




**Mahatma Education Society's  
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**First page of the published book/chapter with seal and signature of  
the Principal**

  
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## Effect of Experiential Learning in Science on the Reasoning Ability of Upper Primary Students

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### Abstract:

The purpose of the present study was to measure the effect of Experiential learning in Science on the Reasoning Ability of Upper Primary students and with respect to their gender and the educational qualification of their parents. The study adopted a pre-test-post-test non-equivalent groups design. The population comprised of students of standard VII of CBSE schools from Panvel area in Navi Mumbai, Maharashtra. A sample of 60 students from standard VII of Kendriya Vidyalaya, ONGC, Panvel was used in the study. The sample comprised of an experimental group and a control group each of 30 students. Out of the 60 students, 32 were males and 28 were female students and 53 had professionally qualified parents and 7 students had non-professionally qualified parents. Data was collected using researcher-designed Test of Reasoning Ability. Data was analyzed using standard statistical measures and t-test. The findings indicated that the reasoning ability of the experimental group was significantly higher than the control group. The results also established the effectiveness of experiential learning interventions on the reasoning ability of students irrespective of gender or qualification of their parents.

**Keywords:** Experiential learning, Reasoning ability, Upper Primary students.

  
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### Introduction:

Education is a process which employs various teaching-learning techniques to ensure holistic development of an individual. According to Wikipedia, Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs and habits. In the recent times, much emphasis is given on preparing students as lifelong learners by training them in various life-skills and developing in them higher order cognitive skills like logical thinking, analysis, reasoning and problem-solving abilities, etc. To achieve the goals of

## 2. Academic Stress Rating Scale

*Ms. Juhi Bahl & Dr. Sally Enos*

### **Introduction:**

Academic stress is a significant aspect of adolescence. Academic demands are perceived as significant stressors by youth that include workload and time constraints. A major aspect of student's life is academics and with it is the baggage of academic stress. Almost everyone is familiar and accustomed to it and it's no surprise to hear young people complaining how much they wish it would go away. Unfortunately, it's not so simple for most. Where there is fun there are responsibilities and expectations that can put burgeoning stress on even the smartest student. **Academic stress is referred as mentally or emotionally disruptive or upsetting condition occurring in response to adverse external influences and capable of affecting physical health, usually characterized by increasing heart rate, a rise in blood pressure, muscular tension, irritability, and depression.**

### **Description of the tool:**

**1. Purpose** – To study the academic stress of school students and its relation to their personality types with respect to gender, affiliation of schools, class of students and mother's employment status.

**2. Parameters** – The stress encountered by students in terms of academic performance due to determinants like examination, curriculum, vast syllabus, extracurricular activities, parental pressure, coaching classes etc. Four personality types have been considered viz. sanguine, choleric, melancholic, phlegmatic.

**3. No. of items-** 32

**4. Target Group** – Secondary school students (class VIII/IX/X)

**5. Administration of the tool** – The tool consisted of two parts: Personal information which includes the name of school, board, gender, and working status of mother. The second part has tool.

**6. Scoring Procedure** – The rating scale has 32 statements. Each statement is rated on a five point scale. The tool has 5 negative and 27 positive statements. The options provided are always, often, sometimes, rarely and never.

**7. Scoring Key-** Positive statements had value 5,4,3,2 and 1 for Always, often, sometimes, and never respectively and negative statements had value 1,2,3,4 and 5 for Always, often, sometimes, and never respectively.

**8. Interpretation of Scores** – Higher scores indicate academic stress.

**9. Validity-** Face and content validity is ensured.

**10. Reliability-** Split half method of reliability is used. The reliability coefficient of the tool is 0.78 and reliability index is 0.87.

### 3. Rating Scale on Task Performance and Work Motivation

*Ms. Nadar Jeban Rosy John & Dr. Sally Enos*

#### **Introduction:**

Teacher's task performance is the outcome influenced by the teaching activities reflecting the teaching ability of the teacher and objectives of the education. It is the piece of work to be done that makes a great demand on a person's power and the act or process of performance to carry out a person's achievement under test conditions. **Task performance means the act of performing, a piece of work assigned to or expected of a person of doing something successfully and using knowledge as distinguished from merely possessing it.** Motivation is an inner state that energizes, activates, and directs behavior towards the goal. Motivation in school learning involves arousing, proceeding towards a goal or along a path or through an activity, persisting and directing desirable behaviors. Both go hand in hand as they have a direct influence on the individual as they determine thought and action.

#### **Description of the tool:**

- 1. Purpose** – To study the Task Performance of Secondary school teachers in relation to their work motivation.
- 2. Parameters** – The subcomponents considered for task performance are classroom activities, maintenance of records/reporting, co-curricular activities. The subcomponents considered for work motivation are intrinsic motivation and extrinsic motivation.
- 3. Total No. of items** – 40 statements
- 4. Target Group** – Secondary school teachers
- 5. Administration of the tool** – A personal data table was used to collect information from students in terms of their name, class, gender, and name of the school, standard and timings of the school.
- 6. Scoring Procedure** – The scoring of scale was done using five-point rating scale. The options provided are strongly disagree, disagree, can't say, agree and strongly agree. Statements 2, 3, 4, 6, 12, 14, 15, 16, 17, 19, 23, 30, 31, 36 and 38 are negative and rest are positive.
- 7. Scoring Key**- The scoring key is prepared to mark the scores of respondents.
- 8. Interpretation of Scores** – Higher scores indicate higher task performance and lower scores indicate low level of attribute.
- 9. Validity**- Face and content validity has been ensured.
- 10. Reliability**- The reliability coefficient of the tool is found to be 0.89 and reliability index as 0.95.

#### 4. **Opinionnaire on Social Networking Sites**

*Ms. Nandita Shah & Dr. Sally Enos*

##### **Introduction:**

Social networking sites have given us the platform to share knowledge, ideas and to unite on various topics of national importance offering tremendous educational potential. It is the latest craze these days having both positive and negative effects, greatly affecting the minds of youth. Online social networking can facilitate identity exploration, provide social cognitive skills such as perspective taking and fulfill the need for social support, intimacy and autonomy. It has transformed the way students keep informed about the lives of their friends, family and the events; the level of interaction and the cultural norms. **Social networking is the communication with people who share interests using a website or other service on the internet to chat and talk to their near and dear ones.**

##### **Description of the tool:**

- 1. Purpose** – To study the influence of social networking sites on self-esteem of students.
- 2. Parameters** – The tool is divided in two parts: Part A consisted of Questionnaire of 9 items to find out the nature and utility of Social Networking sites with multiple choice questions. Part B of the tool is an opinionnaire consisting of 30 items to find out the influence of social networking sites on the self-esteem of students.
- 3. Total No. of items-** 39
- 4. Target Group** – School students (class XI)
- 5. Administration of the tool** – Personal information which includes the name of school, board, gender, and working status of mother. The second part has the tool.
- 6. Scoring Procedure** – For Part B, three-point rating scale is used. The options provided are great extent, certain extent and not at all.
- 7. Scoring Key-** Of the 30 items, the item numbers 3, 5, 10, 18, 23, 25 and 28 are negative questions which is scored as 3,2,1 for great extent, certain extent and not at all respectively. Rest of the items is positive statements scored as 1, 2, and 3 for great extent, certain extent and not at all respectively.
- 8. Interpretation of Scores** – Lower the mean score, higher will be the influence of social networking sites.
- 9. Validity-** Face and content validity is ensured.
- 10. Reliability-** Split half method of reliability is used. The reliability coefficient of the tool is 0.90.

