The obtained t-values on, is -6.46 which is significant on 0.01 level of significant. Hence the hypothesis ‘there is no significant effect of physical activities on concentration level of students’ is rejected.

Table 1- Concentration Level

CONCENTRATION LEVEL			
	A (Pre-test)	B (Post-Test)	Total
n	34	34	68
Summation (X)	579	828	1407
Square of Summation (X²)	11027	20438	31465
Mean	17.0294	24.3529	20.6912
SS	1166.9706	273.7647	2352.5147
Mean A- Mean B	---	--	-7.3235
t	----	----	-6.46
df	----	----	66
P one tailed	----	----	<.001
P two tailed	----	----	<.0001

CONCLUSION

Students in different situations experiences failure and a wide range of stress that could vary from positive to negative such as happiness, satisfaction to sadness, anger and frustration. They have expectations from themselves that may be further reinforced by teachers during school hours. Making classroom physical activities part of every student's day can contribute to their academic development and concentration. Physical activities also help students to be mentally and physically active. So physical activities and academic performance are related to each other and bears positive influence on the minds of adolescence. It is perceive that these activities increases student's focus on studies and help them increase their concentration. In the present study findings indicated that the practice of physical activities improve students concentration. The students who participated in this study frequently report an improvement in their concentration level as well as overall wellbeing. Present research finding focuses that physical activities is an effective intervention strategy which improves the mental and physical health as well as concentration level of students.

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DEVELOPING SPIRIT OF ENTREPRENEURSHIP AMONG COMMERCE STUDENTS: ACTION RESEARCH

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Abstract

Junior and Senior college courses in Commerce that introduce the concept of entrepreneurship in curricula, tend to be concentrated around business and management domains and are not necessarily encouraged at Junior college level. The goal of the study is to encourage a different mindset among young talent that encourages them to consider what they might be able to do that is of an entrepreneurial nature, a can-do attitude. Work is already being done to identify examples of good practice when it comes to teaching and practicing entrepreneurship – both locally and internationally – and to then develop a set of best practice teaching and learning that is suited to encourage spirit of entrepreneurship in students of Commerce. The study is an experiment that focuses on developing entrepreneurship skill and attitude amongst students of Junior College through project titled ‘Startup India.’ The Researchers administered ‘Entrepreneurial Self-Assessment Survey’ as a test to assess spirit of entrepreneurship in students of class XII of Rizvi College of Education. They further plan intervention modules to create a positive impression about taking up business as a vocation and career choice.

INTRODUCTION

Commerce is a popular subject among students especially for those, who wants to pursue career in banking, trade and business domains. Commerce provides solid understanding of business issues and processes, their resourcefulness and their problem-solving and leadership skills. They are highly sought after in a wide variety of professions in the public and private sectors, ranging from investment banking and accounting through to management consultancy and marketing. The question arises are we able to foster in commerce students all these skills. Do we give them the confidence to become an entrepreneur, do we instill love for things beyond becoming MBA, CA and CS or other office jobs. The numbers will be abyssal as the focus of commerce teaching and its potential is yet to reach its highest zenith. Thus the present scenario looks at encouraging the spirit of entrepreneurship in commerce students to help them think in that direction.

NEED OF THE STUDY

When you think of imparting entrepreneurship skills to students, most educators will likely go the obvious route — how can we teach students to build successful businesses that will help

them in their post-graduation careers. But there are also a host of skills that successful business leaders use every day that can help students no matter what path they choose. In today's world, educated people are unemployed. This leads to physical, mental and emotional dissatisfaction to the concerned individual. It could lead to dire consequences. Hence Entrepreneurship gives an individual the independence of choosing a field and working independently and innovatively. Students of commerce have the basic knowledge of business which would help them in their venture. Their success in business will help the nation economically. The study assesses the values students assign to being a business person and his apprehensions and attitude towards the same. It is the need of the hour to study the mindset of commerce students who only think of becoming CA, MBA or CS. Business is also a choice that students can make is something that the present study wants to affirm strongly in light of young people starting their own business in India and abroad.

IMPORTANCE OF THE STUDY

With the help of this research, the college students get a better perspective of the future in entrepreneurship. The benefits of entrepreneurship are freedom to pursue their own vision, control and flexibility students would have over their own time, opportunity they would get to learn and gain knowledge, the highs and lows of self-employment and the sense of pride and fulfilment in accomplishing things. The researcher got feedback from the students about their future plan, uncertainties, fears in self-employment and their capital requirement. With this feedback, suggestions can be given to parents and teachers. New ideas can be shared with the students. Parents can understand their children's need and give them confidence and financial help. In her many years of studying 21st century skills, researcher *Lemke* has identified five key skills that are essential to becoming a successful entrepreneur. She describes these skills as tolerance of ambiguity, calculated risk-taking, persistence, evidence-based reasoning, and self-direction. Entrepreneurs are adept at taking ideas from different sectors and combining them in new ways that nobody has thought of before. To do that, they must be able to see connections between ideas and make new meaning from them. And that's what learning is about as well. By teaching students the skills they'll need to become effective leaders and innovators, educators are preparing them to be better learners, too—which is why these skills are important for all students to develop. The study will present entrepreneurship in new light and highlight it as a career choice.

OBJECTIVES OF THE STUDY

- To carry out a comprehensive study in order to assess the degree of Entrepreneurial abilities among Junior College students of Rizvi College of Commerce , as a career option.
- To develop an interventional module to encourage entrepreneurial spirit amongst Commerce students of Rizvi College of Commerce.
- To study the effectiveness of the interventional module on entrepreneurial spirit amongst Commerce students of Rizvi College of Commerce.

LITERATURE REVIEW

Entrepreneurship is a consistent process of being inspired, adventurous and prepared. It plays a vital role in economic development and brings significant changes in the economies of market. In the light of changing business scenario, earlier studies have shown certain factors that affect development of entrepreneurial skills.

- A study done on the topic ‘Evaluating critical factors affecting micro-entrepreneurial success in India: a study of Jharkhand region’ by **Namrata Chatterjee and Niladri Das** found that Entrepreneurial self-efficacy is a pertinent construct to measure success of entrepreneurs.
- **Ward (2004)** said that ‘small business entrepreneurs have strong; internal locus of control’ which makes them successful.
- Another study on ‘The Entrepreneurial Skills among students in Chennai’ by **Dr. J. Rengamani** of AMET University and **Dr. S. Ramachandran** of AMET University used Personal Interview method and found that Entrepreneurs do not emerge spontaneously on their own but they emerge through a process which is crystallization of social milieu from which a person comes, family imbibed personal attitudes, caste system, educational level, parental income, occupation and so on.
- Research conducted on ‘Entrepreneurship education in India and motivation for students to become entrepreneurs’ by **Layaraja.S and Dr. S.K.G.Ganesh** of Tamil Nadu found that Entrepreneurship as a vehicle of economic development and prosperity is becoming well understood and entrepreneurship education is on high demand and its importance will become well understood at all levels of education within this decade.

Foreign Authors have also done studies on Developing Entrepreneurship skills.

- **Veronika Bikse** from University of Liepaja and **Inga Riemere** from University of Latvia conducted research on the topic ‘The Development of Entrepreneurial Competencies for students of Mathematics and the Science subjects : The Latvian Experience’ and mixture of qualitative and quantitative approach was used and they found that there is a unified system of methodological materials which provides the potential to develop entrepreneurial competencies of students.
- Another research conducted by **Zuzana Papulovaa and Jan Papula** from Bratislava on the topic ‘Entrepreneurship in the Eyes of the Young Generation’ in which Questionnaire method was used and the researchers found that Entrepreneurship is perceived positively, as a way to increase employment, growth in living standards, promote common interests and objectives.
- A research study conducted by **N.M. Tawil, R. Hassan, S.Ramlee and Z. K-Batcha** from Malaysia on the topic ‘Enhancing Entrepreneurship Skill Among University Students by Online Business Simulation’ in which descriptive analysis method was used found that Students in UKM see the entrepreneurship course as often student occupational aspirations. Research also found that Student in UKM are interest with latest technology that can help them to understand the entrepreneurship simulation more easily than normal teaching technique in classroom. Eighty percent students agreed that online course can provide basic knowledge of entrepreneurship and stimulate interest in students to become entrepreneurs in future.

METHODOLOGY AND APPROACH

The researcher's method is descriptive and the approach to the present study is Action Research based. It aims at developing entrepreneurial skills amongst the Commerce students of Junior college. The purpose of action research is to encourage students through various intervention programs which help the students to develop the spirit, qualities and skills required to become an entrepreneur in this dynamic world. It is concerned with the mindset of the youth students of the Commerce stream which mostly aim to be job seekers than job creators. It is conducted in a local setting. The results may be generalized to any other settings but may not be characterized by the same kind of control evidence in other categories of research. The primary goal of action research is to make the students aware of the entrepreneurial skills which helps them to start-up their own business. It assesses themselves as whether they feel they are fit or not to take up a business. After the self-assessment will be implemented intervention module to enhance spirit of entrepreneurship in commerce students. The researchers will share the findings of the study with the college authorities and teachers of commerce college as well.

SAMPLING TECHNIQUE

Convenience sampling technique is used by the researcher. Data has been collected from Junior College Commerce students of Rizvi College of Commerce studying in class IX consisting of 29 male and 19 female students bringing sample size to 48. Only students who were willing to take part in the study were considered. It was made sure that the same set of students were available for the entire duration of the study.

TOOL FOR DATA COLLECTION

Data was collected after seeking written permission from Rizvi College of Commerce. The tool used for the research was a 20 items questionnaire designed to Self-Assess the ability amongst Commerce students to become an entrepreneur. Each item is to be answered carefully and accurately by placing a score from the rating scale.

Entrepreneurial Self-Assessment Survey was developed by the Women's Initiative for Self-Employment. It consists of 20 items questionnaire that measures the different levels of ability for becoming an entrepreneur. The tool uses a 5 point rating scale. The ratings are as follows:

1. Strongly Disagree
2. Disagree
3. Somewhat Agree
4. Agree
5. Strongly Agree.

Score	Assessment
80-100	You have outstanding ability to be an entrepreneur
60-79	You have satisfactory ability to be an entrepreneur
40-59	Self-employment may not be an appropriate career for you
0-39	You should probably avoid entrepreneurship.

DATA ANALYSIS & FINDINGS

Table 1

Measures of Central Tendency and Variability

on Entrepreneurial Self-Assessment Survey Amongst Junior College Commerce Students of Rizvi College of Commerce

Sample	N	Mean	Median	Mode	SD
Male	29	74.41	73	73	6.95
Female	19	77.89	78	85	6.15
Total	48	75.79	76	73	6.80

Table 1 shows the measures of Central Tendency i.e. the mean, the median and mode scores of males, females and the total sample. It is apparent from the table that the mean score of females is slightly higher as compared to males. The mean scores for the total sample lies at 75.79. This indicates that females have better spirit of developing entrepreneurial skills than male students. The standard deviation measures how concentrated the data are around the mean; the more concentrated, the smaller the standard deviation. In this case, the SD lies at 6.95, 6.15 and 6.80 respectively.

Table 2

Levels on Entrepreneurial Self-Assessment Survey Amongst Junior College Commerce Students of Rizvi College of Commerce

Sample	Outstanding ability	Satisfactory ability	Self-employment is not an appropriate option.	Avoid entrepreneurship
Male	20.69%	75.86%	3.45%	-
Female	31.58%	68.42%	-	-
Total	72.92%	25%	2.08%	-

Table 2 shows the different ability levels for measuring entrepreneurial skills amongst males, females and total sample. It is apparent from the table that the individual number of males and females have less outstanding ability as compared to the satisfactory ability but the total number of students have high outstanding ability than satisfactory ability level. It shows that the males have higher satisfactory ability as compared to females and the females have higher outstanding ability as compared to males.

DISCUSSION

The discussion here is based on the result and research findings. The result of this study shows that the outstanding ability level for becoming an entrepreneur among junior college commerce students in Mumbai is higher among females than males. This shows us that maybe the female

students feel more confident about starting a new business as the qualities like risk taking, decision-making, leadership, hard work, time management, etc. required for entrepreneurship are just similar to that of managing household duties and the other aspects of her life. She inherits the same skill set and competencies as that of an entrepreneur and as now-a-days, more females are getting highly educated and are more exposed to the various challenges of life. Moreover, the satisfactory ability level among junior college students is higher for males than females as males are perceived to be job creators than job seekers. Maybe, instead of having a stable income, they want to start a business on their own which may give them profits, be their own boss and fulfil their dreams and contribute to the nation's economic development. Plus, the mean (i.e. the average number of students) is around 75.79 which means that they are aware about entrepreneurship from the theoretical knowledge given in their syllabus but have no practical exposure towards it. By being a commerce student, they should no doubt be well-versed in their theory but should even have a little exposure of the outside business world and to be precise of entrepreneurship which would not only help them in realizing their entrepreneurship skills but this would also help in their ability to do all sorts of work in their career. The teacher on the other hand, through the help of intervention modules facilitate the students in developing and realizing their ability towards becoming an entrepreneurship.

PLAN OF ACTION AHEAD

The Researcher will implement an intervention module comprising of 8 sessions of about 45 minutes each to the sample. The module will consist of various strategies to inculcate spirit of entrepreneurship in students. It will also look at clearing pre-conceived notions and biases that prevent students from thinking of business as a vocation. The session will also have one part wherein the sample will develop a business idea and ask for funding by convincing judges/funding agencies of their product and service. This will be a mock/simulated session and will give students practical exposure to the world of business. One of the eight sessions is detailed here for reference, purely as sample.

Session points	Teaching-Learning Strategies	Learning Outcomes
<p>Food Delivery Apps</p> <p>Food Panda</p> <p>Swiggy</p> <p>Uber Eats</p>	<p>The teacher will start by showing an advertisement of Foodpanda.</p> <p>Link for the video: https://www.youtube.com/watch?v=XJ2au2vSGXE</p>	<p>The pupil understands that capital is not the only requirement to start a business.</p>
<p>Online Shopping Businesses</p> <p>Amazon</p> <p>Flipkart</p>	<p>After the video, along with the help of a ppt , the teacher will pose the following questions:</p> <p><i>Do all business need a fixed office to operate its business? / is it</i></p>	<p>The pupil recognizes that an idea can do wonders for starting up a business, if executed properly.</p> <p>The pupil compares similar businesses to</p>

<p>Jabong</p> <p>Taxi Aggregators</p> <p>Ola</p> <p>Uber</p> <p>Tab cabs</p> <p>The teacher may choose to pick some other entities as per his/her choice of instruction.</p>	<p><i>important to have a fixed office place for a business to operate?</i></p> <p>The teacher asks the questions to make the pupil understand that a fixed office is not always an important aspect to start a business, as we are living in a modern technological equipped words, a business can be started online through your own house or anywhere in the world. Therefore, the place doesn't come as an obstacle for us in starting our business.</p> <p><i>Are huge investment/ capital the main criteria to start a business?</i></p> <p>The teacher asks the above question to clear the misconception of the students that without capital, no business can be started, as Food panda, the concept/idea was the main reason for its flourishing, similarly, our idea of business along with a minimal investment can do wonder for the business.</p> <p><i>What happens after starting up a business, for e.g. if two businesses are started together, why is it that one business flourishes while the other doesn't recognize its identity in the market?</i></p> <p>(expecting the students to answer in the direction of sustainability) the teacher asks the above question to make the pupil understand that by only starting up a business , is not the achievement of business goals, sustenance is equally important.</p>	<p>recognize their ability to progress.</p> <p>The pupil recognizes that sustainability plays a major role for any business.</p> <p>The pupil compares a business from where it started and where it has reached now.</p> <p>The pupil analyses the concept of business without having an office, by starting up through the online mode.</p> <p>The pupil understands that small and intelligent investment is important for business.</p> <p>The pupil understands the exposure of risks associated for starting-up a business.</p> <p>The pupil points out the essential qualities of an entrepreneur like:-</p> <p>Innovator Hardworking Risk Taker Dreamer Team Builder etc.</p>
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	The teacher asks students to illustrate the qualities they feel are necessary to be an entrepreneur in light of examples shared by the teacher.	
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The present study is undertaken under Dr. Radhika Vakharia, Teacher Educator, Rizvi College of Education. She teaches Pedagogy of Commerce and hugely interested in enhancing teaching/learning practices in Commerce at Junior/Senior College level.

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THE EFFECT OF POSITIVE STUDENT –TEACHER RELATIONSHIP ON STUDENT MATHEMATICS PERFORMANCE

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Abstract

This research study explored the affective domain of teacher–student positive relationships. This study investigates how a supportive relationship between teachers and students in the classroom can improve the learning process. By having a good relationship with student’s teacher can offer to student’s chances to be motivated and feel engaged in the learning process. Students will be engaged actively in the learning instead of being passive learners.

The result shows that teachers and students value a supportive and caring relationship between them and that interaction is essential to the teacher-student relationship. This sense of caring and supporting from teachers motivates students to become a more interested learner. Students are motivated when their teachers create a safe and trustful environment and also the methods and strategies teachers uses, makes students feel engaged and stimulated to participate in the learning process.

Positive relationship with their teachers positively impacts their interest and motivation in school which contributes to the enhancement of the learning process.

Keywords: *Mathematics, Teaching Learning Process, Adolescents, positive relationship of teacher-student.*

INTRODUCTION

In class a positive student teacher relationship is one of the most important way to enhance the performance of child in any subject. In this study where 40 students of Bandra Hindu Association school was considered, it was found that the students have performed well in test when lecture was conducted by maintaining a positive relationship by supporting caring and empathy as compared to the test which was taken without these relationships. Lot of previously done of research has shown that student teacher positive relationship helps the student perform well and they show more interest in studies as a result their performance increases.

This research is based on a study to find out how much positive student teacher relationship affects the student’s performance in the subject of mathematics, when teacher maintains positive relation with student and gives them individual support and care during the lecture and even after the lecture, it helps the students to make the mathematics subject interesting. It also

show that as the student's interest increases their level of grasping a particular subject also increases which result in better intelligence.

Positive Relationship

- A close and harmonious relationship in which the people or groups concerned understand each other's feelings or ideas and communicate well.
- Positive relationships are friendships, kinships, or other social associations that provide productivity within a person's life. Positive relationships are crucial for an individual's happiness, productiveness, and are the foundation of a person's support system. A person who engages in only positive relationships is more likely to live a productive, fruitful lifestyle. Positivity encourages a student to leave behind his or her sorrows and concentrate on the task assigned in the class with trust and interest. Positive relationship can also be established on the basis empathy and often even sympathy as stated by (Neel. B, 2015). Keeping these in mind and holding the essence of positivity in the mind, in this study, the researcher has tried to inculcate this in the pedagogy of mathematics.
- Positive relationship is a relationship which brings out the best as they are comfortable with each other to motivate exchange and share their ideas and their beliefs without being judged.
- Positive relationship where everyone is optimistic as they are comfortable motivated and have a good report.

Student-teacher positive relationship

Positive teacher-student relationships promote a sense of school belonging and encourage students to participate cooperatively. Students develop confidence to experiment and succeed in an environment where they are not restricted by the fear of failure. Teachers are able to assist students with motivation and goal setting, and students can turn to them for advice and guidance.

Student Performance

Student performance in a case method course may be assessed along a variety of dimensions including class participation, individual written work on papers and exams, and group activities such as projects and presentations.

Mathematic

Mathematics includes the study of such topics as quantity, structure, space, and change. Mathematicians seek and use patterns to formulate new conjectures; they resolve the truth or falsity of conjectures by mathematical proof. When mathematical structures are good models of real phenomena, then mathematical reasoning can provide insight or predictions about nature. Through the use of abstraction and logic,

Mathematics developed from counting, calculation, measurement, and the systematic study of the shapes and motions of physical objects. Practical mathematics has been a human activity from as far back as written records exist. The research required to solve mathematical problems can take years or even centuries of sustained inquiry.

Student-teacher Relationship:

According to Kim Lee “One of the most pure and deeply inspirational relationships is that of a devoted teacher and willing students. Almost everyone has a favourite and those we liked less, it totally depends on how the student teacher relationship were developed, nurtured and given space to evolve”. (Kim Lee, 2016)

According to Baker.et al Aligned with the attachment theory positive student-teacher relationship enables the students to feel secure and safe in their learning environment and provides scaffolding for social and academic skills .Teachers that support students in learning environment can positively impact their academic outcomes which are important for long term trajectory of academic achievement and eventually employment”. (Baker.et al 2008)

OBJECTIVES FOR THE PRESENT STUDY

To implement positive student teacher relationship as a intervention for effective mathematics teaching.

- To analyze the effect of positive student teacher relationship on 9th standard student.
- To evaluate the difference in mathematics performance of the student before and after intervention.
- To encourage student to study mathematics in interactive environment with teacher.

HYPOTHESIS FOR THE PRESENT STUDY

The following null hypotheses were formulated keeping in view the objectives of the study.

There is no significant effect of positive student teacher relationship on student’s mathematics performance.

METHODOLOGY FOR THE PRESENT STUDY**Population and Sample**

In this study researcher considered the population of the adolescents of Suburban Mumbai. The main age group was 12-14 years from 9th standard students (male & female).