## 8. Role Conflict Scale

*Ms. Savvy Gomes & Dr. Sally Enos*

*Modified Version of the tool by Dr. V. Sumangala*

**Introduction:** Role conflict is said to be a type of social conflict caused from an individual being forced to take on separate and incompatible roles. It can occur individually, as in the case of one person being torn between separate roles for different organizations or groups, or within an organization, when an individual is asked to perform multiple roles in the same group. **Role conflict is an emotional divergence arising when competing demands from school and family are made on a teacher in the fulfilment of one's own multiple social roles.** The tool is a modified version of the tool by Dr. V. Sumangala. Initially the tool had 51 items which were reduced to 45 based on the suggestions by the experts and the requirement of the study.

### **Description of the tool:**

- 1. Purpose** – To study Role concepts of teachers on the basis of Gender, Marital status, Type of institution, section and experience.
- 2. Parameters** – The rating scale consists of 7 positive and 38 negative items.
- 3. Total No. of items-** 45
- 4. Target Group** – School teachers in the primary and secondary schools.
- 5. Administration of the tool-** A personal data table was used to collect information from the teachers in terms of the name of their school, Gender, Marital status, Type of institution, section and experience.
- 6. Scoring Procedure** – The scoring of scale was done using four-point rating scale. The scoring was done as, Reference category is Always, Frequently, Sometimes and never.
- 7. Scoring Key-** The scoring key is prepared to mark the scores of respondents.
- 8. Interpretation of Scores** – Higher scores indicates high role-conflict and lower scores indicate low role conflict among teachers.
- 9. Validity-** Content validity has been ensured.
- 10. Reliability-** The reliability coefficient of the tool is found to be 0.85.

## 9. Teacher Performance Scale

*Ms. Savvy Gomes & Dr. Sally Enos*

### **Introduction:**

In today's generation, the role of teacher is multidimensional and multifaceted. A teacher's job is ill defined and is open to a variety of interpretations. Thus, teachers also face role conflicts. They perceive different demands and expectations from various groups of people who are important to them. Also, a teacher faces a number of role conflicts while striving to maintain a balance in their personal as well as professional lives. **Teacher performance is defined as the activities carried out by the teachers in order to facilitate education.** It is the way in which the teacher is expected to perform, act or complete an action. It is important for teachers to perform with efficacy so as to improve the quality of education and thus lead our nation towards development and progress.

### **Description of the tool:**

- 1. Purpose** – To study the performance of school teachers with respect to gender, marital status, type of institution, section, experience.
- 2. Parameters** – Categories of teacher performance are: **1. Teaching effectiveness** (14 items) **2. Interpersonal skills** (14 items) **3. Co-scholastic activities** (5 items) **4. Maintenance of records** (7 items).
- 3. Total No. of items** – 40
- 4. Target Group** – School teachers
- 5. Administration of the tool** – Instructions are given to be filled in the tool correctly. Personal information needs to be filled as name of the student, gender, standard, division, roll no., name of the college and working status of parents.
- 6. Scoring Procedure** – It consists of a questionnaire which has 40 items. Each item is rated on a four-point scale. It has 30 positive and 10 negative items.
- 7. Scoring Key** – Scoring for the scale is done as per the scoring key. The positively worded items are scored as: 4 mark for always, 3 for frequently, 2 for sometimes, 1 for never. Negatively worded items are scored as: 1 for always, 2 for frequently, 3 for sometimes, 4 for never.
- 8. Interpretation of Scores** – Higher scores indicate higher attribute of teacher performance.
- 9. Validity-** Face and content validity is ensured.
- 10. Reliability-** The reliability coefficient is found to be 0.94 and the reliability index is found to be 0.95.

## 12. Environmental Awareness on Water Resources

*Ms. Amrita Chakrabarti & Dr. Ms. Sally Enos*

**Introduction:** The emerging freshwater scarcity is global issue and has resulted in increased awareness of environmental issues related to the scarce water resources. Environmental awareness can be harnessed as a tool for the conservation of water resources from its importance, use, availability and rapid deterioration of quality of pure water affecting the fabric of life through sensitization of issues related to water resources to draw the attention of new generation towards the dramatic crisis of problems to water the world over, thus creating enthusiastic support to solve it through various personal action to save water.

### **Description of the tool:**

**1. Purpose** – To study the environmental awareness related to water resources and actions related to conservation of water among secondary school students.

**2. Parameters** – The Questionnaire is divided into two parts: **Tool A on environmental awareness related to water resources** consisted of 10 multiple choice questions and 10 dichotomous questions (Yes/No), a total of 20 questions. **Tool B on actions related to conservation of water** consists of 16 items on a 3-point rating scale to check the degree of conservation by the Secondary school students. In total there are 36 items.

**3. Total No. of items** – 36

**4. Target Group** – Secondary school students

**5. Administration of the tool** – Instructions are given to be filled in the tool correctly. Personal information needs to be filled as name of the student, gender, standard, division, roll no., name of the college, stream, board, type of institution, parents' qualification, and working status of parents.

**6. Scoring Procedure** – Tool B on actions related to conservation of water, three-point rating scale is used as: Always, Sometimes, Never.

**7. Scoring Key** – Scoring for the questionnaire is done as per the scoring key. Every correct response is marked 1 and every incorrect response is given zero marks in Tool A. For tool B, for positive statements: 3 marks are given for always, 2 for sometimes, 1 for Never. For negative statements, 1 mark is given for Never, 2 for sometimes and 3 for always.

**8. Interpretation of Scores** – Higher scores indicate higher attribute of environmental awareness related to water resources and actions related to conservation of water.

**9. Validity-** Face and content validity is ensured.

**10. Reliability-** The reliability coefficient for the split half test for the tool is found to be 0.86.



### 33. Social Networking Sites

*Ms. Payel Roy Chaudhury & Dr. Sally Enos*

**Introduction:** Social networking sites have unleashed a new dimension and space for users to network and maintain contacts as they offer people new and varied ways to communicate via the internet wherein people are allowed to create their own web pages or profiles and display an online network of contacts. **Social networking sites is defined as web-based services that allow individuals to 1) construct a public or semi-public profile within a bounded system 2) articulate a list of other users with whom they share a connection 3) view and traverse their list of connections and those made by others within the system.**

#### **Description of the tool:**

**1. Purpose** – To study the use of social networking sites by junior college students in relation to community development with respect to gender, stream, medium of instruction and affiliating board.

**2. Parameters** – The statements are prepared keeping in mind the basic parameters of community development like environmental, health and social issues. Based on these parameters, statements represented the use of social networking sites on the basis of awareness, dissemination and participation for community development by the junior college students. So, there are 11 statements for awareness, 10 for dissemination and 19 for participation.

**3. Total No. of items** – 40

**4. Target Group** – Junior college students

**5. Administration of the tool** – Instructions are given to be filled in the tool correctly. Personal information needs to be filled as name of the student, gender, standard, division, roll no., name of the college and working status of parents.

**6. Scoring Procedure** – A five-point Likert type scale is used for scoring: Always, frequently, sometimes, rarely and never. All the items are positively worded with respect to the use of Social networking sites (SNS) in relation to community development.

Categories: **a) Awareness** – Q. No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 **b) Dissemination** – Q. No. 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 **c) Participation** - Q. No. 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40.

**7. Scoring Key** – Scoring for the questionnaire is done as per the scoring key. A-5 marks, F- 4 marks, S- 3 marks, R- 2 marks, N- 1 mark.

**8. Interpretation of Scores** – Higher scores indicate higher use of Social networking sites.

**9. Validity-** Face and content validity is ensured.

**10. Reliability-** The reliability coefficient for the split half test for the toll is found to be 0.76.

### 34. Teaching Style

*Ms. Preena Abraham & Dr. Sally Enos*

**Introduction:** Teaching in the modern era is a challenging profession that requires good subject knowledge, questioning skills, emphasis upon instruction, clear objectives, effective planning, classroom discipline, effective use of teaching material and aids, communication skills, attitudes, perception, interest etc. Teaching Style refers to the individual teachers' distinctive or characteristics manners of teaching. It is a set of attitudes and actions that open a formal and informal world of learning to the students. **Teaching style refers to the attitudes and instructional activities followed by a teacher in the classroom that influences or shapes the outcome of teaching learning experience.** It is the powerful and subtle force that influences access to learning and teaching. In authoritarian, rules and order come from a teacher and students are expected to follow them. In democracy, teacher places the limits but also encourages independent and creative thinking. In pessimistic, teacher shows lack of involvement.

#### **Description of the tool:**

- 1. Purpose** – To identify the teaching styles of secondary school teachers.
- 2. Parameters** – The statements are classified keeping in mind the characteristics of the teaching style as authoritarian (12), democratic (12), and pessimistic (12) styles of teaching.
- 3. Total No. of items** – 36
- 4. Target Group** – Secondary school teachers
- 5. Administration of the tool** – Personal information needs to be filled as name of the student, gender, name of the school/college, years of teaching experience, and affiliating board. Respondents can tick any one option as per their personal opinion regarding the statement.
- 6. Scoring Procedure** – Items in the teaching style tool are classified as: **Authoritarian** – Q. Nos. 1, 4, 7, 12, 14, 17, 24, 29, 32, 34, 35, 36. **Democratic** – Q. Nos. 2, 5, 8, 11, 16, 19, 20, 22, 25, 27, 30, 33. **Pessimistic** – Q. Nos. 3, 6, 9, 10, 13, 15, 18, 21, 23, 26, 28, 31. The scores of each teacher with respect to each teaching style were noted and added.
- 7. Scoring Key** – Five-point rating scale assigns a scale value to each of the five responses in the tool. It is done as: SD-1, D-2, UD-3, A-4, SA-5.
- 8. Interpretation of Scores** – The category of each teaching style where the teacher has scored maximum is considered to be his or her style of teaching.
- 9. Validity-** Face and content validity is ensured.
- 10. Reliability-** The reliability coefficient for the split half test for the tool was found to be 0.73.

### 35. Classroom Climate

*Ms. Preena Abraham & Dr. Sally Enos*

#### **Introduction:**

**Classroom Climate can be defined as the mood or atmosphere created by a teacher in the classroom by the style of teaching followed by the teacher, the way teacher interacts with students, and the way physical environment is set out.** It influences the student achievement, their self-esteem, and participation in the class. The most important aspect of classroom climate is the relationship between teacher and students. An effective classroom climate is the one in which teachers' authority to organize and manage the learning activities is accepted by the students, there is mutual respect and good rapport, and the atmosphere is of purposefulness and confidence in learning. The general tone or climate of the classroom makes each classroom unique.

#### **Description of the tool:**

- 1. Purpose** – To study the teaching style in relation to classroom climate.
- 2. Parameters** – The 30 statements are classified keeping in mind the various aspects of classroom climate as classroom discipline (10), classroom cohesiveness (10), classroom ambience (10). It has 20 positive and 10 negative items.
- 3. Total No. of items** – 30
- 4. Target Group** – secondary school teachers
- 5. Administration of the tool** –Personal information needs to be filled as name of the student, gender, name of the school/college, years of teaching experience, and affiliating board. Respondents can tick any one option as per their personal opinion regarding the statement.
- 6. Scoring Procedure** – Items in the classroom climate tool are classified as: **classroom discipline** – Q. No. 1-10. **Classroom cohesiveness**- Q. No. 11-20. **Classroom ambience** – Q. No. 21-30.
- 7. Scoring Key** – Five-point rating scale assigns a scale value to each of the five responses in the tool. For positively worded items scoring is done as: SD-1, D-2, UD-3, A-4, SA-5. For negatively worded items scoring is done as: SD-5, D-4, UD-3, A-2, SA-1.
- 8. Interpretation of Scores** – The higher scores indicate higher levels of the variable.
- 9. Validity**- Face and content validity is ensured.
- 10. Reliability**- The reliability coefficient of the correlation for the split half test for the tool was found to be 0.63.

### **38. Coping Techniques of Anger Management**

*Ms. Sana A. Hussaini & Dr. Sally Enos*

**Introduction:** Anger is a normal emotion with a wide range of intensity, from mild irritation and frustration to rage. It is a reaction to a perceived threat to us, our loved ones, our property, our self-image or some part of our identity. Anger Management is very important to maintain good and healthy interrelationships. One should have knowledge of anger management and awareness about different coping techniques in order to maintain good interpersonal relationships. **Coping techniques refers to an effort both behavioral and psychological that people employ to master, tolerate, reduce or minimize stressful events.**

#### **Description of the tool:**

**1. Purpose** – To study the coping techniques of anger management among junior college students with reference to their interpersonal relationships.

**2. Parameters** – The statements are prepared keeping in mind the level of anger, the coping techniques and interpersonal relations of Junior college students. Hence, the tool consisted of 21 statements on anger, 19 statements on coping techniques and 18 statements on interpersonal relations.

**3. Total No. of items** – 58

**4. Target Group** – Junior college students

**5. Administration of the tool** – Instructions are given to be filled in the tool correctly. Personal information needs to be filled as name of the student, gender, standard, division, roll no., name of the college, stream, board, type of institution, parents' qualification, and working status of parents.