Tools used

The tool for data collection is prepared by researcher, tool contained 3 different categories of questions, that is 5 question for 5 marks (each 5 questions for 1 mark), 3 question for 6 marks(each 3question for 2 mark) , 3 question for 9 marks (each 3 question for 3mark).All the questions in a tool taken from their class mathematics text book. Hence, it could be said that the questions were having fair validity.

PROCEDURE FOR THE PRESENT STUDY

Experimental method of research was employed for the present study. The tools employed in the study were administered on the students of 9th standard before and after the lecture intervention. The responses received on tool were analyzed through statistical applications using Mean, S.D., and T test.

Procedure

1. To study the effect of positive student-teacher relationship researcher used experimental method and took pre-test and post-test. Pre-test was conducted after taking normal lecture in 9th standard without any intervention on prepared tool.
2. After one month Post-test was conducted.
3. For Post-test interventions given by researcher to students of 9th standard for 10 days it included following techniques:
 - a) Positive care
 - b) Positive support
 - c) Personal attention
 - d) Positive motivation

Some Common Teaching Practices as intervention were as following

During the lectures which was conducted in the presence of care support and motivation researcher gave introduction in normal way and explained than researcher divide the 4-4 benches in group form and again revised the topics and asked individual group to discuss their doubts and difficulties, as researcher was asking difficulties in individual group students were comfortably asking because teacher gave personally attention to all individual.

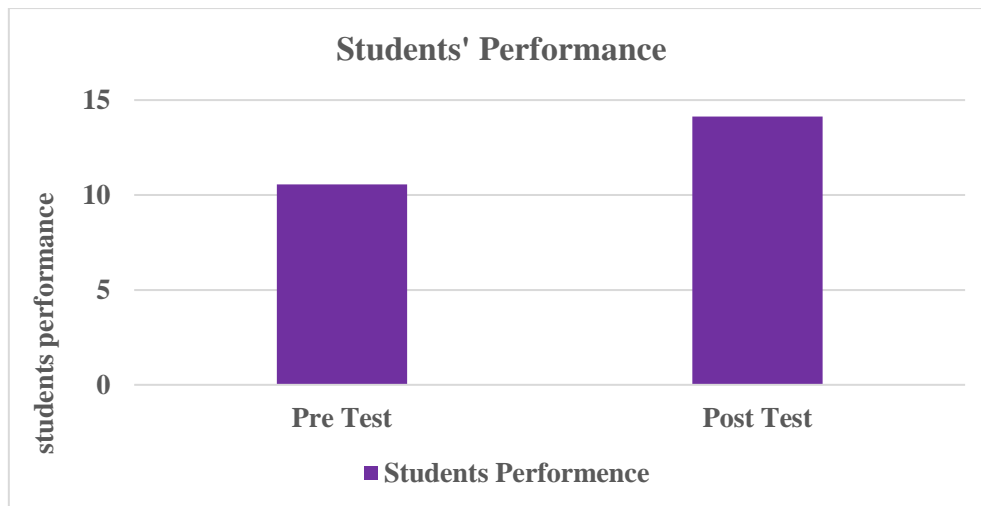
DATA ANALYSIS AND RESULTS

Descriptive method of study was employed for the present study. Pre-test and Post-test was conducted to study the effect of positive student-teacher relationship in the presence of care, support, attention and motivation. Pre-test was taken after normal lectures and Post-test was taken after creating positive relationship with student. The voluntary method of sampling was used to collect the data from 40 samples of adolescents from a Suburban Mumbai school using a mathematics question paper. Data is as follow

Table no. 1

Result Scale			
	Pre-test	Post-test	TOTAL
N	40	40	80
$\sum x$	422	565	987
$\sum x^2$	4728	8335	13063
Mean	10.55	14.125	12.3375
SD	2.62631	2.9767	--

Mean A- Mean B	--	--	-3.575
T	--	--	-5.62
Df	--	--	78
P one tailed	--	--	<.0001
P two tailed	--	--	<.0001



Graph 1: The Student performance

It is evident from the Table no. 1 that the mean scores of pre-test score and post test scores are 10.55 and 14.125 respectively. The t-ratio of both groups is -5.62 which are highly significant at .001 level of significance. It indicated that positive student-teacher relationship improves student's mathematics performance towards learning and writing and enhance their interest in learning. Thus null hypothesis that "There is no significant effect of positive student teacher relationship on student's mathematics performance" is rejected. Such that we can say that good and supportive relationship is needed to create safe environments and give student confidence and encourage them to work without pressure and become motivated to learn. Students feel motivated and stimulated to learn and actively interact with the teachers when the classroom is running in a safe and supportive environment.

CONCLUSIONS AND DISCUSSION

Findings show that the majority of teachers and students value a supportive and caring relationship between them and that interaction is essential to the teacher-student relationship. This sense of caring and supporting from teachers motivates students to become a more interested learner. A caring teacher will help students to overcome struggles. When teachers hold a positive relationship with students; they certainly impact on students' interests in school and therefore their level of achievement. Findings from the surveys showed that teachers feel that when they know their students, and they hold a good relationship with them, students are

more focused and they become harder worker thus they can better achieve their goals. This means that teachers who are more available to connect with their students, be open to her students, and care about them, will have a better chance to cultivate a positive relationship with them and students will respond well to this situation showing commitment to the class and their motivation to do well in class will increase.

ACKNOWLEDGEMENT

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THEMATIC TEACHING: BUILDING BRIDGES ACROSS DISCIPLINES AND DEVELOPING UNIQUE CLASSROOMS

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Abstract

21st century learning environments requires the learning spaces, tools, techniques and communities that encourage and enable students and educators to attain the specific skill-sets. The process of teaching and learning must be based on the themes expanding to other subjects. Theme-Based teaching is an approach to teaching in which the whole course is structured around certain themes or topics. Theme-Based teaching is one of the approaches with the broader model of content-based instruction (CBI) in which the emphasis is on exposing students to a highly contextualized environment by using the subject matter. In a theme-based teaching, various teaching activities are integrated around meaningful content, different skills areas, values are incorporated into the theme that acts as a connecting thread between various subjects providing learners with motivating and meaningful uses of the content and subject matter. Theme – Based Teaching also plays an important role for language learning through which new vocabulary items can be learned easily, providing a meaningful context for understanding. Teachers plan classroom programs around the themes, integrating curriculum areas into a single unit of study. These units vary in the subjects depending on their sources available and is extended by the students' enthusiasm and interest. The theme may be chosen by the teacher or in collaboration with the students bringing innovative ideas, resources and strategies to the learning process that is driven by their own interests. This paper talks about the need, importance, scope, aims & objectives of the study on the effectiveness of thematic teaching through reaction of students.

Keywords: Subjects, discipline, content, language learning, understanding, collaboration.

INTRODUCTION

Every child wishes to learn through a natural way. A child finds something that intrigues them, may be a foreign stamp or a stone. They want to know more and so that they start on a journey of collecting ideas and information. With the stamp, the child finds out about its source in history, the geography of its people, the music of their homeland, the art work within it, investigate its richness through science, draw its setting, sing its songs, write letters to find out more, investigate in books and on the internet. So the learning is never sluggish, but is vibrant and exciting. The child no longer wants a provider of facts copied from the board and learnt for homework but wants to break the boundaries of exploration. A child needs a common thread

of a topic to explore and discover more that gives them a taste of moving from one related area to another related area and constructing own knowledge. This is just like starting at a point of interest and branch out from it like ripples from a stone thrown in the water.

MEANING OF THEME TEACHING

Thematic means the same topic is used to develop the teaching plan (content and instructions) for each of the different subjects. The process of teaching and learning is presented based on the themes that will be expanded to other subjects. Thematic teaching is an approach used to language teaching where in whole course is structured around certain themes or topics.

Thematic teaching (also referred as thematic instruction, theme – based instruction or topic-based teaching) is an instructional method of teaching in which emphasis is given on choosing a specific theme for teaching one or many concepts. Together with topic-based teaching, which is similar but with a focus on a specific event or topic, it is a form of Phenomenon-based teaching. Thematic teaching takes place when different disciplines are all centred towards one definite concept. This is a creative and exciting form for learners, enabling them to notice the inter-relatedness of various subjects. It is based on integrating variety of information and using it to demonstrate the topic. Pedagogy of thematic teaching is based on its exploration of broad areas in one theme.

Thematic Teaching basically refers to the unification of all subjects and experiences, the structure and organization of specific content across disciplines, the same topic used to develop the teaching plan for each of the different subjects, thematic units drawing related topics from multiple disciplines.

THEME-BASED INSTRUCTIONS ARE NATURAL INSTRUCTIONS

Thematic structure integrates content areas, learning around a theme that makes sense to the children. It helps them make connections, to transfer knowledge and apply it. It fosters comparison, categorizing and pattern finding acting as building blocks of the scientific method. Thematic instruction can be a powerful tool for reintegrating the curriculum and eliminating the isolated, reductionist nature of teaching around disciplines rather than experience. It requires a lot of hard, initial design work, plus a substantial restructuring of teacher relationships and class schedules. It is the general feature of an integrated curriculum. It is a set of related teaching activities and experiences that effectively support teaching multiple content areas and skills organized around a central topic, idea or theme. It allows learning to be more natural and less fragmented than the way, where a school day is time divided into different subject areas and whereby children practice exercises frequently related to nothing other than what the teacher thinks up, as he or she writes them on the chalk board. For example, a theme that celebrates birds could include investigation of birds in the student's environment, writing a paragraph about one of these birds, learning about the science of flight, practicing bird calls and integrating them in a song about birds, solving math word problems on how far

birds travel or high they fly, making up a bird poem and bird dance, referring to non-fiction readings about bird communication, socializing, and growth from egg to bird.

SIGNIFICANCE OF THEME TEACHING

1. Theme – Based Teaching is important for language teaching (as suggested by Cameron, 2001) that new vocabulary items can be learned easily.
2. It provides a meaningful context for understanding, and for the natural use of a wide range of discourse types, both written and spoken.
3. Inquiry and communication are activated by a desire to know more, resulting in enthusiastic participation in the teaching process.
4. It attempts to combine two or more disciplines into one single approach.
5. It is a way of teaching and teaching, whereby many areas of the curriculum are connected together and integrated within a theme.
6. It guides connected ideas to follow on easily.

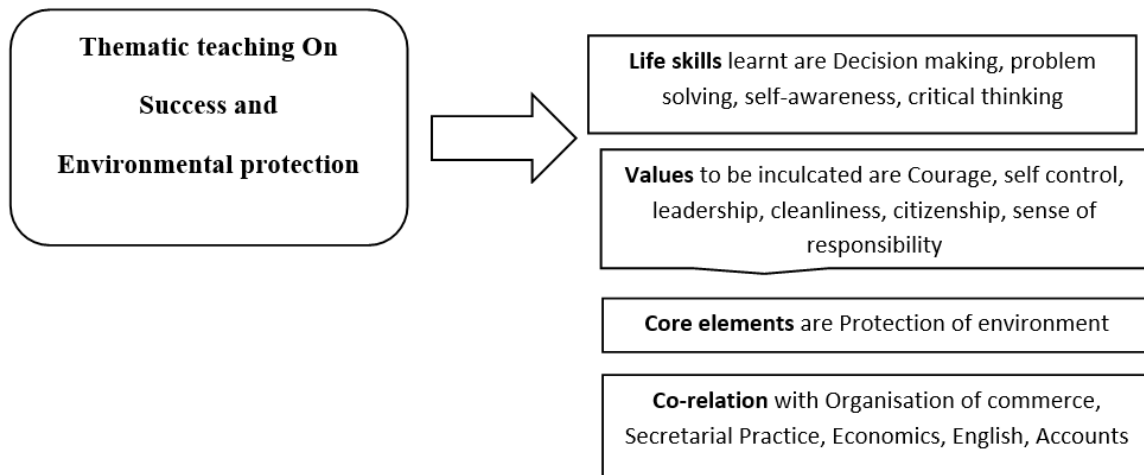
MAIN STEPS OF THEME TEACHING

1. **Identification of a theme:** Theme can be decided by teacher or students which can be a smaller concept (e.g. forest, weather, climate etc.) to a large and integrated system (e.g. ecosystem, atmosphere etc.) often connected to the students' everyday life.
2. **Integration of theme with existing curriculum:** Next step is designing the theme in an integrative ways to existing curricula keeping the skill and content knowledge in mind. This usually involves making changes to the class schedule, combining hours normally devoted to specific topics, teaching in teams, bringing in outside experts, and so on.
3. **Designing Instructions and co-curricular plans:** This step includes organizing other resources and extra-curricular activities for demonstrating the theme (e.g. organizing field trip or visit to botanical garden).
4. **Group activities and discussion:** It enables students to participate and reach on a shared perspective of the theme. This also helps in creative exploration of the subject.

TRANSCRIPTION OF THEMATIC TEACHING

Thematic Teaching is a strategy that connects all subject areas using a common "theme". This theme serves as the focus or the binding idea in which the objectives and activities of different

teaching areas will be based. This provides a purpose, a link that makes teaching integrated thus meaningful. For this strategy to be effective, teachers must collaborate in order to decide a central theme that can be used to teach a lesson or a unit. Then they can decide what activities that can be included vis-à-vis with the theme.



RESEARCH STUDIES

Sharing views on the present scenario of Indian education system, Sivaramakrishnan V, MD, Oxford University Press said, "Schools have to come out of the compartmental route strategies and encourage innovation and scientific temper among children. Theme-based teaching is the most effective method being practiced by many countries today." Explaining further about theme-based learning he said, "If a Class III child is learning about human body in biology, he will be learning the same topic in other subjects too. For example, in math he might be calculating the number of organs, bones and teeth. While in languages child will have an interesting and informative story on the human body; with this student will not only enjoy the subjects but also will understand it perfectly."

RATIONALE

There have been a great number of studies concerning the thematic learning. It has proved to be reliable to improve student's learning outcomes but also for the student-student and student-teacher interaction. In addition, metacognitive study of researches proves that the thematic learning is also able to foster the collaborative activity, giving rise the nurturant effect by increasing the responsibility and ability to cooperate with students. The research questions that come into the minds of the researcher were about what is Thematic Instruction? Is Thematic Instruction a unique educational philosophy? Does the thematic teaching provides opportunities for involving a wide range of students' potentials in the learning process? Does it make learning more meaningful? Does it provide enough opportunity for the involvement of various students' experiences? Are the raised themes are selected from the students, which may be originated from previous experience, and based on the perceived needs of students. To know the answer of all such questions researcher took up the study.

Assumption of the study

Thematic teaching is the selecting and highlighting of a theme through an instructional unit or module, course, multiple courses. It is an interdisciplinary approach highlighting the relationship of knowledge across academic disciplines and everyday life. Thematic instruction assumes students learn best when they can associate new information holistically with across the entire curriculum and with their own lives, experiences, and communities.

Designing of thematic units

Thematic instructions were designed for curriculum delivery based on themes such as: wealth, discovery, and conflict. The study included assessing reaction of student attitudes towards thematic module related tasks (Interest in Science, Technology, Writing Tasks, Interest in Social Studies, and Student Perspective Taking) and an analysis of student writing. During the course of the research three lessons were given and scored via a reaction scale to measure students' reaction towards Thematic Teaching.

DESIGN OF THE STUDY

The study utilized a mixed-methods approach, where students from a thematic-based program were assessed for their reaction towards the instructions quantitatively as well as qualitatively.

OPERATIONAL DEFINITION

Thematic teaching facilitates active teaching and learning process that integrates basic disciplines like commerce, economics, english with the exploration of broad areas such as social evils, social problems, values, environment etc.

AIM OF THE STUDY

To study the effectiveness of thematic teaching in building bridges across disciplines and developing unique classrooms.

OBJECTIVE OF THE STUDY

To study the reaction of higher secondary standard students towards thematic teaching.

HYPOTHESIS OF THE STUDY

There is no significant reaction of higher secondary standard students towards thematic teaching.

LIMITATIONS OF THE STUDY

The study is confined to 40 junior college students of Rizvi college of Mumbai city.

SAMPLE

Using a sample of convenience (n = 40) from junior college of Maharashtra board. The age of the students ranged from 16 to 18 years. Subjects having any psychological and physiological disorder were excluded from the sample. Selection of the sample was done using Simple Random Sampling Method. The students were selected from Second Year Junior College of Rizvi College of Arts, Science and Commerce, which is located at Bandra, Mumbai.

DATA COLLECTION

Data was collected using Reaction scale prepared by the investigator under the supervision of their mentor was used. Due care was taken to ensure the validity and reliability of the scale. The scale consists of 15 items followed by 3 options. Each question was furnished with three choices of “A = Agree”, “N=Neutral” and “D = Disagree”. For positive statements, scoring was done as A – 3 marks, N - 2 marks, D - 1 mark. For negative statements, scoring was done as A – 1 mark, N - 2 marks, D - 3 marks.

DATA ANALYSIS

The data was analyzed by interpretation of qualitative data and calculating Percentage analysis of quantitative data.

Table No. 1 Percentage Analysis of Quantitative Data

Sr. no.	Statement	Agree	Neutral	Disagree
1	The lessons were different from the regular lesson.	95%	5%	0%
2	It encourages knowledge of various subject areas/topic.	87.5%	7.5%	5%
3	Tue lesson draws content from different areas of curriculum.	87.5%	7.5%	5%
4	Students are actively involved in thematic instruction.	85%	10%	5%
5	Theme Lesson had a lot of different ideas, critical thinking and creativity.	95%	2.5%	2.5%
6	Teacher had managed the time in delivering the theme lessons.	92.5%	7.5%	0%
7	Teacher had developed the values and life skills in students.	82.5%	15%	2.5%
8	Teacher had not used the effective assessment techniques.	35%	45%	20%
9	Teacher had brought various materials (e.g. pictures, photos and other tangible media/ technology, artefacts) to make connections between students' understanding and the content.	97.75%	2.5%	0%
10	Teacher had developed the themes relevant to our life experiences and culture.	82.5%	10%	7.5%

11	Students are given opportunities to experience different topics by designing units around a central theme to facilitate their learning.	95%	2.5%	2.5%
12	Teacher has efficiently combined various values, skills and knowledge between subjects while teaching.	92.5%	5%	2.5%
13	Teacher has nicely illustrated with simple English language.	92.5%	7.5%	0%
14	Teacher had used a wide variety of teaching methods and techniques to make the thematic instructions a fun and adventure.	62.5%	12.5%	25%
15	It has originated new ideas in me.	80%	12.5%	7.5%

ANALYSIS OF QUALITATIVE DATA

The response given by students was positive to the first question whether the teacher had connected different subjects' through theme lesson. Students understood the theme lesson very well. They said that the attractive charts and pictures shown by the teacher made the lesson interesting and connected with various subjects. For Question No.2 What life skills have been learnt through theme lessons? The response was they came to know the relation between consumers and retailers, businessman and employees. It helped them to develop skills such as critical thinking, creativity, leadership, entrepreneurship etc. For Q3 Whether they want to learn through thematic teaching in future also and why? The response was a complete yes. They want to learn through this method as it connected various subjects and draws their interest in lecture and through this method they also learn moral values and life skills. For next question about what values the teacher is trying to develop through this lesson? The response given by students was: planning, dedication, moral values to be a good person, doing ethical business, loyalty etc. For last question whether the theme lesson used by the teacher relevant to your life? If yes How? The response of the students was that the theme was relevant to each and every student. The lesson was based on success. This theme was the best for us as we all want to achieve success in our career and our life in fact in all the things whatever we are doing.

RESULT AND DISCUSSION

The results of the study showed that students wants to learn through themes by selecting appropriate techniques, creating good instruments and formulating clear assessment criteria. The result of the reaction of students towards thematic approach is that often students have fun, are more actively involved, develop learning skills more quickly, as each one is connected to and reinforced by the other, will be more confident and better motivated, will present fewer discipline problems. The result of working the thematic approach way is that often teachers will find teaching more fun and less burdened. It has linked curriculum strands and student's interests and life experiences creating a sense of purpose and community in the classroom. Their attitudes, skills and knowledge are developed in meaningful ways.

CONCLUSION

It could be a way of learning throughout life. This is a way of teaching and learning, whereby many areas of the curriculum are connected together and integrated within a theme. It allows literacy to grow progressively, with vocabulary linked and with spelling and sentence writing being frequently, yet smoothly, reinforced. It guides connected ideas to follow on easily on the part of instructor. It is, after all, how we, as adults, learn new things. It allows teaching to be more natural and less fragmented than the way, where a school day is time divided into different subject areas and whereby children practice exercises frequently related to nothing other than what the teacher thinks up, as he or she writes them on the board.

ACKNOWLEDGEMENT

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USE OF ICT IN TEACHING SCIENCE - IMPACT AND INFERENCES

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Abstract

The impact of ICT for teaching and learning process is important as a study as it smoothens and strengthens the entire process, creates conducive learning environment, and help learners develop creative thinking and self-confidence. This study focuses on the implementation of ICT in an aided school while teaching the subject of Science to adolescent students. This study also describes the ways in which teachers could use simple ICT tools in daily classes to make learning progressive and inclusive. The use of ICT in schools is largely encouraged by the Government and educational systems around our country. The world of internet provides access to a variety of information sources and aids which has helped in putting down the barriers between information held on several systems, thus creating a borderless communication. Apart from suggesting effective methods of introducing and implementing ICT in school teaching, this study also compares the outcomes w.r.t various parameters between an ICT enabled classroom and a regular Chalkboard classroom.