**6. Scoring Procedure** – The Questionnaire on Coping Techniques of Anger Management is divided into three parts. Tool 1 comprises of checklist having 21 statements on anger with options as Yes or No. Tool 2 comprises of a questionnaire made on Likert technique with five options as: Always, frequently, sometimes, rarely and never. Tool 2 has 19 statements on coping techniques. Tool 3 has 18 statements on interpersonal relations with five options as SA, A, CS, D and SD.

**7. Scoring Key** – Scoring for the questionnaire is done as per the scoring key. A five-point Likert type scale is used for scoring: Always, frequently, sometimes, rarely and never. A-5 marks, F- 4 marks, S- 3 marks, R- 2 marks, N- 1 mark.

**8. Interpretation of Scores** – Higher scores indicate higher attribute of anger management.

**9. Validity-** Face and content validity is ensured.

**10. Reliability-** The reliability coefficient for the split half test for the tool is found to be 0.86.

**Biodiversity: Ways to Increase and Safeguard the Level of Flora and Fauna in the Surrounding Environment**

*Principal Dr. Sally Enos & Student teachers –Sonia Pawar,  
Shanmugaraj Pillai, Ruby Singh*

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**Introduction:**

Biodiversity implies assortment of living species on Soil. Earth's biodiversity is so wealthy that numerous species are to be found. It is assessed that there are around millions species of plants and creatures in presence. Biodiversity hotspot particularly alludes to 25 naturally wealthy zones around the world that have misplaced at slightest 70 percent of their unique living space. Much of the Earth's biodiversity is in risk due to human utilization and other exercises that aggravate and indeed annihilate biological systems. These dangers have caused an uncommon rise within the rate of species termination. A few researchers assess that half of all species on Soil will be wiped out inside another century. Preservation endeavors are essential to protect biodiversity and ensure imperiled species and their living spaces. Biodiversity: Ways to Increase/Safeguard the Level of Flora and Fauna in the Surrounding Environment "Biodiversity—the variety of all living organisms including ecosystems, plants, animals, their habitats and genes—is fundamental to life on Earth".

Our planet contains variety of flora and fauna. Flora and fauna keep the ecological balance on the planet Earth and without them the human civilization would not have existed.

Due to some natural (Floods, earthquake, landslides) and man-made causes like pollution, human overpopulation, development of industry, deforestation, over exploitation every year many species of flora and fauna disappear. Therefore, the protection/safeguard of flora and fauna in the surrounding environment are very important.

Biodiversity has two types of conservation, in situ conservation and ex situ conservation. In situ (on site) conservation:

- In-situ conservation is the on-site conservation. This conservation protects the inhabitants and ensures the sustainability of the environment and ecosystem of plant and animal species. It includes protected areas like biosphere reserve, national parks,

**Energy Management at the Individual Level**

*Asst. Prof. Dr. Saramma Mathew & Student teachers -Mankoo Kiranjyot Kaur,  
Markad Pooja, Pandey Beena, Parulekar Jasmine*

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**Introduction:**

With the global population swelling and industrialization on the rise in developing nations, humanity's hunger for energy has reached unprecedented levels. More than half of our energy comes from fossil fuels extracted from deep within the Earth's crust. It is estimated that since commercial oil drilling began in the 1850s, we have sucked up more than 135 billion tonnes of crude oil to drive our cars, fuel our power stations and heat our homes. That figure increases every day.

But our gas guzzling over the past two centuries has taken a potentially devastating toll on the planet. Burning of coal, oil and gas has been inextricably linked to the rising levels of greenhouse gases in Earth's atmosphere and is a leading contributor of climate change. The world's scientists agree that we are on a path towards disaster that can only be stopped by weaning ourselves off our fossil fuel habit. But that leaves us with a problem. How do we ensure the lights stay on? (Gray, R, 2017, The biggest energy challenges facing humanity, BBC Future)

There is something terrifying happening on our planet Earth; Imagine you turn the ignition of your car and the car does not start. You enter your house to find a total blackout. The population of the world is rising exponentially, and if we do not manage our energy; our future generations won't have adequate energy. This would certainly lead to decline in access to clean water, food and other basic necessities. Thus, Energy Management is the process of tracking and optimizing energy consumption to conserve usage. (Wilson, 2019)

We need energy for everything in our household to perform daily tasks. Saving energy has been an elusive quest for many of us. We need energy for everything in our household and it is the one of the earmarks of modern living and convenience. So, it is essential to learn energy management. Energy management is-"Energy management includes planning and operation of energy production and energy consumption units". It is the process of monitoring, controlling and conserving energy.

## RESEARCH MANUALS AND TOOLS

### 1. Home Environment and Attitude Scale on Current Social Issues

*Ms. Gael A. Dmello & Dr. Pratima Pradhan*

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**Introduction:** Home Environment plays a vital role in the lives of the adolescents because it constantly impacts all aspects of family members. The parents should take utmost interest and see what their child is doing. It is the responsibility of parents and the environment at home that can make a child aware of its surroundings of the various issues that will hinder their life in the future. **Social issues are matters which directly or indirectly affect a person or many members of society and are considered to be problems, controversies related to moral values or both.** Every individual needs to learn and know about the various social issues that are happening around us.

#### **Description of the tool:**

**1. Purpose** – To study the attitude of Junior college students towards current social issues in relation to their home environment.

**2. Parameters** – The questionnaire on home environment consisted of 20 items and attitude scale on current social issues consisted of 58 items. Items in the current social issues scale are based on the three categories as corruption (20 items), terrorism (18 items), and unemployment (20 items).

**3. No. of items-** 78

**4. Target Group** – Junior College students

**5. Administration of the tool** –

**6. Scoring Procedure** – Questionnaire on home environment is designed in a three-point Likert type format bearing three options: Most Appropriate, Appropriate, less appropriate while the data gathering tool for measuring current social issues is designed in a five point Likert type format bearing five options: SA, A, UD, D and SD. Each item is to be responded by enriching any one appropriate alternative out of the three and five options respectively. The subjects are required to respond to all the items.

**7. Scoring Key** – Scoring for the statements in home environment scale is as follows: For positively worded items: 3 marks are given for Most appropriate, 2 for appropriate and 1 for less appropriate. For negatively worded items: 1 mark is given for most appropriate, 2 for appropriate and 3 for less appropriate. For tool on current social issues, each item is rated on a 5-point rating scale. It has 49 positive items and 9 negative items. For positively worded items: 5 marks for SA, 4 for A, 3 for UD, 2 for D and 1 for SD. For negatively worded items: 1 mark for SA, 2 for A, 3 for UD, 4 for D and 5 for SD.

**8. Interpretation of Scores** – Higher scores indicate higher attribute.

**9. Validity-** Face and content validity is ensured.

**10. Reliability-** The reliability coefficient for the Home Environment rating scale is found to be 0.72 and for the current social issues it is found to be 0.84 which is moderately reliable.