Keywords: *ICT, Science, Teaching Learning Process, Adolescents, Aided School*

INTRODUCTION

Information and communication technology (ICT) is an important part of most organizations globally. Use of ICT in education has the potential to transform teaching. However, this potential may not easily be realized as problems arise when teachers are expected to implement changes in what may well be adverse circumstances [Hannatu A., 2014]. Due to ICT's importance in society as well as in the future of education, identifying the possible challenges to integrating these technologies in schools is an important step in improving the quality of teaching and learning.

The field of education has been influenced by ICTs. It has in several ways enhanced the teaching, learning and research seen in an Indian school classroom. ICT has the potential to fast-track, enhance, enrich and deepen the skills, to encourage and engage students, to help correlate school experience with daily life, bring about the creative side of learners along with strengthening teaching. This has in general helped ICT adapted schools to change in a positive way along with the changing ICT dominant world. ICT plays an important role in enhancing the quality and accessibility of education. It increases the flexibility of delivery of education so that learners can access knowledge anytime anywhere. ICT can inspire the ways in which the students are taught and how they learn. ICT is capable to cater to all kinds of learners as it

is best suited for learner-centered classrooms. Pertaining to the geographical flexibility, technology-facilitated educational programs also remove many of the temporal constraints that learners with special needs face. Students are starting to appreciate the capability to undertake education anywhere, anytime and anyplace.

REALITY OF ICT IN SCHOOL SCIENCE LAB

A Science teacher's enthusiasm to implement ICT enabled classrooms is unpleasantly hampered by a number of constraints including; time constraints, confidence and experience in using/handling technology, lack of knowledge about OER; an overloaded with content assessment that requires no use of the technology and a lack of subject; documentation of classes etc [Antony O., 2012]. Though ICT can truly be employed in diverse ways to support different curriculum goals and forms of Science pedagogy, the constraints have often demotivated teachers use of ICT in ways which effectively exploit its interactivity. Consequently, well integrated and effective classroom use of ICT is presently rare. On the whole, use of ICT in school science lab is driven by – rather than transformative of the prescribed curriculum and established pedagogy. In totality, a teacher tends to use ICT largely to support, boost and balance existing classroom practice rather than re-shaping subject contents, goals and pedagogy. However, teacher's motivation and commitment are high and practice is gradually changing. Training teachers in using ICT in the classroom appears to have had more success in science than in other subjects. Teachers are now beginning to develop and trial new strategies which successfully overcomes the distractions of the technology and focus attention instead on their intended learning objectives.

NEED FOR ICT FOR TEACHING SCIENCE

The need of the present study is to analyse the difference in the learning taking place in an ICT centered class and a chalkboard centered class with respect to teaching the pedagogy of Science [Bell et al, 2005]. This study also concentrates on finding out ways to improve the teaching and learning processes of science through inculcation of new tools and technology.

CB CLASS VERSUS ICT CLASS

The following section deals with background of the data and the analysis of the data done post teaching using traditional Chalkboard (CB) and using modern ICT tools.

Population and Sample of the study

Audience of the study is adolescent students of suburban Mumbai belonging to class VI. Sample of the present study was collected from a renowned Aided school of suburban Mumbai following the State Board curriculum (SSC). The entire school has adopted EduCom for the process of teaching and learning. Sample Size comprised of 146 students belonging two divisions of Standard VI. Both the divisions had 75 students at an average present in the class

during the lessons and tests. The *Male:Female* percentage of both the divisions was rounded about 60:40

Data Collection

Data was collected over the period of 1 month where two chapters of General Science was taught in both the divisions (VI-B and VI-C) by the same teacher. The teacher took 6 classes for the first chapter (Nutrition and Diet) and 7 classes for the second chapter (Our Skeletal System and the Skin) in both the classes.

Learning outcomes of the study w.r.t. Bloom's Taxonomy

Some of the general learning outcomes of the lessons are given below [Anderson et al, 2001]:

Remember

The pupil recognizes the different nutrients in the diet.

The pupil recalls the functions of different nutrients in a diet.

The pupil identifies the types of bones and joints.

The pupil recalls the different layers of skin.

Understand

The pupil explains adulteration of food

The pupil differentiates between malnutrition and overnutrition.

The pupil understands the need of a balanced diet.

The pupil classifies the bones and joints into different categories.

The pupil explains the layers of skin.

Apply

The pupil implements a balanced diet in their daily life.

The pupil labels the parts of the human skeletal system.

The pupil labels the layers of the skin.

Analyze

The pupil organizes their food to maintain a balanced diet.

The pupil distinguishes between movable joints and immovable joints.

The pupil differentiates between the layers of the skin.

Evaluate

The pupil calculates the nutrient value present in food.

The pupil checks the melanin content by looking at the colour of the skin.

Create

The pupil creates the balanced diet plan for a week.

The pupil creates the model of the human skeleton.

Teaching-Learning Strategies

- i. For VI-B class, the teacher applied the following teaching-learning strategies:**
 - Lecture cum demonstration method
 - Chalk and talk method
 - Questioning method
 - Role play to teach concepts like balanced diet
 - Gaming method (Little Chef- where the students chooses items and creates a healthy meal)

- ii. For VI-C class, the teacher applied the following teaching-learning strategies**
 - ICT tools like PowerPoint used for teaching-learning process
 - Demonstrations using Virtual Science Lab tools
 - Gif images for Labelling bones and joints
 - Videos and audio aids to show different layers of skin and label them
 - Digital storyboards for stories emphasizing on the need of a balanced diet
 - Skeletal images used to make students label the bones and joints
 - Digital Games (Happy Healthy Meals) used to make a balance meal
 - Evaluation tools (using Open Office) used for the process of post lesson evaluation

Process of Evaluation

- i. Post-Lesson evaluation**
Strategies implemented included: question-answer, quiz, fill-in-the-blanks, match the column, labelling the figures. This process was applied to ensure learning has taken place.

- ii. Question bank and discussion**
The student-teacher prepared the same question bank for both the classes (for both the tests) and discussed it with the students. This process was applied to make students aware of the type of questions expected and to solve their doubts.

- iii. Chapter-wise class test**
Given below is the outline of the test paper for the summative testing applied by the student-teacher. The analysis of the present study is done using the output of this study.

Table 1- Test I- Chapter- 1

Fill in the blanks.	10 marks
Match the following.	8 marks
State whether the following are True or False	2 marks

Define the following	4 marks
Answer the following in one sentence	2 marks
Answer briefly	4 marks
Total	30 marks

Table 2- Test-II- Chapter-2

Fill in the blanks.	10 marks
Match the following.	5 marks
State whether the following are True or False	3 marks
Define the following	6 marks
Answer the following in one to two sentences sentence	4 marks
Draw a neat and labelled diagram ' Structure of the skin'	4 marks
Total	30 marks

Hypotheses of the Study

- There is no significant impact of ICT in teaching learning process of science for standard VI students.
- There is no significant difference in the performance of male and female students due to the impact of ICT in teaching Science.

Data Analysis

Table 3: Data analysis of CB class test 1

Mean	Minimum	Maximum	Male Average	Female Average
4.57	0	18	4.675	4.39

Table 4: Data analysis of ICT class test 1

Mean	Minimum	Maximum	Male Average	Female Average
22.47	15	28	21	24.5

Table 5: Data analysis of CB class test 2

Mean	Minimum	Maximum	Male Average	Female Average
10.27	2	23	10.81	9.38

Table 6: Data analysis of ICT class test 2

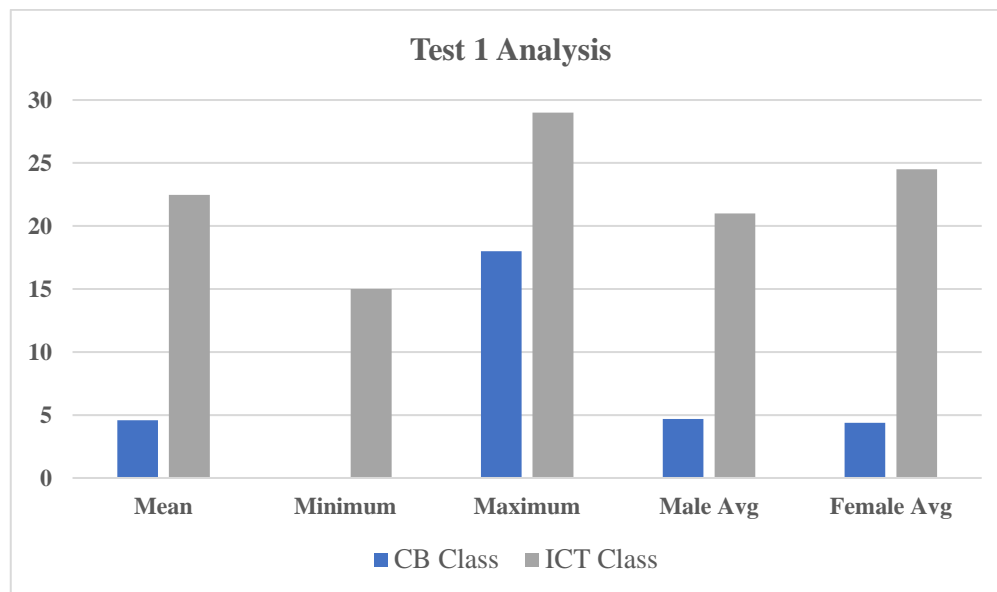
Mean	Minimum	Maximum	Male Average	Female Average
22.56	11	30	21.26	24.18

Table 7: Male Female score comparison for ICT class

Mean of M	Minimum of M	Maximum of M	Mean of F	Minimum of F	Maximum of F
21.13	13	28	24.35	18	30

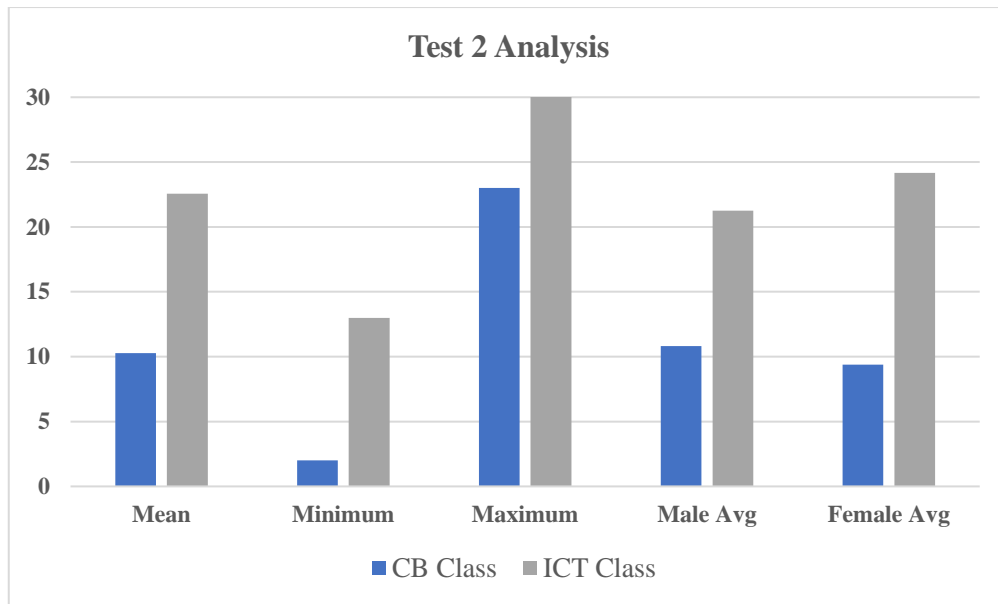
INFERENCES AND DISCUSSION

Data Inference



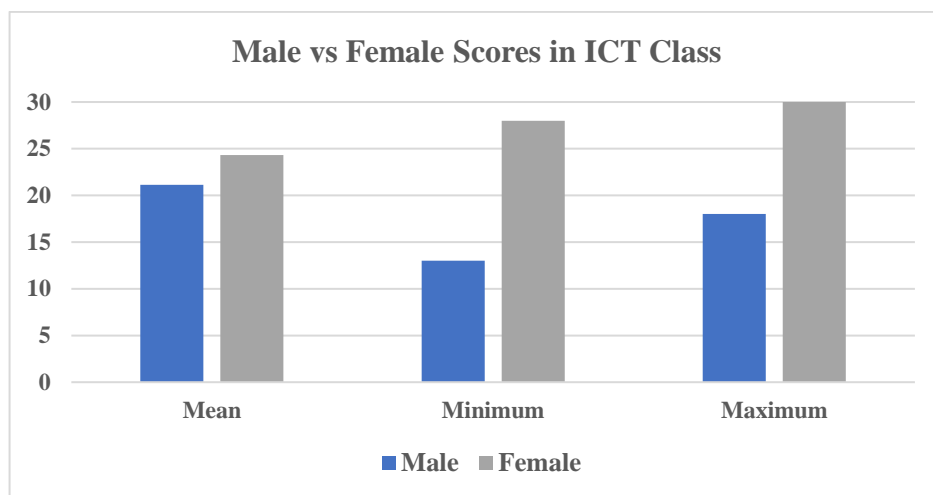
Graph 1- Analysis of test 1

If we compare the mean, minimum score, average scores male and female using the two methodologies of TL w.r.t. the first test conducted, then the scores obtained by the class taught using ICT are setting a benchmark. No student has scored below 50% in the class taught using ICT whereas the mean score percentage of the CB class is 13%.



Graph 2- Analysis of test 2

In graph 2, we compare the mean, minimum score, average of male and female scores using the two methodologies of TL w.r.t the second test conducted. The scores obtained by the class taught using ICT are setting a higher benchmark. Several students have scored full in the class taught using ICT whereas the mean score percentage of the CB class is 33%.



Graph 3- Male vs Female Scores in ICT Class

Comparing the Male and Female performance (in graph 3) belonging to the ICT class in the two tests, the performance of female students is remarkably better specially pertaining to the minimum and maximum scores.

Hypotheses Proving and Reasoning

Hypothesis 1- There is no significant impact of ICT in teaching learning process of science for standard VI grade students.

Null hypothesis rejected

There is a significant difference in the performance of the students taught using ICT aids and the students taught by the same teacher using the regular CB methodology. The graph 1 and graph 2 show a drastic rise in the mean values of the scores of ICT enabled classes.

Hypothesis 2- There is no significant impact on the performance of male and female students using ICT in teaching Science.

Null Hypothesis rejected

The average performance of males and females in CB enabled classroom is almost the same. But when the performance is checked in the ICT enabled class, there is a significant difference. Not only have females scored full marks (table 7 and graph 3), their mean scores are also higher by 12%

Discussion

In the present study, the following things were observed:

- The teaching-learning process was more effective when ICT assistance was utilized in the class.
- Certain demonstrations which are difficult to do otherwise in a class, were shown as a video. Sharing these educational videos with students, helps them revise the concepts even at home.
- As ICT caters to the all four types of learners; visual, auditory, reading/writing, and kinesthetic (VarkModel, Fleming& Mills, 1992); hence learning is assured.
- Generally, boys are more adaptive to technology (Volman, M., et al, 2005). Better scores of girl students indicate the motivation they are receiving from ICT assisted classes.
- ICT assisted learning also develops confidence and self-efficacy (Hiemstra, R., & Sisco, B. 1990). It encourages the student to self-study if a gentle encouragement is provided by the teacher. In this study, this was the case. Due to the encouragement of the teacher and general guidelines to appropriately use the ICT, the students were able to understand and write better. The quality of answers written by the students of the ICT enabled class is enriching and beyond the textual language.

PROPOSITIONS OF SCI-FI TOOLS IN SCIENCE CLASS

Given below are a few ICT tools that are open and are used for such ICT enabled classes presented in the above study.

- i. **EdModo:** Edmodo is an educational tool that connects teachers and students, and is assimilated into a social network. In this one, teachers can create online collaborative groups, administer and provide educational materials, measure student performance, and communicate with parents, among other functions.

- ii. **Open Office:** It is similar to Microsoft Office but it is free. It has all the necessary components and softwares needed by teachers to effectively use in their classroom teaching.
- iii. **Thinglink:** Thinglink allows educators to create interactive images with music, sounds, texts, and photographs. Thinglink offers the possibility for teachers to create learning methodologies that awaken the curiosity of students through interactive content that can expand their knowledge.
- iv. **Popplet:** Enables teachers to easily create attractive and meaningful concept maps.
- v. **StoryboardThat:** It's a website that allows the teachers to create digital storyboards. It provides with several built-in scenarios and features making it handy to use.
- vi. **ClassDojo:** ClassDojo is a tool to improve student behavior: teachers provide their students with instant feedback so that good disposition in class is 'rewarded' with points and students have a more receptive attitude towards the learning process.
- vii. **Socrative:** Socrative is a system that allows teachers to create exercises or educational games which students can solve using mobile devices, whether smartphones, laptops, or tablets. Teachers can see the results of the activities and, depending on these, modify the subsequent lessons in order to make them more personalized.
- viii. **MindMap:** Helps teachers in creating Mind Maps for their lessons.

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STEAM EDUCATION: IMPACT OF STORYTELLING METHOD IN TEACHING OF SCIENCE AMONG STANDARD VI STUDENTS OF S.S.C. SCHOOL

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Abstract:

STEAM is an educational approach to learn Science, Technology, Engineering, the Arts and Mathematics as access points for guiding student inquiry, dialogue and critical thinking. STEAM education aims to teach individuals how to analyse problems with an interdisciplinary perspective and to improve their knowledge and skills. (Meyrick, 2011) One strategy of using STEAM approach in the teaching of science is through Storytelling Method which benefits students in many areas. Stories are the way we store information in the brain. The present study aims to find if there is any significant difference between teaching of science using story telling method under the STEAM Approach. The sample for the present study comprised of 60 standard VI students of English medium S.S.C. school. The researcher divided the sample into 2 group i.e., control group and experimental group. Where the experimental group was taught science using the storytelling approach in view of STEAM education the control group was taught the same content through lecture method. The tool for data collection comprised of researcher made achievement test. 'T' test was used for data analyses. The results indicate that storytelling method in STEAM education is more impactful than traditional teaching methods.

Keywords: STEAM, Science, Storytelling method, experimental group, control group.

INTRODUCTION

The STEM to STEAM movement has taken strong roots over the past several years and is surging forward as a positive mode of action to truly meet the needs of 21st century. However, in India it has recently emerged as an integral part of education. STEAM is an educational approach to learning the uses of Science, Technology, Engineering, the Arts and Mathematics as access points for guiding student inquiry, dialogue and critical thinking. STEAM lessons benefits students in many ways. STEAM exposes students to the creative process when students experience guided inquiry in which they must ask thoughtful questions, discover answer and apply what they learn creatively. Many STEAM projects involve teamwork and thoughtful dialogue where students exchange ideas which offers meaningful collaboration. The components of STEAM approach are: meaningful integration of related subjects, provides varied teaching methods, students learn through discovery method and self-directed method, provides suitable environment for studies, offers basis for obtaining skills to be competitive in this global world.

The new approach to teach the interdisciplinary subjects of STEAM is all about giving students the chances to achieve more. Using various activities in the STEAM approach helps students to understand how varied the arts are and how they are integral part of Science, Technology, Engineering and Mathematics. The Arts activities helps in increasing the engagement in STEAM projects since the students can connect to artistic medium that they enjoy (like: visual arts, music, stories) with more technical projects that may seem difficult at first. They are able to combine familiar with unfamiliar and acquire new skills and discovering the world of artistic innovation. Out of the plethora of ways of guiding student's inquiry adopted under STEAM one of the techniques which benefits student's skills like critical thinking, problem-solving is the use of Storytelling. Storytelling is the oldest form of Education. People around the world have always told tales as a way of passing down their cultural beliefs, traditions and history to the future generations. "As humans, we're natural-born storytellers, when you have a unified storyline that all students are working with, they feel like everything is connected, and it really hit home". – Amanda Fox.

The STEM Academy in Georgia is the state's first STEM- certified middle school. Amanda Fox had spent several years co-authoring STEAM curriculum that integrates related subjects in a single unit. In this type of curriculum a student is allowed to discover each topic of related subject from a story and to discover the concepts the students travel into a multidimensional world. The students have full right to discover the story the way they want and to draw a new event or ending to the story. The students discover their concepts through all the ranges of STEAM disciplines. According to Fox (winner of the 2016 ISTE Emerging Leader Award), "storytelling is important because it takes them out of this world and away from restraints of earth". Fox is continuing to develop the STEAM curriculum approach after the school. "With STEM education a common dialogue and nomenclature is needed to make it cohesive and ensure the learning process transfers from one content area to next. Storytelling teaches how content connects, how it works together, and why the humanities are just as important as engineers and scientists." Research backs up the idea that "even students with low motivation and weak academic skills are more likely to listen, read, write and work hard in the context of Storytelling" (US Department of Education,1986). Stories serves multiple functions in the classroom, including sparking students interest, aiding the flow of lecture, makes complex concepts easier, gives a sequential flow in the teaching and remembering of concepts through the events in the story, overcoming students resistance and anxiety. Thus, in the present study the researchers intended to find out specifically if there was any effect on teaching of science using story telling method under the STEAM Approach.