## 6. Study Habits Scale

*Ms. Prabha Jasmine & Dr. Pratima Pradhan*

### **Introduction:**

Study habit is the indicator of student individuality. Generally, learner's learning character is shaped due to study habit. Better study habits lead to better academic achievement and change the personality of the students. The tendency of a student or pupil to study when opportunity is given, whether systematic or unsystematic, efficient or inefficient. Study habits are considered to be the various habits or practices used by a student to acquire knowledge or to master a piece of learning or skills. **Study habits have been defined as the dedicated scheduled mind setup of the studies to practice or to do studies.** In order to know the students' performance, the various study related variables need to be evaluated to analyze the problems faced by them. Study habits helps in providing proper guidance to the needy students.

### **Description of the tool:**

- 1. Purpose** – To investigate the study habits and study related variables of secondary school students on the basis of gender, type of school and parental education.
- 2. Parameters** – Part 1 of the study habits scale has 29 items. Part 2 of Study related variables scale consists of components such as a) **Home Environment** (22 items) b) **Class Environment** (27 items) c) **Attitudes towards the examination** (30 items) d) **Concentration** (26 items).
- 3. No. of items-** 134
- 4. Target Group** – Secondary school students
- 5. Administration of the tool** – The investigator first explained about the questions and explained the rules for answering the questions. It was not a time bound exercise.
- 6. Scoring Procedure** – Each statement is rated on a four-point scale. The options provided are always, usually, sometimes, and never.
- 7. Scoring Key-** Value of favoring statements: 4 for always, 3 for usually, 2 for some time and 1 for never. Value of opposing statements: 1 for always, 2 for usually, 3 for some time, 4 for never.
- 8. Interpretation of Scores** – Higher scores indicate higher level of study habit attribute.
- 9. Validity-** Face and content validity is ensured.
- 10. Reliability-** The reliability coefficient of the tool is 0.683 and 0.75 respectively.



## 7. Rating Scale on Self Concept

Ms. Reema Thapar & Dr. Pratima Pradhan

**Introduction:** The Self-concept refers to an organized configuration of perceptions of self which are admissible to awareness. **Self-concept is defined as an “overall vision (as an integrated, coherent, and stable individuality) transcending the experiential and event content of self-awareness.”** It includes physical, psychological and social attributes and can be influenced by its attitudes, habits, beliefs and ideas. Academic self-concept is the person’s perception of self with respect to achievement of their academic abilities or skills. Physical self-concept is the person’s perception of their physical appearance. Social self-concept is the person’s perception with respect to managing relations with family, peers and society.

### Description of the tool:

**1. Purpose** – To study the self-concept of D. T. Ed. Student teachers on the basis of gender and medium of instruction.

**2. Parameters** – The rating scale consists of three dimensions a) **Academic self-concept** b) **Physical self-concept** and c) **Social self-concept**. In part A, 20 statements were formulated. It contained closed questions pertaining to study habits, achievement and active participation in academic activities. 2, 4, 7, 9, 11, 13, 14, 16, 17 are negative statements and 1, 3, 5, 6, 8, 10, 12, 15, 18, 19 and 20 are positive statements. In part B, 17 statements are formulated based on cardiovascular flexibility, physical wellness, and participation in physical activity. 23, 24, 25, 26, 27, 28, 34 are negative statements and 21, 22, 29, 30, 31, 32, 33, 35, 36, 37 are positive statements. In part C, 23 statements are formulated based on relations with their classmates, their concern about welfare and happiness of people. 44, 45, 47, 55, 60 are negative statements and 38, 39, 40, 41, 42, 43, 46, 48, 49, 50, 51, 52, 53, 54, 56, 57, 58, 59 are positive statements.

**3. Total No. of items-** 60

**4. Target Group** – D. T. Ed. Student teachers

**5. Administration of the tool-** A personal data table was used to collect information from students in terms of their name, class, gender and name of the school, standard and timings of the school.

**6. Scoring Procedure** – The scoring of scale was done using four-point rating scale. The scoring was done as, Reference category is Always, Frequently, Sometimes and never.

**7. Scoring Key-** The scoring key is prepared to mark the scores of respondents.

**8. Interpretation of Scores** – Higher scores indicates high self-concept and lower scores indicate low level of the attribute.

**9. Validity-** Face and content validity has been ensured.

**10. Reliability-** The reliability coefficient of the tool is found to be 0.83.

### 13. Spiritual Quotient Scale

*Ms. Anne Jacob & Dr. Pratima Pradhan*

#### **Introduction:**

**Spiritual Quotient of student teacher means the ability to face challenges in life, to rise above these difficulties, to find happiness in self and others and finally to be at peace with or content with life.** Those with high SQ have the capacity to question, think creatively, change the rules and work effectively in changing situations by playing with the boundaries, break through obstacles and being innovative. SQ encourages us to see the bigger picture, to be creators of the world in which we live. Indicators of high SQ are; Self-awareness, flexibility, adaptability, ability and capacity to face, use and transcend pain and suffering, vision, values, wisdom, holistic approach and views, appetite for seeking answers, courage to work against conventions if necessary.

#### **Description of the tool:**

- 1. Purpose** – To study the spiritual quotient of student teachers.
- 2. Parameters** – The tool encompasses the following components of spiritual intelligence- 1. Self-awareness 2. Value sensing 3. Community sensing. It has followed Likert's five-point rating scale which comprised of total 40 items or statements (with 33 positive and 7 negative statements). The B.Ed. student teachers are requested to indicate their responses on a five-point scale viz. Strongly Agree (SA), Agree (A), Uncertain (U), Disagree (D), Strongly Disagree (SD).
- 3. Total No. of items** – 40
- 4. Target Group** – Student teachers
- 5. Administration of the tool** –Personal information which includes name, age group, name of the institute, gender, marital status, stream/discipline at the graduation level (arts, commerce, science). The respondents can tick any one option as per their personal opinion regarding the statement at the right-hand side of each option. It is a self-administered tool, and no time limit is specified to complete the scale.
- 6. Scoring Procedure** – Each item is rated on a 5-point scale. The tool has followed Likert's five-point rating scale.
- 7. Scoring Key** – The negative statements are scored as 1, 2, 3, 4, 5 whereas positive statements are scored as 5, 4, 3, 2, 1.
- 8. Interpretation of Scores** – The higher scores indicate higher levels of variable.
- 9. Validity**- Face and content validity is ensured.
- 10. Reliability**- The reliability coefficient of the tool was found to be 0.84.

## 14. Stress Management Scale

*Ms. Anne Jacob & Dr. Pratima Pradhan*

**Introduction:** Hans Selye (1978) defines stress as any external events or internal drive which threatens to upset the organismic equilibrium. The factors causing stress are improper planning, over-expectations, unattainable goals. Teaching is considered to be among the professions in which employees are subject to high level of stress. The dual roles of student and novice teacher require that consideration be given to how student teachers cope in both the roles. **Management of stress is defined as the ability of an individual to incorporate multiple strategies in order to cope with stress and build the knowledge and attitude for healthy and stress-free life.**

### Description of the tool:

**1. Purpose** – To study the relation between spiritual quotient and the ability to manage stress among student teachers on the basis of age group, marital status and discipline at graduation level.

**2. Parameters** – The tool encompasses the following components of stress management- 1. Time Management 2. Positive outlook towards life and work in the midst of stressful situations 3. Ability to organize tasks well. It has followed Likert's five-point rating scale which comprised of total 40 items or statements (with 26 positive and 14 negative statements). The B.Ed. student teachers are requested to indicate their responses on a five-point scale viz. Never (N), Rarely (R), Sometimes (S), Frequently (F), Always (A) for the stress management scale.

**3. Total No. of items** – 40

**4. Target Group** – Student teachers

**5. Administration of the tool** – Personal information which includes name, age group, name of the institute, gender, marital status, stream/discipline at the graduation level (arts, commerce, science). The respondents can tick any one option as per their personal opinion regarding the statement at the right-hand side of each option. It is a self-administering tool, and no time limit is specified to complete the scale.

**6. Scoring Procedure** – Each item is rated on a 5-point scale. The tool has followed Likert's five-point rating scale.

**7. Scoring Key** – The negative statements are scored as 1, 2, 3, 4, 5 whereas positive statements are scored as 5, 4, 3, 2, 1.

**8. Interpretation of Scores** – The higher scores indicate higher levels of variable.

**9. Validity-** Face and content validity is ensured.

**10. Reliability-** The reliability coefficient of the tool was found to be 0.60.

## 15. Social Maturity Scale

*Ms. Bindu S. Tambe & Dr. Pratima Pradhan*

### **Introduction:**

**Social Maturity is defined as the level of social skills and awareness that an individual has achieved relative to particular norms related to an age group. It is a measure of the development competence of an individual with regard to interpersonal relations, behavior appropriateness, social problem solving and judgement.** It encompasses attainments in several domains including independent functioning, effective interpersonal communication, interaction and responsibility which contributes in the well-being of the society. Social Maturity permits more detailed perception of the social environment which helps adolescents to influence the social circumstances and develop stable patterns of social behavior.

### **Description of the tool:**

- 1. Purpose** – To study the social maturity of adolescents in coping with their emotions.
- 2. Parameters** – The tool is comprised of 60 items which included 42 positive and 18 negative statements in a Likerts' five-point rating scale format bearing five options viz. Strongly agree (SA), Agree (A), Undecided (U), Strongly Disagree (SD), Disagree (D).
- 3. Total No. of items** – 60
- 4. Target Group** – Adolescents
- 5. Administration of the tool** – Personal information needs to be filled as name, gender, name of the school/college, types of institution (aided/unaided). The respondents can tick any one option as per their personal opinion regarding the statement at the right-hand side of each option.
- 6. Scoring Procedure** – Each item is rated on a 5-point scale. The tool has followed Likert's five-point rating scale.
- 7. Scoring Key** – The negative statements are scored as SA-1, A-2, U-3, SD-4, D-5 whereas the positive statements are marked as SA-5, A-4, U-3, SD-2, D-1.
- 8. Interpretation of Scores** – The higher scores indicate higher levels of coping with emotions. 250-300 indicate high levels, 200-249 indicate moderate levels, 150-199 indicate low levels.
- 9. Validity**- Face and content validity is ensured.
- 10. Reliability**- The reliability coefficient of the tool was found to be 0.85.

## 16. Emotions Scale

Ms. Bindu S. Tambe & Dr. Pratima Pradhan

**Introduction:** Emotions play a very important role in the human behavior and life. Today's adolescents are not able to cope with their emotions as well as their predecessors so the emotional disturbances are more profound than the previous generations. Emotions refer to a broad repertoire of perceptions, expressions of feelings and bodily changes. Emotion is a feeling that is subjective and private, a state of psychological arousal, an expression or display of distinctive responses and actions. **Emotions refer to the feelings of joy, hatred, fear, exhibited by the students towards self, parents, peer and also how they express their emotions are studied on the basis of gender and stream of education.** Coping with emotions deals with identifying, understanding and dealing with their emotions of love, anxiety and fear towards others as well as for themselves. There are five domains to understand emotions: Knowing emotions, managing emotions, motivating, recognizing and understanding others' emotions, managing relationships.

### Description of the tool:

- 1. Purpose** – To study the emotions of adolescents with respect to gender and stream of education.
- 2. Parameters** – The tool is comprised of 60 items which included 33 positive and 27 negative statements in a Likerts' five-point rating scale format bearing five options viz. Strongly agree (SA), Agree (A), Undecided (U), Strongly Disagree (SD), Disagree (D).
- 3. Total No. of items** – 60
- 4. Target Group** – Adolescents
- 5. Administration of the tool** – Personal information needs to be filled as name, gender, name of the school/college, types of institution (aided/unaided). The respondents can tick any one option as per their personal opinion regarding the statement at the right-hand side of each option.
- 6. Scoring Procedure** – Each item is rated on a 5-point scale. The tool has followed Likert's five-point rating scale.
- 7. Scoring Key** – The negative statements are scored as SA-1, A-2, U-3, SD-4, D-5 whereas the positive statements are marked as SA-5, A-4, U-3, SD-2, D-1.
- 8. Interpretation of Scores** – The higher scores indicate higher levels of coping with emotions. 250-300 indicate high levels, 200-249 indicate moderate levels, 150-199 indicate low levels.
- 9. Validity**- Face and content validity is ensured.
- 10. Reliability**- The reliability coefficient of the tool was found to be 0.70.

## 17. Professional Attitude Scale

*Ms. Chitra More & Dr. Pratima Pradhan*

**Introduction:** Professional attitude is the teacher's attitude towards teaching profession. For the professional growth of the teachers and improvement in the education system, the attitude held by the teachers is very important. Thus, effective and productive learning on the part of students can be achieved only by teachers with desirable attitudes.

### **Description of the tool:**

**1. Purpose** – To study the professional attitude of secondary school teachers of different school boards

**2. Parameters** – Tool consisted of 40 items which included 31 positive items and 9 negative items in a Likert five-point rating scale format bearing five options viz: Always (A), Frequently (F), Sometimes (S), Rarely (R), Never (N).

**3. Total No. of items** – Professional commitment – 20 items, Self-motivation – 20 items, Ethics and code of conduct- 20 items, professional growth – 20 items, student teacher relationship – 20 items

**4. Target Group** – secondary school students

**5. Administration of the tool** – Personal information which includes name of the institute, gender, type of institute (aided/unaided) and standard. The respondents can tick any one option as per their personal opinion regarding the statement at the right-hand side of each option. It is a self-administering tool and no time limit is specified to complete the scale.