NEED OF THE STUDY

In today's innovative and globalised world a student needs to be creative, smart and brilliant problem solver. With all the pressure and toll of academic achievements students mindlessly memorize everything. In Bachelor of Education (B.Ed.) course, teachers are taught various innovative methods to teach however as one gets in-service the passion and spark is lost in the race of completing the portion on time. As a result, students find such teaching boring and lose

their interest in the subject or pay less attention in class. Students' performance in exams is average which has adverse effect on their academic achievement. If a teacher uses creative method to teach a topic in the class all the students would be interested to learn and enjoy the subject. A child has a very active imagination during his building years, he has several questions to ask and is willing to explore the world on his own. And STEAM education paves the ways to satisfying a students' thirst for knowledge and enables teachers to teach effectively. STEAM education not only makes a lesson interesting but helps students to grow on their own. Storytelling in STEAM education is most interesting and interactive way to learn a lesson/ concept. Many teachers think that storytelling will take their class time but it does not. Infact, the students' settles down quietly, pays attention, interacts, relates and remembers concepts easily. Thus, the researcher felt the need to study if story telling method under the STEAM education can enhance the academic achievement of students.

OPERATIONAL DEFINITIONS

STEAM: STEAM is an educational approach that inculcates the arts in to STEM model, which includes science, technology, engineering and mathematic. STEAM programs can include any of the visual or performing arts such as story, dance, design, painting, projects, discussions, inventions, photography and writing.

SSC Board: The Secondary School Certificate is also called as SSC or Matriculation examination. SSC is a public examination in India which is conducted by the educational board as a completion exam of Secondary education in the country.

AIM OF THE STUDY

To study the effect of Storytelling method under the STEAM approach in the teaching of Science amongst 6th standard of English medium SSC School in suburban Mumbai.

OBJECTIVE OF THE STUDY

Ob1: To study the effect of storytelling method under the STEAM approach in teaching of science.

HYPOTHESES

The present study is intended to find if there is any significant difference in Science achievement scores of control and experimental groups. Thus, the hypotheses framed were-

- There is no significant difference in the science achievement scores of Control Group and Experimental Group.
- There is no significant difference in the science achievement scores of male students of Control Group and Experimental Group.
- There is no significant difference in the science achievement scores of female students of Control Group and Experimental Group.

METHODOLOGY OF THE STUDY

The present study was experimental in nature. It was designed on the Static- Group Comparison Design. This design compares the status of a group that has received an experimental treatment with one that has not. It can be described as follows:

X O (X= Experimental group; O = Result)

C O (C = Controlled group; O= Result)

In the present study the sample was divided into 2 groups. Where Group A was Control group, Group B was the Experimental group. The researchers gave treatment to the experimental group i.e. Group B. They were taught the same science content as Group A but through the Storytelling method.

SAMPLE OF THE STUDY

The sample for the present study was collected from a SSC Board English Medium School from Suburban Mumbai. The sample was selected through convenient sampling technique. A total of 128 standard 6th students comprised the sample for the study. The researchers divided the sample into 2 groups i.e. Control and experimental. Both groups had equal number of students.

TOOL OF THE STUDY

The treatment for the experimental group consisted of stories written or adapted by the researchers to teach three different chapters of science from 6th standard SSC textbooks. The researchers developed two sets of lesson plans for teaching of science. The first set consisted of 3 chapters of science which were taught through the traditional approach to the control group. The second set comprised of the same 3 chapters but they were taught through the storytelling method to the experimental group.

These stories were written and adapted in a way such that it integrated science, technology, engineering, arts and math into one story where the participants of the study were read out the stories and were encouraged by the researcher to think critically about the reasons for a certain occurrence, the relationship between events, the use of language, the calculation to be looked into to understand a concepts, etc. As participants critically explored these fictional stories with the help of the researcher, they were able to gauge the true meaning concepts, think critically and solve challenges.

The researchers after having taught both the groups administered a self-constructed achievement test for science. This test was administered to both the groups after giving the treatment for a period of one month. The achievement test paper was of 30 marks. Each question was distributed with different scale of marks, 10 marks for fill in the blanks (1x10), 11 marks for Multiple Choice questions (1 x 11) and 9 marks were allotted to answer in brief (9x3). All the questions in the Science question paper were selected from the content of the science

textbook. Face validity and construct validity of the achievement test for science were established with the help of experts.

STATISTICAL TECHNIQUE

The data from a static-group comparison design have been analyzed by the researchers with a t-test of the difference between the post-test mean scores of the experimental and control groups.

TESTING OF HYPOTHESES

Hypothesis 1:

The Null hypothesis states that:

There is no significant difference in the science achievement scores of Control Group and Experimental Group. The statistical technique to test this hypothesis is 't' test.

The following table shows the relevant statistics of the science achievement scores of Control Group and Experimental Group.

Table 1: Science achievement scores of Control Group and Experimental Group

Variable	Group	N	Mean	S.D.	Df	Tabulated value	't' ratio	I.o.s.
Achievement Scores	A	64	10.1875	3.5355	126	At 0.05 level = 1.980	2.93	S
	B	64	12.4531	8.4852		At 0.01 level = 2.617		

Interpretation of 't' test:

The obtained value of 't' ratio for science achievement scores of Control Group and Experimental Group is 2.93 which is more than the table value 2.617. Thus 't' ratio is significant. Hence the Null hypothesis is rejected.

Conclusion:

There is significant difference between the science achievement scores of Control Group and Experimental Group.

Discussion:

Thus, the alternate hypothesis is accepted which states that the result shows that, there is significant difference between the science achievement scores of Control Group and Experimental Group. The mean of the science achievement scores of Experimental Group 12.4531, which is higher than the science achievement scores of Control Group.

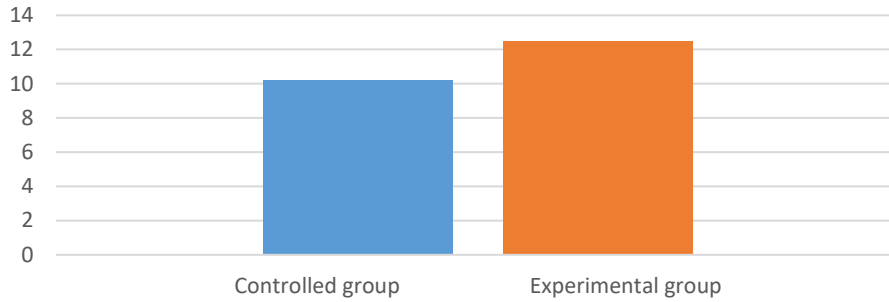


Fig.1. Difference between the academic achievements of control group and experimental group

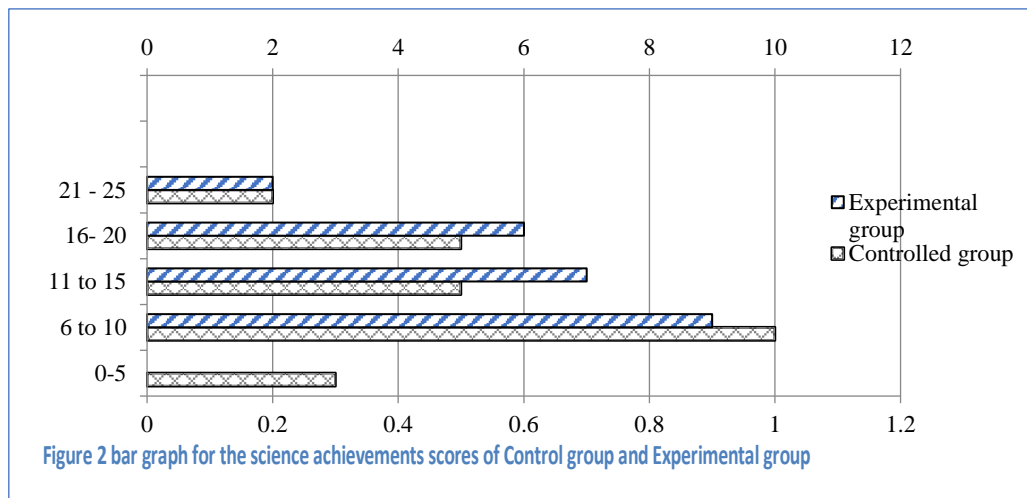


Figure 2 bar graph for the science achievements scores of Control group and Experimental group

Figure 2 shows the distribution of exam scores in the experimental and control group. The mean exam score was 12.4531 for the experimental group and 10.1875 for the control group. This difference in means is statistically significant ($t = 2.93, p < .01$)

Hypothesis 2:

The Null hypothesis states that:

There is no significant difference in the science achievement scores of male students of Control Group and Experimental Group.

The statistical technique to test this hypothesis is 't' test.

The following table shows the relevant statistics of the science achievement scores of male students belonging to Experimental and Control Groups.

Table 2: Science achievement scores of Male students belonging to Experimental and Control Groups.

Variable	Group	N	Mean	S.D.	Df	Tabulated value	't' ratio	I.o.s.
Post –Test Achievement Scores of male students	A	33	9.5152	2.991	64	At 0.05 level = 2.000	3.49	S
	B	33	13.2121	5.296		At 0.01 level = 2.660		

Interpretation of 't' test:

On the basis of table 2 the obtained value of 't' ratio for science achievement scores of male students of Control Group and Experimental Group is 3.49 which is more than the table value 2.660. Thus 't' ratio is significant. Hence the Null hypothesis is rejected.

Conclusion:

There is a significant difference between the science achievement scores of male students of Control Group and Experimental Group.

Discussion:

The mean of the science achievement scores males of Experimental Group is 13.2121 which is higher than the science achievement scores of Control Group. This clearly indicates that the treatment program has affected the science achievement scores of male students.

Hypothesis 3:

The Null hypothesis states that:

There is no significant difference in the science achievement scores of female students of Control Group and Experimental Group.

The statistical technique to test this hypothesis is 't' test.

The following table shows the relevant statistics of the science achievement scores of female students belonging to Experimental and Control Groups.

Table 3: Science achievement scores of female students belonging to Experimental and Control Groups.

Variable	Group	N	Mean	S.D.	Df	Tabulated value	't' ratio	I.o.s.
Post-test Achievement Scores of female Students	A	24	11.4583	4.8632	46	At 0.05 level = 2.021	1.28	Not S
	B	24	13.1667	4.4003		At 0.01 level = 2.704		

Interpretation of 't' test:

On the basis of table 3 the obtained value of 't' ratio for achievement scores of female students of Control Group and Experimental Group is 1.28 which is less than the table value 2.704. Thus 't' ratio is not significant. Hence the Null hypothesis is accepted.

Conclusion:

There is no significant difference between the science achievement scores of female students of Control Group and Experimental Group.

Discussion:

The mean of the science achievement scores of females of Experimental Group is 13.1667 which is lower than the science achievement scores of Control Group. This clearly indicates that the treatment program has had no effect on the science achievement scores of female students.

CONCLUSION

The research results in the present study clearly indicate that using the STEAM approach in storytelling method in teaching of science yielded better academic achievement. This could be attributed to the experimental group being interested, motivated, involved, etc. Thus, it can be concluded that storytelling under STEAM education is an effective way to teach and learn science. Further the research results also reveal that the treatment program had a positive effect among male students however the results were not the same with female students. The researchers feel that this could be due to the reason that the sample of boys and girls were not equally distributed. Where the total population of boys was 66, girls were only 48 in number. Today education needs to be imparted in a way such that learning becomes permanent and STEAM approach to teaching diverse subjects must be adopted by teachers all over the globe. STEAM approach gives the teachers an opportunity to enable students to develop essential skills like critical thinking and problem solving. In India, STEAM is still an emerging approach to education which needs to be embraced by educationist wholeheartedly for the benefit of students.

This study is undertaken under the guidance of Mrs. Nahida Mandviwala, Assistant Professor, Rizvi College of Education. Her area of interest lies in innovative ways of transacting the Pedagogy subjects.

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STUDY OF METACOGNITIVE SKILLS OF RIZVI JUNIOR COLLEGE STUDENTS

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Abstract

Metacognitive knowledge means one's own cognitive skills; own cognitive strategies and knowledge about what to do under which circumstance. Metacognition is a topic that will catch on and become part of every classroom, with state standards and standardized testing take the centre, our students will need more than just knowledge they will have to learn to think. Metacognition is essential to successful learning because it enables individuals to better manage their cognitive skills and to determine weaknesses that can be corrected by constructing new cognitive skills. The aim of this study is To Study of Metacognitive skills of Junior College Students identify the differences of these students in metacognition skills on the basis of Gender, Streams, Religion, Mother Tongue and Language of Medium in School and consequently classify the students on this basis.

Keywords: Metacognitive skills, Learning, Knowledge

INTRODUCTION

Metacognition refers to one's knowledge concerning one's own cognitive processes or anything related to them (Flavell, 1979). Quite simply, metacognition is thinking about thinking. Any process in which students examine the method that they are using to retrieve, develop or expand information is deemed to be metacognitive in nature. Metacognition is a topic that will catch on and become part of every classroom, with state standards and standardized testing take the centre, our students will need more than just knowledge they will have to learn to think. Along with improved thinking skills students will need to assess their own learning and control their cognitive processes in order to become better students. Those with greater metacognitive abilities tend to be more successful in their cognitive endeavours. The good news is that individuals can learn how to better regulate their cognitive activities.

NEED OF THE STUDY

In today's world where students are more into technology and have more knowledge about their phone features and popular cultures, be it music, the newest Hollywood series or movies, their metacognitive skills are likely to be, there is a strong need to inculcate metacognition skills in them and for the same we need to study about of their metacognition skills

IMPORTANCE OF THE STUDY

Knowledge can be efficiently gained by self-directed learning. It is basically a shift from the known to the unknown. The problem that all educators invariably encounter in teaching different subjects at different grade levels of our educational system is how to teach a lesson to a class that consist students with different skills, learning pace and learning styles. Another challenge in education is to make learning more effective, interesting, and exciting and less time consuming.

Today's secondary level education follows Activity Oriented Method of Instruction. Even though the actual spirit of Activity Oriented Method Instruction is to make learning more meaningful and to make the learner self independent, the different strategies adopted in this method of instruction is limited only to the cognitive level development. It requires the student to capture the information through group discussion and brain storming. There is no option of revising the discussions other than referring to notes made during the session or retrieve it from memory. Education becomes meaningful only when it creates better learners in the present to make better performance in the future.

STATEMENT OF AIM

Study of Metacognitive skills of Rizvi Junior College Students

OPERATIONAL DEFINITION

Metacognition means knowing about once own knowledge & understanding including all the factors related to the process of obtaining knowledge. Having a metacognition skill makes the process of learning uncomplicated. Better metacognitive skills leads to betterment learning.

Definition of metacognition: "Awareness of one's own thinking, awareness of the content of one's conceptions, an active monitoring of one's cognitive processes, an attempt to regulate one's cognitive processes in relationship to further learning, and an application of a set of heuristics as an effective device for helping people organize their methods of attack on problems in general" (Hennessey, 1999, p. 3)

Definition of knowledge - Facts, information, and skills acquired through experience or education; the theoretical or practical understanding of a subject.

Definition of awareness: Dourish defined it as "awareness is an understanding of the activities of others, which provides a context for your own activity"

Definition of cognition: Cognition is not merely a process, but a "mental" process. In what is perhaps the most influential definition (Neisser, 1967),

OBJECTIVES OF THE STUDY

- O₁ – To classify Junior College students on the basis of Metacognition score.
- O₂ – To study the differences in Metacognition skills on the basis of Gender.
- O₃ – To study the differences in Metacognition skills on the basis of Stream.
- O₄ – To study the difference in Metacognition skills on the basis of Medium of school.
- O₅ – To study the difference in Metacognition skills on the basis of Mother tongue.

SCOPE OF THE STUDY

Metacognition is essential to successful learning because it enables individuals to better manage their cognitive skills and to determine weaknesses that can be corrected by constructing new cognitive skills. Almost anyone who can perform a skill is capable of metacognition – that is, thinking about how they perform that skill. Recent research indicates that metacognitively aware learners are more strategic and perform better than unaware learners, allowing individuals to plan, sequence, and monitor their learning in a way that directly improves performance.

In the classroom setting, metacognitive learning demands that students develop a plan for learning the content, monitor their learning process through reflection, and adjust their plan accordingly (“self-regulate”) in order to ensure deeper, more durable, and more transferable learning. We begin by presenting the surveys used to gauge students’ effective use of learning strategies prior to and after the classroom intervention. We then describe the intervention and discuss its impact on student performance and how it changed students’ perceptions of themselves as skilled learners. We conclude by presenting the limitations of the study and implications for future research.

LIMITATIONS OF THEORY

- The present study is limited to check the metacognitive awareness of Rizvi junior college students only.
- The size, data and sample are limited to one college and hence the study is limited to a small group of students
- It cannot be used universally because of reasons stated above

REVIEW OF RELATED LITERATURE

Van de Kamp& et.al (2015) aimed to examine the effects of explicit instruction of meta-cognition on students' divergent thinking. A quasi-experimental design was implemented with 147 secondary school students in visual arts education. In the experimental condition, students attended a series of regular lessons with assignments on art reception and production, and they attended one intervention lesson with explicit instruction of meta-cognition. Results showed that explicit instruction of meta-cognitive knowledge had a positive effect on fluency and flexibility, but not on originality. The study implies that in the domain of visual arts,

instructional support in building up meta-cognitive knowledge about divergent thinking may improve students' creative processes.

Karaali (2015) illustrated how metacognition can be incorporated into a repeated exercise in the mathematics classroom, through a specific case study in the context of a liberal arts mathematics course. Through the semester, students were asked weekly to evaluate their own progress and review their development in light of their personal goals. He observed positive affective changes (including engagement levels) in the students through the course of the semester. He argues that the weekly metacognitive and self-reflective activities helped students keep their focus on learning deeply and allowed them to remain engaged and motivated through the semester.

SAMPLE AND SAMPLING TECHNIQUES

The study was conducted at Rizvi College of Arts, Science and Commerce located at Bandra West, Mumbai Suburbs. The tool was administered among standard XI students of all the three streams. Here the researcher has used the purposive and convenient sampling procedures for the study. In purposive sampling procedure, the researcher chooses the sample based on who he/she thinks would be appropriate for the study. The main objective of purposive sampling is to arrive as at a sample that can adequately answer the research objectives. This study was intended to understand the metacognitive skills of all the Junior College Students of 16-17 years of age of the suburban colleges in Mumbai.

Table 1

Size	Institute
60	Rizvi College of Arts, Science and Commerce

TOOL FOR DATA COLLECTION

The tool created by the researcher contains 30 items, each item being a statement followed by a four-point scale:

Table 2

Very much so	To a considerable extent	Somewhat	Not at all
4	3	2	1

If a respondent marks 'not at all' he is given of 1 point. Similarly 2, 3 and 4 points are given for markings on 'somewhat', 'to a considerable extent', and 'very much so' respectively.

Table 3 - Distribution of Scores

Very High	107 and above
High	95 – 106
Average	82 – 94
Low	70 – 81
Very Low	69 and below

Note: The above categories of distribution have been determined on the basis of normal probability curve

DATA COLLECTION

The tool was administered at Rizvi College of Arts, Science & Commerce, among standard XI students in one of their free lectures. The researcher distributed the questionnaire and explained how it had to be filled. Since the students only had to read the questions and put a tick against the option they feel suits the answer, the researcher only gave the students 20 minutes to fill the questionnaire.

DATA ANALYSIS & INTERPRETATIONS

Data analysis is the process of systematically applying statistical and/ or logical techniques to describe and illustrate, condense and recap, and evaluate data.

O₁ – To classify Junior College students on the basis of Metacognition score

Table 4: Classification of Total Students v/s Metacognition Score

Levels Variables	Metacognition Score	
	(N)	(%)
Very High	5	8%
High	29	49%
Average	19	32%
Low	5	8%
Very Low	2	3%
Total	60	100%

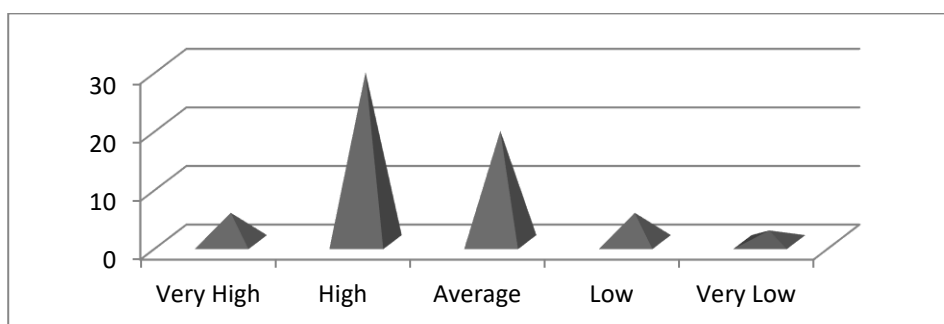


Figure 1: Classification of Total Students v/s Metacognition Score

Interpretations: 2% students have very low metacognition skills whereas 8% students have low metacognition skills and 32% students have average metacognition skills, 29% students have high metacognition skills and 8% of students have very high metacognition skills. This shows that majority of the students have high metacognition skills.