**6. Scoring Procedure** – Each item is rated on a 5-point scale. The tool has followed Likert's five-point rating scale.

**7. Scoring Key** – The positive statements are scored as 5,4,3,2,1 for Strongly Agree, Agree, Undecided, Disagree, strongly disagree.

**8. Interpretation of Scores** – The higher scores indicate higher levels of variable.

**9. Validity-** Face and content validity is ensured.

**10. Reliability-** The reliability coefficient of the tool was found to be 0.93.

## 20. Rating Scale for Learning Problems

*Ms. Diksha Madhok & Dr. Pratima Pradhan*

### Introduction:

Learning problem affects the way a person learns new things. Children with a learning problem are of normal intelligence or above and have difficulties in at least academic area and usually several, and their difficulty cannot be attributed to any other diagnosed problem or disorder such as mental retardation. The global concept of learning problem includes problems in listening, concentrating, speaking and thinking. Students do not have learning problem unless they have an academic problem. The academic areas in which students with a learning problem most commonly have problems are reading, written language and math. **Learning problems are difficulties in acquiring knowledge and skills to the normal level expected of those of the same age specially because of hyperactivity, lack of concentration and depression.**

### Description of the tool:

- 1. Purpose** – To study the learning problems of VIII standard students in relation to their study habits.
- 2. Parameters** – The Rating scale has a set of 70 items which were grouped under 3 categories in the tool. The distribution of number of test items category wise are as follows: 1. Hyperactivity – 22 2. Lack of concentration – 21 3. Depression – 27.
- 3. Total No. of items** – 70
- 4. Target Group** – VIII standard students
- 5. Administration of the tool** – Instructions are given to be filled in the tool correctly. Personal information needs to be filled as name of the student, gender, standard, division, Roll no, name of the college and working status of parents.
- 6. Scoring Procedure** – Opinions are given on the basis of 5 options on rating scale as always, frequently, often, sometimes, never.
- 7. Scoring Key** – Scoring is done as per the scoring key. For positive items as 5,4,3,2,1 and for negative items 1,2,3,4,5.
- 8. Interpretation of Scores** – Higher scores indicate higher learning problems.
- 9. Validity**- Face and content validity is ensured.
- 10. Reliability**- The reliability of the tool was derived through split half method. The reliability calculated was parametric. The reliability index was found to be 0.66.

## **21. Rating Scale for Study Habits**

*Ms. Diksha Madhok & Dr. Pratima Pradhan*

### **Introduction:**

Study habits is students accustomed method of approach to units of learning, his consistency in ignoring distraction, his attentiveness to the specific materials and efforts which he exerts throughout the process. Students who studies effectively and efficiently demonstrate that they have developed methods of learning which aid in acquisition, retention, and application of knowledge of facts and of information derived from text books, from class discussions, from lectures, from resource materials. Through practice these methods become habitual.

### **Description of the tool:**

- 1. Purpose** – To study the study habits of VIII standard students.
- 2. Parameters** – The Rating scale has a set of 30 items which analysis the study habits of the students
- 3. Total No. of items** – 30
- 4. Target Group** – VIII standard students
- 5. Administration of the tool** – Instructions are given to be filled in the tool correctly. Personal information needs to be filled as name of the student, gender, standard, division, Roll no, name of the school.
- 6. Scoring Procedure** – Opinions are given on the basis of 5 options on rating scale as always, frequently, often, sometimes, never.
- 7. Scoring Key** – Scoring is done as per the scoring key. For positive items as 5, 4, 3, 2, 1 and for negative items 1, 2, 3, 4, 5.
- 8. Interpretation of Scores** – Higher scores indicate better study habits.
- 9. Validity-** Face and content validity is ensured.
- 10. Reliability-** The reliability of the tool was derived through split half method. The reliability calculated was parametric. The reliability index was found to be 0.82.



### 43. Institutional Climate Scale

Ms. Simpu Rana & Dr. Ms. Pratima Pradhan

#### Introduction:

The institutional climate refers to all the inner conditions of the institution. In other words, the institutional climate consists of a set of characteristics observed by the personnel. It describes an institution, differentiates an institution from others, is relatively constant in passing of time and the individuals are affected and guide by it. **Institutional climate is a sum total of the daily environment and central to the “comfort factor” that students, faculty staff and administrators feel on the campus.** It clearly influences the success of an institution, it is linked with the achievement of an institution and the more open the institutional climate, the more committed, loyal and satisfied the teachers are. A positive climate affects everyone associated with the institution, students’ staff, parents and community.

#### Description of the tool:

**1. Purpose** – To study the relationship of interpersonal and institutional climate with respect to gender, type of boards, level of teaching experience.

**2. Parameters** – Interpersonal Climate Scale (ICS) is comprised of total 60 items (43 positive and 17 negative statements). The statements are framed keeping in mind the components of institutional climate such as open climate, closed climate, engaged climate and disengaged climate. The tool has followed Likerts’ five-point rating scale viz. Strongly agree (SA), Agree (A), Undecided (U), Strongly Disagree (SD), Disagree (D).

**3. Total No. of items** – 60

**4. Target Group** – secondary school teachers

**5. Administration of the tool** –Personal information needs to be filled as name, gender, name of the school/college, types of institution (aided/unaided). The respondents can tick any one option as per their personal opinion regarding the statement at the right-hand side of each option. It is self-administering tool. No time limit is specified but the teacher took 25-30 minutes to complete the both tools.

**6. Scoring Procedure** – Each item is rated on a 5-point scale. The tool has followed Likert’s five-point rating scale.

**7. Scoring Key** – The negative statements are scored as SA-1, A-2, U-3, SD-4, D-5 whereas the positive statements are marked as SA-5, A-4, U-3, SD-2, D-1.

**8. Interpretation of Scores** – The higher scores indicate higher levels of the variable.

**9. Validity-** Face and content validity is ensured.

**10. Reliability-** The reliability coefficient of the tool was found to be 0.64.

#### 44. Interpersonal Relations Scale

Ms. Simpu Rana & Dr. Pratima Pradhan

##### Introduction:

Interpersonal relationships are social associates, connections or affiliations between the two or more people. They vary in differing level of intimacy and sharing, implying the discovery or establishments of common ground and may be centered on something shared in common. **Interpersonal relationship is a term used to denote a broad range of association between two or more persons.** Common types of interpersonal relationships may be based on family, friendship, faith career or romantic association between people. Healthy interpersonal relationships are characterized by one or more mutually felt sentiments such as affinity, attraction, care, respect and trust while poor relationships may suffer from a host of problems. They are the basic foundation of broader associations such as familial networks, communities and interest groups and society as whole.