O₂ – To study the differences in Metacognition skills on the basis of Gender.

Table 5 - Gender v/s Metacognition Score

Variables	Groups	No.	Mean	Median	Mode	Standard Deviation
Metacognition Score	Male	41	92.7561	95	95	11.32868
	Female	19	93.63158	92	89	8.839372

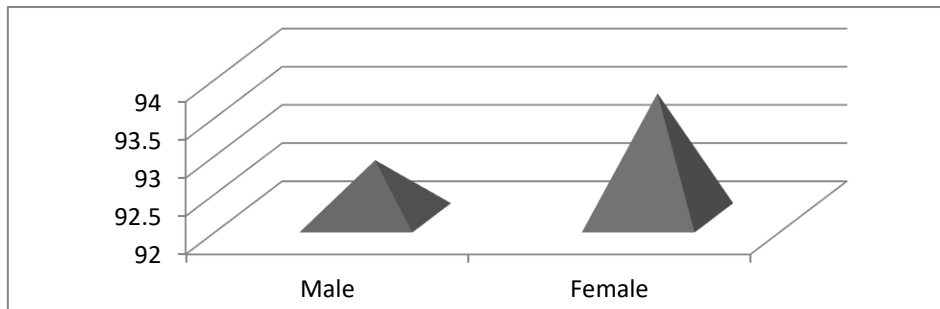


Figure 2- Gender v/s Metacognition Score

Interpretations: The mean of male and female are not the same. The mean values 92.7561 and 93.63158 respectively. This may be because of difference between the numbers of male is higher than female.

O₃ – To Study the differences in Metacognition skills on the basis of Stream.

Table 6- Streams v/s Metacognition Score

Variables	Groups	No.	Mean	Median	Mode	Standard Deviation
Metacognition Score	Arts	20	91.4	90	78	9.241782
	Science	20	91.75	93.5	97	13.20636
	Commerce	20	95.95	96.5	96	8.450942

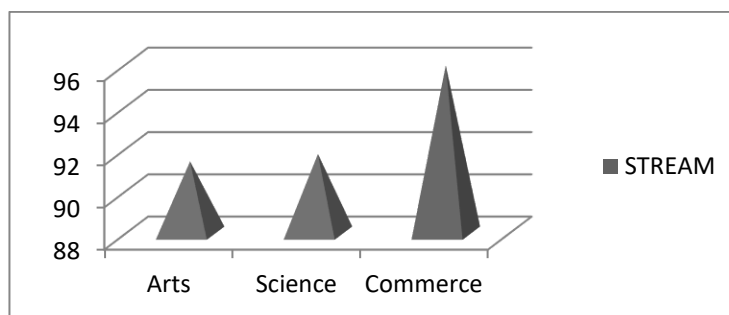


Figure 3- Streams v/s Metacognition Score

Interpretations: The mean value of Arts and Science does not have much difference as compared to the stream Commerce. The mean values are 91.4, 91.75 and 95.95 respectively. This may be because of exposure the student of each stream gets.

O₄ – To study the difference in Metacognition skills on the basis of Medium of school.

Table 7 - Medium of School v/s Metacognition Score

Variables	Groups	No.	Mean	Median	Mode	Standard Deviation
Metacognition Score	English	50	92.34	95	95	11.00206
	Urdu	3	102.6667	103	N/A	4.50925
	Hindi	7	93.85714	96	96	6.718843
	Marathi	0	N/A	N/A	N/A	N/A

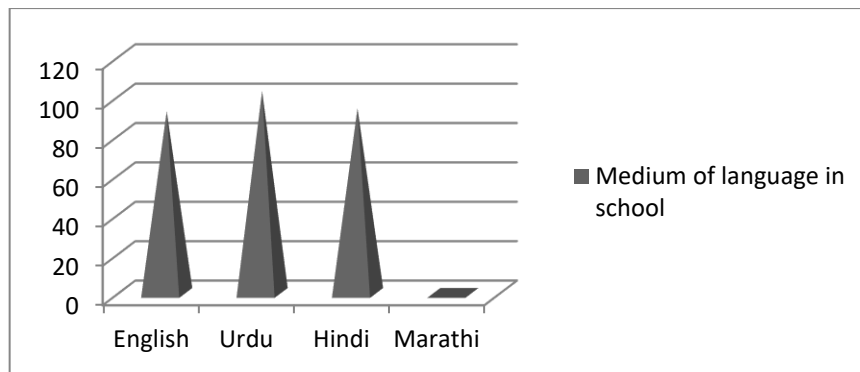


Figure 4- Medium of School v/s Metacognition Score

Interpretations: The mean of metacognition skills of students who completed their schooling from English medium schools is 92.34, students who completed their schooling from Urdu medium schools is 102.6667 and students who completed their schooling from Hindi medium schools is 93.85714.

O₅ - To study the difference in Metacognition skills on the basis of Mother tongue.

Table 8- Mother Tongue v/s Metacognition Score

Variables	Groups	No.	Mean	Median	Standard Deviation
Metacognition Score	English	3	93	94	9.53939
	Urdu	10	91.8	95.5	12.81319
	Hindi	43	92.81395	95	9.948093
	Marathi	4	98.5	99.5	14.1067

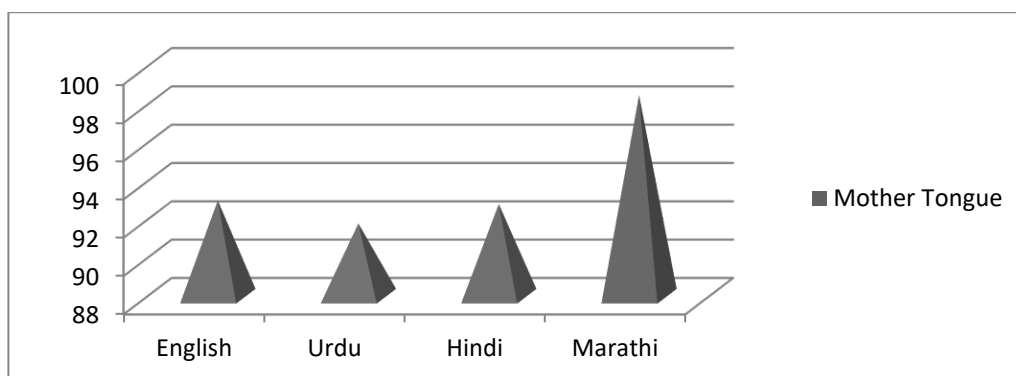


Figure 5 - Mother Tongue v/s Metacognition Score

Interpretations: The mean of metacognition skills of students whose mother tongue is English is 93, Urdu is 91.8, Hindi is 92.81395 and Marathi is 98.5 respectively. This shows that there is a high metacognition skill in students whose mother tongue is Marathi, average metacognition skills in students whose mother tongue is Hindi, Urdu and English.

The positive outcomes are

1. for students

- a) Metacognition based instructional programmes improved students academic achievements.
- b) Improved students' motivation and participation.
- c) Improved self confidence, self efficacy and self management.
- d) Improved problem solving skills and critical thinking ability.
- e) Improved students' interest and develops positive attitude towards learning.

2. for Teachers

- a) Positive influence on teacher's belief about cognition, instruction and students' achievement
- b) Enhanced student-teacher relationships.
- c) Change from teacher-centered to students centered practices.
- d) Enhanced teachers' metacognitive awareness.

3. for schools

- a) Development of a supportive school culture
- b) Improved parental participation.

This literature review discussed positive outcomes of metacognition and importance of practicing metacognitive skills by student learners. This review of the literature has provided clear justification for undertaking this study and has also established important background understandings which helped to frame the overall research design.

SUMMARY AND CONCLUSION

It is been observed that Metacognition skills can be affected by various factors like Gender, Stream, Medium of language in school, Mother Tongue and Gender. The mean metacognitive score of females is lower than the males for a lot of reasons. This could be because of the medium of instruction in school, their mother tongue, the kind of exposure the females get etc. it could also be because of the streams they have opted for. The difference between the metacognitive scores of Arts, Science and Commerce could be due to the kind of exposure the students of each stream gets. This could also be affected by the way they understand the matter and perceive it.

I feel the medium of instruction does have an impact on the way a student learns and understands. Having a different medium of instruction in the school and a different one in college could affect the thinking capacity of the student and also the level of comfort with learning in the two different languages. Similarly the language or mother tongue spoken by the student does not have an effect on the student's metacognitive skills and abilities.

SUGGESTIONS FOR FURTHER STUDIES

- This study can be applied on a large sample of senior secondary students of government and private schools students.
- This study can be applied on a large sample of disabled students of rural and urban schools students
- This study can be applied on a large sample of disabled students of government and private schools students.
- Research can be conducted to study the effect of EQ or IQ on Metacognition level among secondary school students.
- Correlation between Metacognition & Academic achievement with respect to general intelligence can be explored.
- Correlation between Metacognition & Performance with respect to specific intelligence among college students can be studied.
- Correlation between Stress & Adjustment with respect to Metacognition among college going students can be examined.
- Effect of Metacognition on the personality traits among graduate and undergraduate students can be explored.
- Relationship between self-concept, self-esteem, mind-map and Metacognition among urban and rural students can be examined.
- Correlation between Self-esteem and attitudes with metacognition can be examined.
- Relationship between Cognition and metacognition in respect of metacognition among school going students can be explored.
- Significant difference between XII grade students & the undergraduate students with respect to metacognition and problem solving ability can also be seen.
- The study can also be done on the same topic on graduate and Post graduate students on different universities.
- Nature of human behaviour with relation to studying styles can be effectively studied.
- The study can be done to know the relevance of brainstorming and brain sketching with leadership trait in their professions choices.

The present research is undertaken under guidance of Dr. Gyanprakash Arya, I/c Principal ,Rizvi College of Education.

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INNOVATIVE ASSESSMENT METHODS FOR LIFELONG LEARNING AND QUALITY OF PERFORMANCE

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Abstract

Process of assessment may have a large influence on the teaching learning activities which takes place in the educational institutions. There is a need of a system to promote creative, logical and critical thinking in the learners to make them contributory citizens of the nation. It is directly correlated with curriculum designing, instructional process, teacher- taught interactions, evaluation criteria and assessment process. The world is changing at a faster rate, where only subject knowledge is not sufficient for individuals. A common challenge people facing in life are having deeper approach for quality of performance in real life during various circumstances. To overcome this challenge, modifications are required at both the levels; at educators and also at student level. Educators may encourage students to develop lifelong learning skills through active participation in the assessment process. For survival in the highly competitive world the parameter of well learned individuals ought to be determined as per the expectations of society. Innovative assessment practices are required to be planned in education system for progress. These can support integrative objectives, teaching- learning process and innovative classroom procedures. Modifications in examination process have not been attempted by most of the researchers in a major way. Therefore objectives of the present paper are framed as; (i) to identify correlation between the type of assessment and class room processes. (ii) to motivate the schools to embrace innovative assessment for lifelong learning. The present paper is an attempt to throw light on the authentic and useful ways of providing real experiences. It may be resulted in opportunities for making students capable of judging own actions. Therefore they may learn to articulate the qualities for enabling the learners to learn beyond scholastic experiences for becoming effective lifelong learners. All of the modifications may contribute in preparation of people for quality performance in real world tasks.

Keywords: Innovative assessment, Lifelong learning, Quality performance, Non- scholastic experiences

INTRODUCTION

Traditionally, the goal of most subject areas and courses had been to enable the students to recall the learned important facts, ideas or concepts. Written examinations are being frequently used for measuring progress towards this goal. Past assessment practices are inadequate and

not suitable in present context. Fundamental problems with previous testing practices include; narrowness of scope, over emphasis on memorizing facts, lack of student ownership in the learning process and lack of possibilities for student's work improvement. A common challenge people facing in life are having deeper approach to perform in real life during various circumstances. To overcome this challenge, modifications are required at all levels. Educators may encourage students to develop lifelong learning skills through active participation in the assessment process. It may be resulted in opportunities for making students capable of judging own actions. There is a need to facilitate the learners to articulate the qualities, enabling the learners to learn beyond scholastic experiences for becoming effective lifelong learners. For survival in the highly competitive world the parameter of well learned individuals ought to be determined as per the expectations of society. There is a need of a system to promote creative, logical and critical thinking in the learners to become contributory citizens of the nation.

OBJECTIVES

Objectives of the present paper are as follows:

1. To identify correlation between the type of assessment and class room processes.
2. To motivate the schools to embrace innovative assessment for lifelong learning.

INNOVATION TO MOVE AWAY FROM ROTE MEMORY TO HIGHER ABILITIES

Conventional assessment focuses only on reproducing the received knowledge rather than forming new knowledge. Innovative assessment may address one major criticism of the traditional examination pattern, that it tests only rote learning of passive learners. There is a neglect of basic competencies, practical knowledge, conceptual understanding and application in real life circumstances that are supposed to be the objectives of the curriculum. Competencies and practical knowledge ought to be assessed in such a manner that answers cannot be presented by mere rote memorization but require comprehension and understanding. Challenge to solve the traditional paper involves them in studies for examinations, but it does not encourage creative, quality work. It does not provide them with experience in applying information and skills in actual- world. It is essential to internalize the concepts therefore assessment methods ought to shift from emphasis on rote memory to place for comprehension, implication, analysis, synthesis, evaluation, problem solving abilities.

PURPOSES OF INNOVATIVE ASSESSMENT

The way of assessment used by teacher reflects the decided purposes, and teaching should be planned as per those purposes. Those pre decided purposes of instruction must be in the knowledge of the learners. If teachers emphasize facts and concepts on a test, students find it as- remembering those facts and concepts is the major goal of education. In this situation students are not given any opportunity to improve work, and to appear for retest. Hence, they may conclude that improvement is not valued in education. If higher order thinking, problem-solving, and critical thinking are to be valued, then classroom assessments need to lend value to them. Purposes of assessment are the reflecting guide to interact with the students. Some

expected outcomes for students at all levels studying in different courses are as follows –to enable the students to progress as;

- Goal- setters
- Decision makers
- Quality producers and performers
- Self- directed learners
- Creative and complex thinkers
- Self- assessors
- Good observers
- Stage setters
- Feedback givers
- Effective communicators
- Collaborative community contributors
- Innovative problem- solvers

All of these are expected to prepare the learners beyond the limited sphere of traditional education and linked evaluation.

INNOVATIVE ASSESSMENT AND CLASSROOM PROCESSES

A teacher makes attempts for planning the lessons and presenting in the classroom. Content may also be taught in laboratory, field, educational film show, garden, museum, etc. Learning in the institutions is always evaluated to assign grades and prepare merits. Process of assessment may have a large influence on the teaching- learning activities which takes place in the educational institutions. Assessment may be conducted for summative (to measure achievement) or formative purposes (to engender learning). It is directly correlated with curriculum designing, instructional process, teacher- taught interactions, evaluation criteria and assessment process. There may be implementation of different approaches to assess performance of students in the regular classes. Students may be assessed for presentation, discussion, project, creative writing, production, art and craft, poster making, story writing, assignments etc. These may be conducted to be assessed by the peer or by the self. During peer-assessment students may also gain confidence in their ability to apply their learning in contexts beyond the limits of institutions. Self- assessment can begin with students work in submitting assignments or project work, where they reflect on their perceived strengths and weaknesses.

INNOVATIVE ASSESSMENT FOR LIFELONG LEARNING

Teaching, learning and assessment are aligned with lifelong learning. Various aspects of innovative assessment may promote seeking for appropriate feedback on tasks and transparency in quality of performance. Sustainable assessment refers to assessment which meets the needs of the present to meet an individual's own future learning needs. It involves a move from testing knowledge for own sake, to assessing them for application beyond a specific

sphere. It can simultaneously enable learning within and outside the educational institution. There may be following approaches to assess for lifelong learning:

- **Assessment of Qualities:** Educational personnel expect to develop various qualities in the learners. These qualities usually appear over time, within and beyond the limits of institutions, as a whole of the scholastic and non-scholastic experience. It can provide students with opportunities to develop qualities that support their academic growth. It shapes the contribution they make to their profession as well as to society. It may be through participation in the community visits, through co- curricular or extra- curricular activities. It is required to embed the test items within a discipline- specific context beyond the cognitive domains. Capabilities relating to various aspects are to be essentially developed in the learners, such as; communication skills, attributes relating to attitude, values, meta-cognitive abilities and sense of responsibility. It might be beneficial to the teacher and taught if we devise alternative ways of informing student's achievement to the stakeholders.
- **Meaningful and authentic assessment:** If assessment has to be done for preparing students for the realities of life then new forms of assessment are required to encourage engagement in solving complex problems of real-life circumstances. Let them be ready for using information in ways that go beyond just recalling or recognizing correct option. These may enable deep thinking and problem solving that students will need to demonstrate throughout their future lives. This way assessment tasks become relevant, meaningful and authentic to encourage students to see the learning instead of just getting the marks in examination.
- **Metacognition:** Now- a- days there is emphasis on enabling the learners to become assessors themselves so that they learn to self- assess. It is an indispensable condition when the student holds a concept of quality approximately similar to that held by the teacher. It allows them to identify gaps in their learning, to analyze own performance, to understand how to apply knowledge and skills. It emphasizes on the qualities learnt from one's assessment in a different context for further planning to improve. These are all essential and valuable lifelong skills for self- awareness and self- regulation. Meta cognitive qualities can be supported by providing place for self- assessment during education.
- **Peer-assessment:** All of us are social being and learn from interactions in the circle. Individuals feel free to share their observations in the similar group. Therefore peer- assessment is also valuable assessment method where individuals make evaluative judgments on other's work. There is focus on shift from satisfaction of securing scores to fostering sense of responsibility to learn. This sense of responsibility favours desire to continue learning. This approach is carefully guided to reach on different levels by integrating with self- assessment. Therefore learners begin to understand the criteria to be applied in a specific context.

All of the above approaches of assessment may be significantly contributory for lifelong learning and also for good quality performance in various spheres of life.

STRENGTHS IN USING INNOVATIVE ASSESSMENT

Assessment should involve real-life performances, or challenges that replicate the problems faced by a scientist, historian, or expert in a particular field. Complex tasks needed to be prepared rather than drills, worksheets, or isolated questions. The main strengths in implementing innovative assessment are as follows;

- (1) It can motivate students to become more autonomous and encourage their active involvement in learning,
- (2) It can promote a genuine interchange of ideas,
- (3) It can make assessment a shared activity rather than alone one (i.e. more objective),
- (4) There is possibility of development of evaluative and critical abilities,
- (5) It can give more opportunities for transferable personal skill development,
- (6) It can help in receiving more integrated, directed and effective knowledge,
- (7) It can foster feelings of ownership for their own learning,
- (8) It can make students think more deeply, see how others handle problems, pick up points and learn to constructive criticism,
- (9) It can produce a learning community, in which students feel that they have influence and involvement,
- (10) It can motivate and satisfy curiosity during collaborative learning with understanding of feedback,
- (11) It can develop confidence in students that their judgments are respected and their experiences are valued,
- (12) It can reduce the teacher's workload.

WEAKNESS IN USING INNOVATIVE ASSESSMENT

There are many weak points in implementing innovative assessment, which may exert adverse impact. The weaker points of innovative assessment lie sometimes in organizational issues, such as; the occurrence of cheating, stress, curriculum burden, lack of facilities, unavailability of scoring rubrics, number of students in classroom, difficult for a single teacher to pay individual attention towards each and every task, more emphasis on traditional evaluation and time constraints. Probably the most difficult aspect of innovative assessment is determination of the criteria to be presented in operational terms and to make all participants familiar. Criteria are the basis of assessing student's level and progress; they identify the critical aspects of a performance or a product that describe in specific terms for meeting expected learning outcomes.

CONCLUSION

Considering the strengths and weaknesses, it may be concluded that criteria should include information about objectives to be pursued, the area to be assessed and the standards to be reached. There are two elements in any assessment process: one is the identification of standards to be applied to an individual's work; and the second is decision making about extent to which work meets the decided criteria. There is a need to implement new assessment policies and train the lecturers for awareness so that learners may be strategic in all the spheres of life.

Assessment for lifelong learning rewards student's ability; to critically evaluate their own learning, to assess the quality of performance against agreed standards and to build the capacity to use judgment skills and to influence their future practices. Initially students are required to be encouraged for identifying simply learned concepts and facts, then to assess various non-scholastic performances. At more advanced levels, open ended items or tasks may be allotted to provide feedback to the other's work. Many practices and opportunities to get new experiences may enable the learners to assess critically and accurately. As a result of these unique experiences they may be capable to improve constantly and may attempt for a very high-quality performance.

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OPEN LEARNING PROSPECTS AND CHALLENGES IN A DIGITAL GLOBE

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Abstract

Open learning fundamentally combines online education with flexible to no admission obligation. It is not just about opening up right to use alone; it is also about as long as learner with a fair chance of accomplishment. Open learning includes allowing learners flexibility in determining what they want to learn, how they want to learn, and when they want to learn. It is being vigorously accepted by Indian learners after the succeeding development following the (NPE) National Policy of Education, 1985. However digital learning and teaching of the subject is still not being taken up solemnly. It is therefore very crucial that the new approaches in educational system must be adopted with positive attitude and full of perceptive of the digital environment. The present paper focuses on open learning practices, prospects and challenges in India. It will also discuss about digital expansion in open learning programme.

Keywords: Open and distance learning, digital expansion, open learning challenges, global perspective.

INTRODUCTION

If we are to understand a given educational reform movement, then it is more important to examine its basic values and principles than the type of pedagogical activities or structures its champions – Jesse Goodman

Student intakes in educational institutions have increased considerably every year, but the resources are limited. As against to this learner in conventional and distance systems are growing in number. Hence technology based instruction is needed to satisfy a large number of learners (Maier, Bennett, Waren, Brunner, 1998). The open learning provision of educational resources, enabled by ICT, for discussion, employ and adaptation by a group of people of users for non-commercial purposes (UNESCO, 2002). A basic principle of open learning is that learners study to do good only when they put into practice doing (Anderson et al, 1989; Garfield, 1995). Open and distance learning has conquer numerous barriers to learning that were knowledgeable with conventional distance learning, as it is more realistic, flexible and efficient, especially in an era of easy multimedia admittance (Tatkovic , Ruzic & Tatkovic, 2006) Online learning as the sharing of learning content to learners who are spatially away from their teachers. Moore (1993:22) points out that it not just entails a geographic severance between learners and teachers, but also a separation by moment in time. In order to generate the most excellent communication between teachers and learners, and between

learners themselves, it is essential to add in the best multimedia options and teaching strategies with the required supervision on effective exercise of that of ICT (Tatkovic et al 2006). Open learning is making distance education more popular than face to face learning limitations. It works on five principles-engage learners, sustain enquiry, nurture self-regulated learners, create assessment rich learning, and enhance learning through digital technology. An enormous number of the online learners are learning autonomously without the any interventions by the teacher. Online education facilitates better self-pace learning at global perspective. Open learning has greater scope to absorb a huge number of learners who cannot afford to take admission in the mainstream higher educational institutions. There are hundreds of universities in India who runs online programmes and many technical and professional courses also. However these open universities are mainly supported by information and communication technologies system. Digital expansion transformed learning environments of universities from paper based to paper less. With faster Internet access and better-quality firmness techniques together provide online audio and video contents with high eminence and not as much of delays time. Thus, in the last few years there has been rising attractiveness of higher education with scope for unconventional learning practices through open learning prospects.

OPEN LEARNING IN INDIA

In order to meet continuous demand for higher education which was insufficient through conventional system of education, the Delhi University started correspondence education in 1962. Indian education commission (1964-66) advocated for correspondence and open education to face the challenges in higher education. An open university in United Kingdom came in existence in the year 1969 encouraged Indian open universities in Mysore and Andhra with open admission policies. Andhra state gave an escort to the nation by establishing Andhra Pradesh Open University which was later renamed as Dr. B.R. Ambedkar Open University at Hyderabad in the year 1982. In 1985, Indian Government passed an Act in Parliament to set up an open university called Indira Gandhi National Open University. IGNOU is responsible for disseminating and maintaining quality education for larger section of the inhabitants in India and abroad. IGNOU functions as to deal with higher education for all and also provides education to deprived classes of society with need based courses and programmes. It also coordinates and regulates the standard of education given in the form of open and distance learning. IGNOU imparts education through ICT with multimedia to cover targeted population. IGNOU have a division devoted for training the personnel. It has a wing for staff training and research in distance education. Many educational institutions are providing training on a regular basis is to stay pace with ICT modifications as due to the fact that more and more options with online technologies are promising. Training programmes are planned to convey IT related skills, developing online courses, applying electronic media to manage out to its learners.

OPEN LEARNING PROSPECTS IN A DIGITAL GLOBE

The prospect of open learning is fantastic and would be detectable in diverse ways. There is a paradigm shift in the release of instructions is obvious. From the teacher centered paradigm,

we have been moving to the learner centered one, whereby the learner is fortified by digitally and can learn at his or her own place and pace. Present society will be forwarding towards the online learning mediated, learning centered paradigm, in which there will have greater scope for interactivity during learning. Prospect of online learning is that is catalyzing the process of globalization, in which in turn influencing education. Following would have few more prospects in digital globe-

Open learning in distance education

Open learning is indispensable in delivering instructions at a distance. It is because of ICT that distance education is getting well-liked. It will take education to the unreached and aids self-learning. It will also cater to massive number of learners concurrently. It would help in educating a lot and that too in a cost minimal manner. Virtual educational institutions with online registration, education, evaluation and even certification would be possible as per learner wish. Learners would agree that cross boarder delivery of educational services is thus a product of revolution in online.

Open learning for delivering instructions

Instructions would be delivered through various media such as FM radio, and following that television to satisfy educational program for all level of education. Along with computer based teaching learning, the internet would inroad in the new learning scenario and on its way to dominate all other media. Online advanced technologies will not only deliver instructions but also facilitate interactions. It would be also seen that mobile technology will have greater application or educational apps for different level of learners.

Management of educational services

Management of educational institutions will be completely backed up by ICT. The control of records, creation, storing and retrieving data bases of huge number of learners, data analysis and synthesis, management of learner support services, etc. will be processed by specially created software and tools like Moodle.

Cultural homogenization

It would be possible that the effecting and intermixing of a variety of cultures through education disseminated by digital mode from all over the world, recipients receive cross cultural content and thus there will be continuing process of cultural homogenization.

Knowledge society

A knowledge society is formulated by knowledge as the dynamic force of all the main behavior of the society and nearly all of the activities need knowledge capital rather than land, labour and money. Digital mode will be determining the development of this new kind of society in which production, utilization and propagation of information would have integral to all major actions. A digital globe would signify an elimination of local disparity and better hold up for education of the deprived classes especially female who are excluded from entering higher education owing to their roles and responsibility in the family.

Globalization: Connecting the world

UNDP Global ICT Programmes would support developing countries to influence global trades and benefits from global knowledge on critical dimensions of sustainable human development. ICT plan of UNDP will prove to be Capacity Development Through knowledge Sharing and Networking. This will assist in developing countries in harnessing the potential of Free/Open Source Software (FOSS) to create and enhance national capacities to foster local research and development, and innovation, harness “digital opportunities” and address, in this fashion, local development goal.

OPEN LEARNING CHALLENGES IN DIGITAL A GLOBE

Approximately half of a century ago, an educational philosopher John Dewey and others claimed that “if schools were to succeed in preparing the great majority of young people, not just a select few, to be responsible and productive citizens, they would have to do a better job of motivating and engaging the broad spectrum of students in learning.”

There are numerous challenges in digital mode for open learning. Some of these are emphasized here under:

Availability and Accessibility problems

Open learning highly depends upon electronic resources and it is seen that availability of required equipment are not feasible. A digital extension would mean internet connectivity linking hardware at any time, any place, anywhere. It is noticed that the teaching learning, evaluation, form filling, online examination etc. remains fail many a time due to poor accessibility of online system.

Learner factors

As far as learner is concerned, he/she have unfavourable attitude towards the use of online system in learning process. Some learners are very comfortable with certain media, while they find difficulty in using some others. All this is due to lack of proper orientation or training of the learners in use of various online modes. Hence learners’ attitude and orientation remain challenge in open learning where digital system is dominated. It is well understood that learner centered education and there after learning centered education need learner to be proactive in their quest of knowledge. Therefore, instead of information being provided by the digital expansion allows learners to explore, locate, select and process the data accessible and changes it in to information and subsequently to knowledge.

Cost or Affordability challenge

Cost or affordability is an important consideration in digital learning selection. The instructional task may be achieved with the help of alternative digital extension. But the choice of media depends on how much the user can spend to get such digital system. In India learners those who are remote and below poverty line facing problem for their survival may not come in the sphere of digital based open learning.

Poor planning and meagre funding

Lack of infrastructure, poor funding, poor planning at all the stages, lack of constituent resource persons are barriers to the dispersal of digital learning based education and of course there are several influences regarding the digital divide and its penalty. The great challenge is to exploit the benefit of online learning system, in order to pick up the delivery and eminence of educational services, as well as to speed up the rate at which knowledge is dispersed and learning chances and outcomes are equalized throughout learner's society.

CONCLUSION

There is more urgent call for to recover the quality and equity of education to overpass the fissure in Indian education system. Today this is being fruitfully done by Open Distance Learning through digital expansion. Simulations of actual – time environments are nowadays used as a tool for learning and training in countless domains as there is an integral scope for practice in real time situation. In sight of the vast number of learners who are out of educational institutions but have to be roped in for education, digitally controlled open learning opportunity could be helpful. In order to make education without discrimination digital system has to be outfitted with the accurate framework and appropriate infrastructure in affordable manner.

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KNOWLEDGE AND AWARENESS OF LEARNING DISABILITIES AMONGST TEACHERS OF SSC SCHOOLS IN MUMBAI: AN ACTION RESEARCH

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Abstract

The study is designed to capture teacher's knowledge, awareness and attitudes towards the teaching and learning of children with learning difficulties of 3- SSC board Schools in Mumbai. The data is collected through a 50-item, valid and reliable questionnaire on learning disabilities that assessed the awareness and knowledge about learning disability amongst teachers. The sample size of the study are 31 teachers, who teach in SSC board schools. Findings show that majority of teachers are at the 'Moderate Level of awareness of learning disabilities.' The study proposes that the teachers need the effective orientation and training regarding the concept of learning disabilities, to create better awareness of the concept.

Keywords: Specific Learning Disability; Knowledge; Awareness amongst Teachers; Inclusive Education

INTRODUCTION

The study is designed to capture teacher knowledge, beliefs and attitudes towards the teaching and learning of children with dyslexia/ learning difficulties within the Indian context. It provides insights into understanding about teachers' attitudes towards inclusion, which can shape their professional effectiveness and identity. The umbrella research question is: how can teachers' experiences of, and beliefs and attitudes about, children with learning /dyslexia influence teachers' attitudes towards inclusion, in the context of Indian primary school?

The focus of the minor action research study is then on the teachers' beliefs about teaching children with some kind of learning disability, who they would consider as dyslexic, dysgraphic and dyscalculic. Recent education policies encourage a search for pedagogical methods and teaching techniques, to respond to the diversity of the needs within mainstream classrooms. Teacher's attitudes are additionally influenced by the level of ability they are asked to accommodate within their classroom. These attitudes and awareness to learning disabilities appear to have important correlates with actual classroom practice, although the direction of causality is not clear. Teachers' awareness and attitudes towards inclusion are clearly influential in the effective management of children with learning disabilities within the classroom. In India, around 13 to 14 per cent of all school children suffer from learning disorders. Unfortunately, most schools fail to lend a sympathetic ear to their problems. As a

result, these children are branded as failures. According to the National Centre for Learning Disabilities, LD is a neurological disorder that affects the brain's ability to receive, process, store and respond to information. The term learning disability is used to describe the seemingly unexplained difficulty a person of at least average intelligence has in acquiring basic academic skills. These skills are essential for success at school and at workplace and for coping with life in general. LD is not a single disorder. It is a term that refers to a group of disorders in listening, speaking, reading, writing and mathematics. A learning disability is a neurological disorder. In simple terms, a learning disability results from a difference in the way a person's brain is "wired." Children with learning disabilities are as smart as or smarter than their peers. But they may have difficulty reading, writing, spelling, and reasoning, recalling and/or organizing information if left to figure things out by them or if taught in conventional ways.

Dyslexia is a reading and language-based learning disability. With this problem, a child may not understand letters, groups of letters, sentences, or paragraphs.

Dysgraphia is a term for problems with writing. An older child may not form letters correctly and they have difficulty in writing within a certain space.

Dyscalculia is a term for problems concerning math. A child may do well in history and language, but fail tests involving fractions and percentages.

REVIEW OF RELATED LITERATURE

The identification and description of LD began in the western world in the 1950s and 60s. The major developments of the LD movement during this period centered on children, who appeared normal in many intellectual skills but displayed a variety of cognitive limitations that seemed to interfere with their ability to read, write and learn in the classroom. These were essentially deficient general learning processes centering mostly on what we today call distractibility, hyperactivity and visual-perceptual and perceptual-motor problems. The LD movement in India is of a recent origin and is today comparable with that of its Western counterpart. Few studies have been detailed below to chart the progress of researches in the area of learning disabilities in India.

Mehta Deepti (2006) conducted the research study was based on finding the awareness level about the following: (1) Concept of learning disabilities; (2) Dyslexia; (3) Dysgraphia; and (4) Dyscalculia. The study was conducted in the following boards: SSC, CBSE, and ICSE. Objectives of the study: (1) To study the awareness among teachers of learning disabilities in students of different board levels; (2) To study the awareness among teachers of learning disabilities in students at primary level and secondary level of different board levels. Findings of the study: The study has revealed that there is a significant difference in the awareness level of learning disabilities in student's among teachers of different boards. Amongst the boards ICSE board teachers are more aware about learning disabilities as compared to the CBSE and SSC board. This was seen by a significant difference in their mean scores.

Kasuma Harinath (2000) studied certain factors related to learning disabilities in English among school students. The objectives of the study were to develop diagnostic tests to identify reading, writing and spelling difficulties, to study the personality of students with learning difficulties and to study the awareness of teachers and parents about learning difficulties. The study revealed that (1) boys experienced more reading disabilities than girls, (2) age and class had no effect, (3) community influenced on their spelling difficulties (4) parents educational qualifications influenced learning difficulties (5) Medium of instruction also influenced learning difficulties particularly spelling difficulties (6) mass media had no influence (7) parents income influenced learning disabilities but not writing difficulties etc. Thus this study delineates various factors related to learning difficulties etc. thus this study delineated various factors related to learning difficulties in English among school students.

Sarojini (2000) conducted a study on the awareness of primary school teachers towards learning disabilities in English at primary stage. The objectives of the study were to develop awareness and to assess the awareness of primary school teachers towards learning disabilities in English at primary stage and to assess the awareness of primary school teachers towards learning disabilities in English. The result showed that the primary school teachers exhibited low level of awareness and the study revealed the need to generate awareness among primary school teachers towards learning disabilities in English. The personal variables such as years of experience, type of school, locality of school also influenced awareness of primary school teachers towards learning disabilities in English at primary stage.

U. Gandhimathi J.O. Jeryda Gnanajane Eljo conducted a to assess the level of awareness about learning disabilities among the Primary School teachers. Descriptive design was used. The universe of the present study consists of primary school teachers working in 80 schools in Tiruverumbur block, Tiruchirappalli (Government and private schools). Based on lottery method 16 schools were selected. The census method was adopted and the data was collected from 71 teachers in these 16 schools. It was found that majority of the respondents (66.2%) were found to have low level of overall awareness about learning disability. Methods of social work can be used to intervene-with the teachers to enhance the level of awareness regarding learning disabilities among school children.

NEED OF THE STUDY

This study attempts to investigate the knowledge and awareness of learning disabilities among teachers of secondary schools. Learning disabilities are very big challenge for schools and teachers. If the learning disabilities are ignored, unnoticed and unanswered such children's needs are not met in regular classrooms or special education within the school; we cannot fulfill the aim of universalization of elementary education and equalization of educational opportunity. It is therefore imperative for us to first know the awareness level of learning disabilities among teachers. The level of awareness will determine what further action needs to be taken in the matter to enhance/promote knowledge about learning disabilities. The results of the previous studies by Shukla, P., and Agrawal, G. reveal that the teacher educators have shown low level of knowledge about the specific learning disabilities based on their gender

and teaching experiences perhaps due to improper training and awareness of the concept. The present study will look at the awareness level of teachers about learning disabilities.

IMPORTANCE OF THE STUDY

School learning is affected by many factors. The personal characteristics of the child, familial attributes, and factors related to the school and class altogether affect the child's ability and potential to benefit from teaching. These factors influence the child's learning experiences and in the process affect the child's self-image as a learner, among many other attributes. Understanding this system helps us to understand the underlying factors in children's learning difficulties which are a prerequisite for planning and implementing effective pedagogical and intervention strategies. Studies reveal that child-related factors, as well as family and close community-related factors, are central to the effectiveness of learning. However, we must not focus merely on the child and his/ her skills or lack of skills as we examine problems with learning and if the child is facing learning disability issues. The present study will study the awareness level of teachers about the concept and types of learning disabilities. Detailed report will be shared with the schools so that awareness programmes can be designed and implemented at school level.

RESEARCH PROBLEM

A Study on the Knowledge and Awareness Level of Learning Disabilities among Teachers of SSC board Schools in Mumbai.

OPERATIONAL DEFINITIONS

Learning disability is a genetic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, reading, writing, reasoning and mathematical abilities.

Dyslexia is a reading and language-based learning disability. With this problem, a child may not understand letters, groups of letters, sentences, or paragraphs.

Dysgraphia is a term for problems with writing. An older child may not form letters correctly and they have difficulty in writing within a certain space.

Dyscalculia is a term for problems concerning math. A child may do well in history and language, but fail tests involving fractions and percentages.

OBJECTIVES OF THE STUDY

- To assess the knowledge and awareness level of secondary school teachers regarding learning disabilities.

- To compare the knowledge and awareness level among teachers about learning disabilities on the basis of Gender and Experience in teaching field.

HYPOTHESES OF THE STUDY

- H1- There is no significant difference in teachers' knowledge and awareness level on learning disabilities with respect to their gender.
- H2- There is no difference in teachers' knowledge and awareness level on learning disabilities with respect to their teaching experience.

SAMPLING TECHNIQUE

Convenience sampling technique is used by the researchers. Data has been collected from teachers who teach in the following schools:

1. Air India Modern School
2. Purushottam High School
3. Bandra Hindu High School

Table 1: Size and Nature of Sample (Gender and Teaching Experience of Sample)

Sample	N	Experience of Teachers Years	Percentage in Total sample
Male	7	15 above	52%
Female	24	6 to 14 year	19.35%
Total	31	1 to 5 year	29.20%

TOOL FOR DATA COLLECTION

Data was collected after seeking permission from schools. The tool used for the research was 50 items questionnaire designed to measure the level of knowledge and awareness of Learning Disability among teachers of SSC School. The tool is valid and reliable.

The tool is constructed by Dr. Deepti.Mehta and Dr. Sudha Pingle, Dept. of Education, University of Mumbai

The data consist of 50 items questionnaire that measures low, moderate and high level of knowledge and awareness of Learning Disability among teacher. The scoring is as follows:

- If the answer is correct 1 point is given.
- If the answer is wrong 0 point is given.

DESCRIPTIVE ANALYSIS OF DATA

Table 2: Knowledge and awareness level about Learning Disabilities among teachers

Sample	Highly awareness	Moderate awareness	Low awareness
Male	14%	85.70%	0.00%
Female	25%	62.50%	12.50%

The above Table shows the prevalence of the three levels of awareness among male and female teachers. It is apparent from the table that number of teachers on High level of awareness are less compared to the other two. This also indicates that male and female teachers sample at the moderate level of awareness are larger in number.

Table 3: Mean Values of knowledge and awareness level of Learning Disabilities of Teachers based on Gender.

Sample	N	Mean
Male	7	35.1
Female	24	33.0
Total	31	33.5

The above Table shows the mean value of scores on the awareness of learning disabilities based on gender and for total sample. The values indicate that the awareness level about the concept of learning disabilities is at moderate level.

Table 4: Mean Values of knowledge and awareness of Learning Disabilities of Teachers based on their Experience

Sample	N	Mean
Highly Experienced Teachers	16	33.7
Moderately Experienced Teachers	6	33.1
Novice Teachers	9	33.3

The above Table shows the mean value of scores on the awareness of learning disabilities based on experience level of teachers. The values indicate that the awareness level about the concept of learning disabilities is satisfactory.

STATISTICAL ANALYSIS

Testing of Hypothesis I: There is no significant difference between teachers' awareness on learning disabilities with respect to their gender.

Statistical Test: 't' test**Difference Scores Calculations****Group: Female**

N1: 24

$$df1 = N - 1 = 24 - 1 = 23$$

M1: 33.04

SS1: 1790.96

$$s21 = SS1/(N - 1) = 1790.96/(24-1) = 77.87$$

Group: Male

N2: 7

$$df2 = N - 1 = 7 - 1 = 6$$

M2: 35.14

SS2: 112.86

$$s22 = SS2/(N - 1) = 112.86/(7-1) = 18.81$$

T-value Calculation

$$s2p = ((df1/(df1 + df2)) * s21) + ((df2/(df2 + df2)) * s22) = ((23/29) * 77.87) + ((6/29) * 18.81) = 65.65$$

$$s2M1 = s2p/N1 = 65.65/24 = 2.74$$

$$s2M2 = s2p/N2 = 65.65/7 = 9.38$$

$$t = (M1 - M2)/\sqrt{(s2M1 + s2M2)} = -2.1/\sqrt{12.11} = -0.6$$

Conclusion: The t-value at 0.01 level of significance is -0.60371. The p-value is .275366. The result is not significant at $p < .01$. Therefore the null hypothesis that there is no significant difference between teachers' awareness on learning disabilities with respect to their gender is accepted. This means that both male and female teachers' awareness of the concept of learning disabilities does not differ significantly.

Testing of Hypothesis II: There is no difference between teachers' awareness on learning disabilities with respect to their teaching experience.

Statistical Test: ANOVA*Table 5: Testing Hypothesis II*

	1	2	3	Total
N	9	6	16	31
$\sum X$	300	199	540	1039
Mean	33.3333	33.1667	33.75	33.516
$\sum X^2$	10290	6707	19754	36751

Std. Dev.	6.0208	4.6224	10.0962	8.0161
<i>Source</i>		<i>SS</i>	<i>df</i>	
Between-treatments		1.9086	2	
Within-treatments		1925.8333	28	
Total		1927.7419	30	

Conclusion: The f-ratio value is 0.01388. The p-value is .986228. The result is not significant at $p < .01$. Therefore the null hypothesis that there is no difference between teachers' awareness on learning disabilities with respect to their teaching experience is accepted. This means that the teachers' awareness of learning disabilities does not differ significantly according to their experience.

DISCUSSION ON FINDINGS

The discussion here is based on the descriptive and statistical analysis of data and its results. Moreover, recommendation of effective orientation and training regarding concept of Learning disability required for teachers of schools with respect to learning disabilities.

The result of this study showed that the level of awareness that the awareness level among teachers in schools is classified in moderate level. The findings of the study are teachers do not present funded knowledge about learning disorders, and do not know which procedures should be taken, when facing those problems and don't know how to realize the appropriate intervention because they never came across which such type of students so that the students can overcome the difficulties.

The results evidenced that their knowledge about learning disorders/disabilities is at times superficial and biased, because during their non- exposure to learning disabled children. It is necessary for SSC school teachers to be more familiar with students with special learning disability and be more favourably capable of identification and recognition of these kinds of students in their class in order to prevent the incidence of further mental and social damage by adopting particular educational rehabilitation. First of all, the teachers are need to be trained to identify LD students, adopt the new teaching strategies, and accommodate the LD students and use the knowledge and training in their daily classrooms. Thus the present study proposes that teachers teaching in schools should be made aware through schools programmes and short term courses and workshops about learning disabilities.

The present study is undertaken under Dr. Radhika Vakharia, Teacher Educator, Rizvi College of Education. She is interested in enhancing teaching/learning practices for learning disabled.

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TEACHER EFFICACY AND PEDAGOGICAL BELIEFS: UNDERSTANDING THE TWO VITAL ELEMENTS OF TEACHER COGNITION

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Abstract

The present study was an attempt to understand two important elements of teacher cognition – teacher efficacy and pedagogical beliefs and the relationship between them. Teacher efficacy is teachers' belief in their ability to perform classroom tasks and this has been found to be a great motivational construct leading to enhanced student achievement. Pedagogical beliefs are special class of beliefs that reflect teachers' understanding of teaching and the values ascribed to that understanding. The study aimed at comparing the teacher efficacy and pedagogical beliefs of first- and second-year B.Ed. students. It also examined the relationship between these two constructs. Independent sample t-ratio showed that there is no significant difference in the teacher efficacy and pedagogical beliefs of student teachers. Correlational analyses demonstrated a significant relation for pedagogical beliefs and efficacy. This study confirmed the need of further exploration of these constructs in depth.

Keywords: Teacher efficacy, pedagogical beliefs, student teachers.

Great amount of research is being undertaken in various areas of teacher cognition. Teacher efficacy and teachers' pedagogical beliefs are two such areas of great potential. Studies have shown that both these elements of teacher cognition contribute positively towards teacher performance and student achievement.

TEACHER EFFICACY – AN EVOLVING CONSTRUCT

The construct of teacher efficacy was identified a few decades ago and its origin is ascribed to two main sources of researches. One is researches by RAND company on Rotter's (1996) Locus of Control. The second is researches based on Albert Bandura's Social Cognitive Theory. **Self efficacy** an important concept of Social Cognitive theory is defined by Bandura as "the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations". This self efficacy applied in educational process improvement becomes ***Teacher Efficacy***. So teacher efficacy is defined as follows.

Teacher efficacy is the extent to which the teacher believed he or she had the capacity to affect student performance - McLaughlin & Marsh, (1978); Berman & McLaughlin(1977).

Teacher efficacy can be considered a global characteristic because they are broad, descriptive mental representations teachers hold about the work they do in their classrooms. While reviewing a good amount of literature on teacher efficacy, Ogah, (2006) exposed its application in educational practices for bringing about positive student outcomes. Meta analyses of 43 researches by Klassen & Tze, (2014) revealed that teachers' self efficacy was strongly related to teaching performance.

PEDAGOGICAL BELIEFS – SPECIALIZED BELIEFS OF TEACHERS

Defining belief in clear terms is quite difficult because of its psychological nature. Pajares (1992) has labeled beliefs a “messy construct” because it is difficult to make a distinction between knowledge and beliefs. And measuring belief needs a clear understanding of its meaning.

Rokeach (1968), a ‘belief’ refers to any simple proposition, conscious or unconscious, inferred from what a person says or does, capable of being preceded by the phrase “I believe that...” (p.113).

Teacher's beliefs have a great influence on teacher performance in the class. They influence all pedagogical practices like planning, decision making and teaching strategies and tools a teacher employ in the class (Borg, 2003; Ng and Farrell, 2003; Farrell and Kun, 2008 cited in Li, 2012). Teachers' pedagogical beliefs exist in the areas of subject matter, teaching, learning and learners, the teacher and professional development (Calderhead, 1996). Teachers hold various beliefs (e.g. teaching techniques, classroom management and dealing with problem behaviors) about how teaching should occur. Some teachers may regard teaching as knowledge transmission, others as facilitating learning (Calderhead, 1996). Teachers adopt different approaches depending on how they view teaching. Teachers hold varied values about pedagogical knowledge and knowledge types (i.e., procedural, conditional, and declarative). Teachers' belief about teaching in general also differs - teaching is a talent or a trained enterprise.

In the present study pedagogical beliefs are conceptualized as a specialized class of beliefs that reflect teachers' understanding of teaching and the valences ascribed to that understanding.

RELATIONSHIP BETWEEN TEACHER EFFICACY AND TEACHERS' PEDAGOGICAL BELIEFS

Studies investigating different belief sets of teachers showed positive relation of these beliefs with teacher efficacy and this in turn resulting in better educational outcomes. Investigating the relationship between pupil control beliefs and efficacy of student teachers, Woolfolk and Hoy (1990) found out that preservice teachers with high general teaching efficacy were more humanistic in their pupil control ideology. This implies that cooperative interactions and experiences could produce better student outcome rather than rigid and highly controlled settings. Studies showed that teachers' larger ontological beliefs as well as more specific

contextual beliefs were related to teacher efficacy. Researches investigating this relationship are not adequate to make a strong establishment of the same.

PURPOSE OF THE STUDY

This study is an attempt to explore and understand the two elements of teacher cognition - teacher efficacy and teachers' pedagogical beliefs in relation to student teachers. The study attempts to answer the following questions.

Do the first year and second year students differ in their teacher efficacy and pedagogical beliefs?

What is the relationship between student teachers' pedagogical beliefs and their teacher efficacy?

The study utilized a qualitative survey method to deal with these questions.

OBJECTIVES OF THE STUDY

The following objectives were framed.

4. To compare the pedagogical beliefs of first year and second year B.Ed. students.
5. To compare the teacher efficacy of first year and second year B.Ed. students.
6. To examine the relationship between teacher efficacy and pedagogical beliefs.

HYPOTHESES OF THE STUDY

Based on the objectives framed, the following hypotheses were postulated.

Hypothesis 1

There is no significant difference in the pedagogical beliefs of first and second year B.Ed. students.

Hypothesis 2

There is no significant difference in the teacher efficacy of first and second year B.Ed. students.

Hypothesis 3

There is no significant relationship between teacher efficacy and pedagogical beliefs of B.Ed. students.

SAMPLE OF THE STUDY

Purposive sampling technique was used to collect data. The sample included student teachers of first and second years B.Ed. students of a teacher training institution in Mumbai.

Table1. Sample details

Institution	First Year B.Ed. Students (F.Y)	Second Year B.Ed. Students (S.Y)
St. Teresa's Institute of Education, Mumbai.	47	49

TOOLS USED FOR THE STUDY

The two tools used for the study are briefed below

1. Teacher Efficacy of the student teachers was measured using Teachers' Sense of Efficacy Scale (TSES) long form developed by Tschannen-Moran and Woolfolk-Hoy (2001).
2. Pedagogical Beliefs of the student teachers' was measured using a scale designed by Fives, H. (2013).

STATISTICAL ANALYSIS OF THE STUDY

Descriptive and inferential data analyses were done with the data.

Descriptive data analysis was done by determining the mean, median, mode and standard deviation of the teacher efficacy and pedagogical beliefs scores. The data is presented graphically too.

Table2: Descriptive analysis of data

Group	N	Variable	Mean	Median	Mode	Standard Deviation
F.Y	47	Tr. Efficacy	168.8	173	155	19.32
		Ped. Beliefs	94.83	95	84	9.32
S.Y	49	Tr. Efficacy	173.9	176	168	20.54
		Ped. Beliefs	96.18	98	99	9.4
TOTAL	96	Tr. Efficacy	171.45	173	168	20.0
		Ped. Beliefs	95.5	96	99	9.3

The above table shows a summary of the descriptive analysis of the data. The mean score of teacher efficacy of the second-year students was found to be slightly higher than that of the first year students. The mean score of the pedagogical beliefs of the second-year students was found to be slightly higher than that of the first-year students. The same information is graphically presented below.

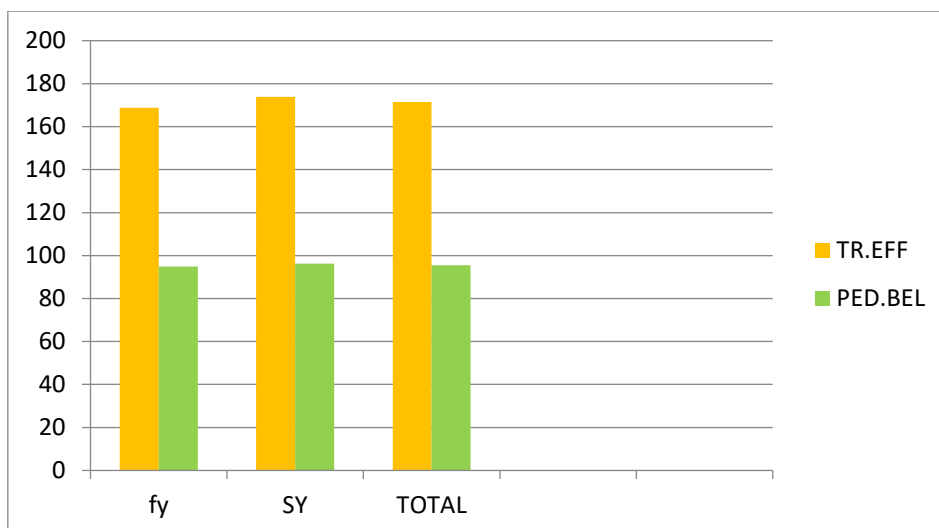


Figure1: Graphical representation of the mean scores of teacher efficacy & pedagogical beliefs

Inferential data analysis was carried out for the hypotheses testing.

Hypothesis 1

There is no significant difference in the pedagogical beliefs of first and second year B.Ed. students.

Table3: t-ratio calculation for pedagogical beliefs of first and second year students

Year	df	Mean	SD	t-ratio	Significance
First Year	94	94.83	9.32	0.71	.01 level 1.98
Second Year		96.18	9.4		.05 level 2.617

*t- ratio is not significant at 0.01 and 0.05 levels of significance.

Result

To test the above hypothesis, independent samples t –ratio was calculated. The calculated t value of 0.71 is lower than the table values at 0.01 and 0.05 levels of significance. So the null hypothesis is accepted. There is no significant difference in the pedagogical beliefs of first year and second year B.Ed. students.

Discussion

The result of hypothesis testing showed that the pedagogical beliefs of first year and second year B.Ed. students do not vary significantly. This implies that student teachers beliefs about pedagogical knowledge is not influenced by the training they receive in the teacher education programme. Student teachers develop their belief right from their school learning days. The importance they place on pedagogical knowledge and the value they ascribe to different types of pedagogical knowledge are developed over years through their encounters in all teaching

learning endeavours. Training institutions and internships play limited role in developing the pedagogical beliefs of teachers.

Hypothesis 2

There is no significant difference in the teacher efficacy of first and second year B.Ed. students.

Table4: t-ratio calculation for teacher efficacy of first and second year students

Year	Df	Mean	SD	t-ratio	Significance
First Year	94	168.8	19.32	1.24	.01 level 1.98
Second Year		173.9	20.54		.05 level 2.617

*t- ratio is not significant at 0.01 and 0.05 levels of significance.

Result

To test the above hypothesis, independent samples t –ratio was calculated. The calculated t value of 1.24 is lower than the table values at 0.01 and 0.05 levels of significance. So the null hypothesis was accepted. There is no significant difference in the teacher efficacy of first year and second year B.Ed. students.

Discussion

Hypothesis testing showed that there is no significant difference in the teacher efficacy of first and second year students. This implies that the one year the students spend in the training college learning the different course subjects and being in schools for internship does not contribute much towards the efficacy beliefs of teachers. The sources of efficacy need to be revisited and researches conducted to identify the contributory factors of teacher efficacy.

Hypothesis 3

There is no significant relationship between teacher efficacy and pedagogical beliefs of B.Ed. students.

Table5: Correlation coefficient of teacher efficacy and pedagogical beliefs scores

Variables	r value
Teacher Efficacy & Pedagogical Beliefs	0.43

The coefficient of correlation between teacher efficacy and pedagogical beliefs was calculated as 0.43 which shows positive moderate correlation between these two variables. So the null hypothesis is rejected.

Discussion

Hypothesis testing showed that there is a positive moderate relationship between the variables teacher efficacy and pedagogical beliefs. This finding is of great significance because teachers with greater teacher efficacy will exhibit more sophisticated beliefs about pedagogical

knowledge. This result shows that the importance of pedagogical knowledge for student teachers is related to their beliefs about their ability to implement that knowledge in the classroom. Efforts should be done to strengthen appropriate beliefs among student teachers to enhance their efficacy and in turn their performance in classrooms. The relationship between teacher efficacy and pedagogical beliefs being moderate indicates that there are other factors contributing towards teacher efficacy.

CONCLUSION

Teacher efficacy and pedagogical beliefs have evolved as important constructs in teacher education. Previous studies have well established the role of teacher efficacy in successful performance of teachers as well as student teachers. But not much studies have been done to understand pedagogical beliefs of student teachers and its relationship with teacher efficacy. The present study was an attempt in this direction. The findings of the study necessitates further in depth study in the area. Also data from multiple sources need to be collected and analysed to confirm the findings.

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A WALK FROM CHALKBOARD LEARNING TO MOOC -A TECHNOLOGICAL EVOLUTION IN MATHEMATICS

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Abstract

Technical advancement has played a vital role in development of modern education system. With the advent of internet and different operating system, access of information has become simpler and easier. Various new innovations in teaching learning and evaluation like MOOC's, Virtual laboratory and classroom has been made possible due to growing technology. Certain software's and mobile application systems has helped students to visualize abstract mathematical concept to a better extent and remember them with ease. Such e-learning applications have proved to be crucial in increasing the interest of new generation students and to connect them to wider options of courses. The aim of this study is to present a survey result (Undergraduate and Postgraduate Level) of awareness about various MOOCs available across the globe. How such courses and mobile-learning applications have helped students in getting various options for self-learning. Also, how they are fruitful for teachers in course advancement and bridging knowledge. The study will further present the top MOOC providers and their evaluation systems.

Keywords: Teaching, Learning, MOOC

INTRODUCTION

Internet helps in democratization of education, by facilitating everyone to access knowledge that has been accumulated by mankind. Internet gives a very flexible access to any kind of data, based on the needs of the learner. It can be knowledge-based, skill-based or attitude-based learning and learning through internet can have impact on all these. This has resulted in a facility, wherein learners can access any content at any time, place and pace, based on their convenience. Many educational organizations have begun offering various courses via web in different formats.

Modular Object Oriented Dynamic Learning Environment (MOODLE) is an important learning management system through which Massive Open Online Courses (MOOCs) are structured. An e-conference through MOODLE facilitates group discussion. It also helps to update assignments and hence proves to be effective for interaction and comprehension. The usual problems of group meetings can be avoided through MOODLE, but it does have a

drawback, wherein nuances in speech and body language are missing. In spite of this, it still serves as a good tool for effective communication.

Electronic books also help the academic purpose to a large extent. E-books extend easy accessibility and good search options. These e-books and other digital materials are embedded in the Virtual Learning Platforms (VLE) like MOODLE and MOOCs. However, due to lack of empirical research, the annotative and sharing capabilities of e-books need evaluation. The assessment of the NextGeneration e-Book (NG-eBook) with annotative and sharing capabilities has been reported. The intention is to promote student learning students by sharing of ideas and reflection. The findings show that the use of NG-eBook leads to considerable engagement and interactions among students.

UNDERSTANDING MOOC

Massive Open Online Courses, MOOCs are free courses. They are accessible and flexible. They are delivered through third party platforms, utilizing distributed peer learning and broadcast. This creates a new relationship between students, institutions, academics and educational technology firms. Higher Education experienced the first MOOC in 2008 and this offered virtual education option to those who were interested. MOOCs and ordinary courses do have similarities as both have timelines that are predefined with topics being broken down on a weekly basis.

However, MOOCs do not charge any fee, have no other prerequisites than internet access, no any expectations predefined for participation and no accreditations that mean no credit or certificate is offered on completion. Popular MOOCs like Coursera, Udacity and edX nurtures collaboration in learners. MOOC topics vary widely like “Digital Story telling”, “Game Theory”, “Jazz Appreciation”, “Health and Society” etc. In place of attending live lectures, that happens traditionally, MOOC students watch the pre-recorded lectures in videos, quizzes etc. and participate in online discussion forums for clarifications. Students can discuss, put forth their thoughts, build a kind of community similar to traditional classrooms. MOOCs are put forth by the instructors and usually they are hosted by the MOOC provider.

The providers handle the user registration, content management, testing and all other “back-end” services. Initial MOOC courses had no prerequisites or admission requirements. It was offered free of cost, had negligible direct faculty interaction and did not carry any academic credit. It was designed for a lifelong-learning. In a reported study, about 88 percent of students, enrolled in Coursera’s MOOCs, had already earned one or more degrees. Students seemed to be “experimenting” the subjects that interested them and did not have the intention of getting more degrees and the completion rates were only 9-10% only.

Table 1- Evolution of MOOC

Year	Platform
2000-2007	Open Education

2008	cMOOC
2011	Stanford xMOOCs
2011-2012	MICx
2012	Udacity and Coursera
2012 - 2014	FutureLearn, Edx
2016-2017	Swayam

MOOC EVALUATION PROCESS

Research has shown that MOOC students project good learning and prefer studying in groups. This gives a social facilitation in the study groups and helps learning difficult concepts in a pleasing manner. A study has been carried with on-campus flipped classroom environment, where students watched and studied MOOC videos together. Findings showed high level overall satisfaction in this environment.

Students liked being synchronized in the group. However, a balance between video interaction, degree of conversation and synchronization was important and added to effectiveness of learning in such groups. Universities around the world accepted MOOCs during 2012-2013. This was in collaboration with the companies that provided infrastructure. MOOC trend show enthusiastic reactions. MOOCs and its types seem to be varying in its openness and massiveness. Online teachers who have studied reactions of the students to online education for a decade or more have some surprises.

There are over 60 evaluation studies by students of the pros and cons of online techniques done by The International Research Review of Online and Distance Learning. Due to the increasing costs of infrastructure with diminishing resources faced by policy-makers and educators, such a circumstance is created wherein data are simply dumped into communication channels. It is noticed that technology is maximized while human contact is minimized along with amplification of isolation and psychological distance.

The most disturbing fact is that major MOOC providers have not hired people trained in instructional design, sciences, educational technology or other educational specialties to design the courses

MOOC SURVEY FOR MATHEMATICS COURSES -STUDENTS

Students from 2 different institution across Mumbai were surveyed for which 120 responses were recorded. Among 120 students all from science stream, 80 were from Under Graduation (B.Sc Mathematics) and 40 were from PG (M.Sc. Mathematics). Out of 120 responses 30 took the help of online videos and notes and 30 liked approaching their teachers, thus showing the equal need of online resources for self-study. Students were also asked about their awareness

and utility of mathematical software's and mobile applications in learning, details of which is tabulated below:

Table 2- Student awareness w.r.t. MOOC and M-Learning in Mathematics

Use of MOOC for Mathematics	Level	Responses	Yes	No	Unaware
	UG	80	17	16	47
PG	40	20	10	10	

INFERENCES

The above table 2 shows that nearly 60% of the students at UG level are unaware of the existence of MOOC courses in the field of Mathematics. Nearly 25% PG level students have shown ignorance in these areas. Less than 25% of the students considered in this study use these MOOC courses to its full potential.

The reason for the poor knowledge of these courses could be the lack of encouragement provided by the subject teachers. Most of the times, the teachers are unaware of these enhanced courses and hence, this knowledge doesn't get forwarded to the students. Government of India in particular have given additional emphasis to MOOC to ensure literacy and self-enhancement of knowledge.

Another reason of unawareness of these resources could be the language. Since language act as a barrier sometimes in lecture therefore students were also asked about the idea of providing video lectures of their teacher in other local languages on some topics. Out of 80 responses of UG students, 21 wanted lectures in local languages, 35 in English and remaining students said they may not refer.

The main idea of encouraging MOOC is to establish connection of mathematics with other areas and provide wider scope to the subject. Also, these courses can increase the student's chances of employability. Another area of concern was to know about the impact of virtual classrooms. Out of 80 students of UG 18 connected with their teachers on online platforms for notes and study material, whereas 18 were unaware and remaining were aware but were not using them. Users felt that these platforms are more convenient in getting study material and other information from the teacher.

MOOC SURVEY FOR MATHEMATICS COURSES -TEACHERS

Faculty of mathematics from 10 different institution with experience ranging from 5–15 years were surveyed. Their response on awareness and utility of software and mobile applications is tabulated below:

Table 3 – Teacher awareness

	Responses	Yes	No	Unaware
Use of Mathematical MOOC	24	07	09	08
Use of mathematical software and Mobile applications	24	08	06	10
e-Assessment	24	06	14	4

INFERENCES

The major concern here is that either the teachers themselves are unaware of the courses and softwares of e-learning or they don't want to use them. This type of outlook hampers the growth of the student, teacher and the institution under consideration.

CONCLUSION

E-learning is greeted all over the world, especially for academics, as the benefits are very satisfying. Compared with face-to-face learning, E-learning is very effective due to its benefits like Moodle, NG-eBook, collaborative E-learning, m-learning, cloud computing etc. Almost all the countries are involved in developing, implementing and upgrading E-learning, at various segments of education and at various levels of development. The sharing of ideas and exchange of E-learning programs between countries is not gaining momentum to a greater extent. This will definitely save time, energy and money for all the countries. The errors can be avoided and good ideas can be implemented.

The above studies show that each country has concentrated in improving different fields of higher education and so when these ideas are exchanged, definitely there is a considerable, overall, fruitful growth and benefit for all. The International E-learning Association (iELA), New York and other new organizations need to come forward and take the world together in E-learning. They can create numerous opportunities and provide a platform so that E-learning ideas gets culminated to grow higher and higher.

MOODLE is a good learning management system that supports the MOOCs to be structured. MOOCs have evolved and developed through these years as Coursera, Edx, Udacity, Future learn etc. Understanding the learner background is a very important aspect of MOOC. Continuous feedback from these students is also crucial in creating much more effective MOOCs. Universities in UK and US have introduced MOOCs to support some of their University teachings. Government of India has also launched its MOOC courses through the Mobile application called Swayam. MOOCs seem to be having the power to redefine education and can attain a "golden age," by following strict ethical rules for all involved in it. A developing country like India should deliberate into all these aspects before adopting this technology.

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ENHANCING LEARNING AND PERFORMANCE IN INDIAN CLASSROOMS OF MATHEMATICS

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Abstract

Mathematics is regarded as the queen of all sciences. It is a subject that explores the truth of life from different angles. Without logic, methodical approach and reasoning, doing away Mathematics problem is a tricky job. For long, the role of Mathematics was limited to purely academic domain. Now, the role of Mathematics is not restricted to purely academic domain, it has entered the domain of technology and industry. Technology provides dynamic opportunities in a Mathematics classroom. We can enhance the learning process and make concepts come alive through engaging and interactive media. Information Communication Technology can reduce the effort devoted to tedious computations and increase students focus on more important topics. Information Communication Technology is playing a vital role in teaching-learning of Mathematics. Thus, technology with appropriate pedagogy are imperative reforms for quality enforcement that makes individuals lifelong learners as learning never ends and successfully prepares them with the skills and capacities for 21st century.

Keywords: Information Communication Technology, appropriate pedagogy.

INTRODUCTION

Mahatma Gandhi quoted “Live as if you were to die tomorrow. Learn as if you were to live forever.” From the said quote everyone can realize the importance of learning in education. To enhance the learning and performance in the classroom of mathematics, the role of teacher is very important. In Mathematics education expected learning outcomes involve a combination of knowledge, skill, attitudes and values. Now, the role of Mathematics is not restricted to purely academic domain, it has entered the domain of technology and industry. Therefore, Information Communication Technology is playing a vital role in teaching and learning of Mathematics.

Mathematics develops skills like critical thinking, problem solving, analytical thinking, ability to manipulate precise and intricate ideas, communication, time management, construction of logical arguments and expose logical argument, social skills, etc. Mathematics explores the truth of life from different angles. Without logic, methodical approach and reasoning, doing away Mathematics problem is a tricky job. In order to educate students to be life-long learners and successful contributors to the latest global market, the way of teaching-learning

Mathematics should be changed. Curriculum and assessment in Mathematics should explicitly require that all young students become adept in using Information Communication Technology for mathematical requirements.

Teaching must include two major components sending and receiving information. Any communication methods that serve this purpose without destroying the objective could be considered as innovative methods of teaching. Benefits of innovative methods improve learning process. Traditional teaching in a classroom of Mathematics using chalk and talk is one-way flow of information, the material presented is only based on lecture notes and textbooks. I still remember the chart displayed in the physics lab during my under graduation, saying:

I hear and I forget,
I see and I believe,
I do and I understand.

Albert Einstein famously said “his pencil was more intelligent than he was” – it means that he could achieve a lot using his pencil as an aid to thinking than he could unaided. It is essential to recognize that ICTs are the pencils of today and that we will only fully exploit the benefits of digital technologies in teaching, learning and doing Mathematics. To achieve expected learning outcomes and to enhance learning and performance in the classroom of Mathematics, appropriate teaching pedagogy was used in Elphinstone College by its Department of Mathematics from 2012 to 2016.

1. Use of ICT in teaching of Mathematics.
2. Conduction of interdisciplinary workshop and UGC sponsored state level workshop on ‘Topics in Ring Theory’.
3. Friday forum
 - Discussion of topics other than syllabus and supportive to the syllabus
 - Discussion on current research trends
4. Students enrichment programme
 - Mathematical charts, posters, projects, PowerPoint presentations by the students
 - Booklet on the Indian great mathematician, Srinivas Ramanujan on the eve of national mathematical year 2012
 - Booklet on women mathematicians
5. Field visits
 - Visit to Tata institute of fundamental research, Mumbai on 19/12/2012
 - Visit to BARC, Mumbai on 01/03/2016
6. Celebration of national science day on 28/02/2013
7. Conduction of bridge courses
8. Mentoring

DISCUSSION

1. Use of ICT in teaching of Mathematics.

Researchers have found that the move from traditional paper-based mathematical notations to on-screen notations (including algebraic symbols, but also graphs, tables, and geometric figures) can have a dramatic effect. Appropriate use of ICTs allows learners to have the freedom of choice to decide their own time, place, pace, or path to study. Learning materials that are enhanced with various media such as sound, narration, video, animation, graphics etc. provide learners choices to enhance their different intelligence or learning styles. If designed and implemented properly, ICT-supported education can promote the acquisition of the knowledge and 21st-century skills such as Creativity, critical thinking and problem solving. Learners are able to exchange ideas more personally and directly. The new ways of teaching and learning are underpinned by constructivist theories of learning and constitute a shift from a teacher-centered pedagogy to one that is learner-centered.

There are various types of technologies available now a days. We actually use interactive whiteboard that provides touch control of computer applications. These intensify the experience in the classroom by showing anything that can be on a computer screen. This not only aids in visual learning, but it is interactive so the students can draw, write, or manipulate images on the interactive whiteboard.

There are software's used for teaching learning Mathematics: Graphics Calculators, Dynamic graphing tools, Dynamic geometry tools, Microsoft Excel/spreadsheet, Microsoft Mathematics, Geo Gebra, Auto shape, MATLAB, Latex, Sage, Plotter, Scilab, Grapher. Out of these we used, MATLAB, Sage to teach linear algebra. Graphics calculators were used in balancing chemical equations. Microsoft excel spreadsheets were introduced to students. Many online mathematical tutorials and websites were also introduced to the students.

Conduction of interdisciplinary workshop

S.Y.B.Sc. course, Mathematics, paper II, was containing:

UNIT 1: Namely, System of linear equations and matrices

- a. System of homogenous and non-homogenous matrices, row echelon form of a matrix and,
- b. Gaussian elimination method. Application of Gaussian elimination method to solve system of linear equations
- c. the matrix units, row operation and elementary matrices, elementary matrices are invertible and invertible matrix is a product of elementary matrices

Looking into the above syllabus, the interdisciplinary workshop on 'Balancing Chemical Equations using Matrices', in 2012, with the following objectives:

- students should become competent in finding the inverse of matrix.
- the students should become competent in solving system of linear equations using matrices and by Gaussian elimination method.
- to enable the students to apply above knowledge in Balancing Chemical Equation.
- to enable students to use graphics calculator competently.

Three departments Mathematics, Information Technology, Chemistry were involved in it.

Balancing Chemical Equation with the help of graphics calculator was explained by Information Technology faculty.

Balancing Chemical Equation by oxidation method was explained by Chemistry faculty.

Balancing Chemical Equation using matrices was explained by myself.

The students from B.Sc.(IT), B.Sc.(Bio-tech), along with the regular students of B.Sc. participated in this workshop.

All the aspects of Unit I were successfully covered by conduction of this workshop and thus, expected learning outcomes were achieved.

2. Conduction of UGC sponsored state level workshop on ‘Topics in Ring Theory’.

T.Y.B.Sc., Mathematics course, paper II was containing ring theory with 40 marks in choice of 100 marks paper. S.Y.B.Sc. Mathematics, paper II was containing vector spaces, group theory. In the view of the above syllabus, UGC sponsored state level workshop on ‘Topics in Ring Theory’ was conducted in 2014 with the main objectives:

- to develop the interest in ring theory.
- to enable students to understand ring theory

The experts delivered talks on semi rings, near rings, commutativity in near rings. Being state level workshop, the faculties, students of Mathematics from all over Maharashtra participated in this workshop. From the feedback obtained from the students, we can say the objectives of the workshop were fulfilled.

3. Friday forum

Cooperative and collaborative learning plays vital role in enhancing learning and performance in classroom. Collaborative learning is a method of teaching and learning in which students get together to explore a significant question and reach some conclusion or create a meaningful project. A group of students discussing a topic or students working together over the Internet on a shared assignment are examples of collaborative learning. Cooperative learning, is a specific type of collaborative learning. In cooperative learning, students work together in small groups on a structured activity. Cooperative groups work face-to-face and learn to work as a team.

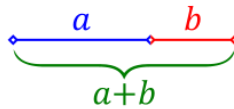
In order to create an environment in which cooperative and collaborative learning can take place, department of Mathematics introduced Friday forum, in which students were challenged. The groups formed were small enough that everyone could contribute. On every Friday, students used to get together. Videos on YouTube like golden ratio and pizza theorem were discussed.

i. Golden Ratio

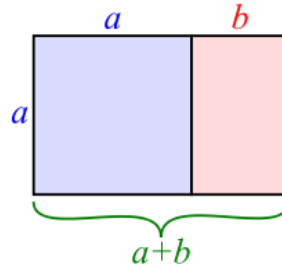
In Mathematics, two quantities are in the **golden ratio** if their ratio is the same as the ratio of their sum to the larger of the two quantities.

Consider a line segment which is divided into parts, a and b , where $a > b > 0$.

If $(a+b)/a = a/b$, then we can say that the line segment is in Golden ratio



Line segments in the golden ratio



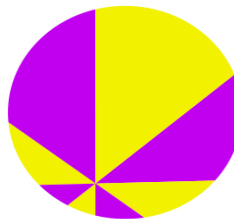
Similarly, a golden rectangle with longer side a and shorter side b , when placed adjacent to a square with sides of length a , will produce a similar golden rectangle with longer side $a + b$ and shorter side a . the golden ratio is denoted by Greek alphabet, ϕ (phi), is an irrational number with a value of 1.6180339...

Some twentieth-century artists and architects, have proportioned their works to approximate the golden ratio believing this proportion to be aesthetically pleasing. After going through these videos, students applied this knowledge to nature, human face and to the Elphinstone college building. The literally took the dimension of windows of Elphinstone college and found that they are in golden ratio. They realized the beauty of Elphinstone college.

ii. Pizza Theorem

In elementary geometry, the pizza theorem states the equality of two areas that arise when one partitions a disk in a certain way. The sum of the areas of the odd-numbered sectors equals the sum of the areas of the even-numbered sectors. The pizza theorem is so called because it mimics a traditional pizza slicing technique. In this activity students were asked to draw disk of different diameters and to partition them in certain way into number of slices. After discussion among themselves the following conclusions were drawn by them.

- It shows that, if two people share a pizza sliced in the said way by taking alternating slices, then they each get an equal amount of pizza.
- the number of sectors be a multiple of four is necessary



8 sectors: yellow area = purple area

4. Conduction of Bridge Courses

Bridge course also plays a vital role in the enhancement of academic success. Mathematics is an optional subject for arts students. Not many but a few students do go for Mathematics for their F.Y.B.A. These students attend their regular lecture with F.Y.B.Sc. students. If the students pursue this subject for their T.Y.B.A., because of the design of the syllabus made for F.Y. and T.Y.B.A., these students find it difficult to cope up with that. F.Y.B.Sc. students have two papers to study, while F.Y.B.A. students have one paper to study. S.Y.B.Sc. students have three papers to study, while S.Y.B.A. students have two papers to study. As a result, when these students go to T.Y. they are unable to meet the curriculum needs of the topic.

In order to address these gaps, we designed bridge course for F.Y.B.A. students on polynomials to improve their academic performance in Algebra. We also designed bridge course for F.Y.B.Com. students to meet their curriculum needs.

5. Mentoring

In Indian mythology, everybody knows Guru Brahma Guru Vishnu Guru Devo Maheshwara. There are many benefits to a mentee out of mentoring like

- Gaining encouragement and support
- Increasing social and academic confidence
- empowering to make decisions
- Developing strategies for dealing with both personal and academic issues
- Identifying goals
- Gaining valuable insight into the next stage of university career

As a result of mentoring, 2 students got admitted to MTTS programmes and all the students of T.Y. applied for entrance test of M.Sc. (Mathematics) of IIT, Mumbai.

CONCLUSION

Without practice, Mathematics is blind. Hence, it's very important to practice this subject every day. The use of ICT in teaching and learning mathematics enhances the problem-solving capabilities of the students. Calculators and other technological tools, such as computer algebra systems, interactive geometry software, applets, spreadsheets, and interactive presentation devices, are vital components of a better quality mathematics education. With guidance from effective mathematics teachers, students at different levels can use these tools to construct knowledge and develop 21st-century skills such as critical thinking, problem-solving and decision-making. It's the era of everything smart, and hence, ICT with innovating solutions is gaining momentum. Matrices are useful in balancing chemical equations. In chemistry the equations are balanced by Oxidation number method. Here we have balanced the chemical equations by finding the inverse of matrix and by Gaussian elimination. Both the methods are easy and interesting over oxidation number method and develop the skill of calculation

amongst the readers which will help them in finding the rank of matrix, reducing matrix to row echelon and normal form. Thus, the students learn the applicability of knowledge of the knowledge gained, problem solving, critical thinking, time management, communication and other expected skills. The learning of golden ratio developed aesthetic sense amongst the students. Out of the mentoring, two students got admitted MTTTS programmes. Some students applied for M.Sc. Mathematics entrance examination of IIT Mumbai. We strongly felt that without required zest to learn the whole learning process becomes a futile exercise.

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EFFECTIVENESS OF USAGE OF TEACHING AIDS ON THE ATTENDANCE OF PRIMARY SCHOOL STUDENTS

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Abstract

Using innovative methods and strategies in education is the dire need of the hour. In this global world if as a nation we want to compete with other nations then we have to replace the traditional art of teaching with modern tools and techniques. Innovation in any field attracts attention, and researches have shown that innovative teaching methods and approaches can significantly enhance the process of learning and motivates students. As we know that teaching is a tri polar process, and if we had to be innovative it should be in all aspects. This innovation should in turn develop interest in pupil towards the learning process. Researches have shown that children of urban and metro cities are more innovative and capable because they are exposed to innovative methods of teaching as compared to rural and poor areas. Similarly in least developed areas teachers are lagging the knowledge to use new trends and techniques in their profession. Thus there is a need to get all the stake holders of education system in our country to come forward and find out ways to implement new and innovative strategies in teaching of rural school. The present paper will highlight how the effective use of innovative methods in teaching can have a significant effect on students.

Keywords: innovative, strategies, techniques, learning.

INTRODUCTION

Today we live in a world where we are dependent on technology for most of our needs and it has made our life easy and comfortable. By default, men has got the instinct to learn new things. Education has been there from the past; our historical and religious scripts shows that our ancestors had developed their education system as per there need and available resources. There we find that system of learning was oral and was flexible. With the passage of time humans have advanced in every branch of knowledge. Being a developing country, we haven't fully developed in most of the sectors. Our education system is very much advanced in some parts and very backward in other parts of the country as well. Traditional system has been replaced by modern ways of teaching and learning. But unfortunately, most of our educational institutions are following traditional ways of teaching which hinders the progress of this essential social institution. The need of the hour is that we should train our educators and other stake holders to follow the modern ways and methods of teaching. There is a need to implement new innovative strategies, trends and techniques in the field of teaching helping the students to acquire more knowledge in a better way and at the same time will make them enjoy their time

in schools. Researchers have revealed that modern children are very innovative and creative; they want to do things according to modern ways. These strategies are fruitful for teachers as well, as he or she can achieve their desired goals. The paper highlights the importance of innovative strategies in education in the present age.

INNOVATIVE STRATEGIES

Innovation is a process, a series of steps that begins with imagination and results in the creation of something valuable for society. Innovation is improving the knowledge and information, what is already known in world, improving it making it better. Using innovative strategies and techniques in the field of education, we mean that apart from traditional ways of teaching new and modern plans and techniques should be used to achieve desired results in order to compete with other nations. With modernization and globalization every institution has been influenced by the duo, so does our education system. Mighty tools from technology like internet, laptop, projector, online surfing one cannot ignore their impact on the behaviour of children. Our social structure gets influenced by the modern ways of communication and technology. Knowledge has been transferred to houses by modern technology. We can't apply only traditional ways of learning and teaching to the students of this generation as today's generation is smart enough to gather the new information. They are fully equipped by the tools which they use on daily basis and are familiar with.

BACKGROUND OF THE STUDY

To educate present generation our education system needs to be very developed and modern and our teachers should be very dynamic as well. Innovative strategies are necessary as it enhances the degree of attention, curiosity, Interest and passion for learning among students. Today the children love to be engaged in activities, from where they learn and enjoy as well. Most developed countries have schools that are activity centred rather than book centred. Project based learning makes school more engaging for students. In schools where innovative strategies and techniques have been used shows less anxiety and fear among students. Use of audio-visual-video tools, online applications, educational tours, project learning, role playing, flip teaching etc are some of innovative strategies and techniques which are used for the beneficial of the children. But these techniques and tools should be used by masters and professionals, therefore our teachers and educators should be up to date. Also there should be supervision of teachers and experts while using smart classes, internet as over use of these tools may prove harmful for children.

OBJECTIVE OF THE STUDY

To highlight the need and importance of innovative strategies in education to boost the attendance of students.

METHODOLOGY

Sampling techniques adopted by the researchers was convenience sampling. The sample comprised of students from semi urban school students from 1st and 2nd standard primary section. The sample was divided in group A and B, with 30 students in each. The facilitator taught science in group A through the traditional approach. The facilitator taught science to group B in a separate class room using new and innovative strategies. For the purpose of research descriptive method was adopted for data collection. These strategies comprised of teaching aids like charts, video clips, models etc.

DATA ANALYSIS

Day	Group A	Group B
Monday	30	30
Tuesday	27	30
Wednesday	25	27
Thursday	26	28
Friday	27	29
Saturday	26	27
Total students	161	171

RESULT AND DISCUSSION

After a week their attendance was measured and it was found that among group B the percentage was much higher as compared to Group A. The above data indicated that the attendance of group B students was more. They enjoyed their classes as compared to group A. The average number of students present during the course of observation in Group B was 28.5 per cent and in Group A it was slightly up by 26.5 per cent. After this the school administration held an oral test for both the groups the findings revealed that the students from group B were very quick in responding. It was also found that the students from group A were curious to learn and were showing their interest with group B. After oral test one more test of naming parts of body of different animals and human beings was held. This time too it was found that group B students were very sharp as compared to their counter parts. The teacher who taught both the groups revealed that students love and enjoy in using audio visual and other innovative strategies. The Principal of the school revealed that they encourage the use of innovative strategies right from the early stages.

CONCLUSION

We may say that in this global world we have to introduce various changes in our educational system. The researcher upon visiting various school found math labs, science labs, language labs and social science labs as well. If we want stand along with other developed nations we have to follow innovative strategies, as it will enhance and enrich our educational culture.

Without education our society cannot progress and without modern tools and techniques our education system cannot progress. We have to involve our children in their studies; creative learning is the modern theme of education. Thus the need of the hour is to implement innovative strategies and methods to promote effectiveness in education in our country as to compete with other developed nations.

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