##### Description of the tool:

- 1. Purpose** – To study the interpersonal relation of secondary school teachers in relation to institutional climate.
- 2. Parameters** – Interpersonal relations Scale (IRS) is comprised of total 50 items (49 positive and 11 negative statements). The tool deals with four main components of interpersonal relations as: 1. Communication skill 2. Team work 3. Mutual respect 4. Conflict Management
- 3. Total No. of items** – 50
- 4. Target Group** – secondary school teachers
- 5. Administration of the tool** – Personal information needs to be filled as name, gender, name of the school/college, types of institution (aided/unaided). The respondents can tick any one option as per their personal opinion regarding the statement at the right-hand side of each option.
- 6. Scoring Procedure** – Each item is rated on a 5-point scale. The tool has followed Likert's five-point rating scale viz. Never (N), Rarely (R), Sometimes (S), Often (O) and Usually (U).
- 7. Scoring Key** – The negative statements are scored as U-1, O-2, S-3, R-4, N-5 whereas the positive statements are marked as U-5, O-4, S-3, R-2, N-1.
- 8. Interpretation of Scores** – The higher scores indicate higher levels of the variable.
- 9. Validity**- Face and content validity is ensured.
- 10. Reliability**- The reliability coefficient of the tool was found to be 0.72.

## 45. Life Skill Scale

Ms. Sriekala Nair & Dr. Ms. Pratima Pradhan

### Introduction:

Adolescents have to face more challenges today as conditions and situations are at a state of dynamic flux. These changes require newer strategic approaches so that youngsters are better equipped to handle the effects of these changes. Moreover, they also need to adapt and adjust to the newer roles and responsibilities that they are required to assume. **Life Skills are defined as psychosocial abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life.** They are loosely grouped into three broad categories of skills: 1. Thinking skills for analyzing and using information, 2. Social skills for developing personal agency and mapping oneself and 3. skills for communicating and interacting effectively with others.

### Description of the tool:

1. **Purpose** – To study the life skills of secondary school students.
2. **Parameters** – The tool is designed in a Likerts' five-point rating scale format bearing five options viz. Strongly agree (SA), Agree (A), Undecided (U), Strongly Disagree (SD), Disagree (D). The tool is based on its three core skills of thinking skills, social skills, and emotional skills. The scale on life skills consisted of 15 questions each on decision making, effective communication and managing emotions. The final questionnaire had 36 items.
3. **Total No. of items** – 45
4. **Target Group** – secondary school students
5. **Administration of the tool** – Personal information needs to be filled as name, gender, name of the school/college, types of institution (aided/unaided). The respondents can tick any one option as per their personal opinion regarding the statement at the right-hand side of each option.
6. **Scoring Procedure** – Each item is rated on a 5-point scale. The tool has followed Likert's five-point rating scale.
7. **Scoring Key** – The negative statements are scored as SA-1, A-2, U-3, SD-4, D-5 whereas the positive statements are marked as SA-5, A-4, U-3, SD-2, D-1.
8. **Interpretation of Scores** – The higher scores indicate higher levels of the variable.
9. **Validity**- Face and content validity is ensured.
10. **Reliability**- The reliability coefficient of the tool was found to be 0.7.

## 46. Self Confidence Scale

*Ms. Sriekala Nair & Dr. Ms. Pratima Pradhan*

### **Introduction:**

**Self-confidence is a socio-psychological concept that relates to self-assuredness in one's personal judgement, ability, power etc. sometimes manifested excessively.** It is the ability to achieve understanding of apprehend, identify, express and control one's emotions appropriately through self-acceptance, self-control, self-worth, self-love, self-discovery, self-examination and self-assurance so as to give inputs for a balanced life. An individual's self-confidence can vary in different environments such as home or in school. A student lacking self-confidence might not stand up and ask the teacher to explain once more even though they are struggling to get a concept right. This creates obstacles to their learning, as many things remain unclear to them that require further guidance by the teacher.

### **Description of the tool:**

- 1. Purpose** – To study the perceived effect of life skill activities on the self-confidence of secondary school students.
- 2. Parameters** – The tool is designed in a Likerts' five-point rating scale format bearing five options viz. Strongly agree (SA), Agree (A), Undecided (U), Strongly Disagree (SD), Disagree (D). The scale on self-confidence consisted of 35 items.
- 3. Total No. of items** – 35
- 4. Target Group** – secondary school students
- 5. Administration of the tool** – Personal information needs to be filled as name, gender, name of the school/college, types of institution (aided/unaided). The respondents can tick any one option as per their personal opinion regarding the statement at the right-hand side of each option.
- 6. Scoring Procedure** – Each item is rated on a 5-point scale. The tool has followed Likert's five-point rating scale.
- 7. Scoring Key** – The negative statements are scored as SA-1, A-2, U-3, SD-4, D-5 whereas the positive statements are marked as SA-5, A-4, U-3, SD-2, D-1.
- 8. Interpretation of Scores** – The higher scores indicate higher levels of the variable.
- 9. Validity**- Face and content validity is ensured.
- 10. Reliability**- The reliability coefficient of the tool was found to be 0.8.

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#### Abstract

Dance is a medium of communication. Dance is a universal language that can break all boundaries. A dancer can tell stories, share feelings, and bring a sensation to people through body movements. Dance can create an impact on the life of a human in different ways. Dance helps to increase physical strength and stamina. Body and mind together contribute to the development of thought, intelligence, and creativity, and through dance, body and mind can be sharpened. Dance is based on the principle of observing the movement in-depth and associating it with the internal dynamics of the individual. Hence, there is a relationship between movement and meaning. Observation, perception, awareness, and movement mechanisms can be developed through dance. This paper reports the impact of dance on the emotional intelligence of the students. The sample consists of 600 students teachers of Navi Mumbai area. For this study, the research method selected by the researcher was the descriptive survey method. Schutte Self-Report Emotional Intelligence Test (SSEIT) was the tool used to study the emotional intelligence of the students. The data collected was analysed and quantified according to the scoring scheme and they were subjected to statistical treatment. It was found that dance has a significant impact on the emotional intelligence of the students.

**Key words:** Dance, Emotional Intelligence, Impact, Perceived Influence, Dancers, Non-Dancers

#### INTRODUCTION

Dance is fuelled by emotion. It's a process of feeling, and then moving through that feeling and thus sharing it with others. Dance allows one to find a genuine connection with the emotions and thus it creates a sense of mindfulness. Dance has a magical combination of elements that are set in tune with the emotions and how to express them. This creates healthy bonds with others through empathy, communication, and self-awareness making a person emotionally intelligent. Dance promotes well-being as it is observed to have a therapeutic effect to deal with emotional crises. Dance classes help to develop a sense of psychological well-being. It decreases anxiety and depression and also enhances the individual's self-perception of confidence, relaxation, energy, and intelligence. Dance training enhances the self-concept, quality of life, and emotional intelligence so, it helps individuals improve their self-concept, quality of life, and emotional intelligence.

Emotional intelligence can be explained using four characteristics Self-management, Self-awareness, Social awareness, Relationship management. Emotionally intelligent people understand that emotions can be powerful. In a certain highly charged emotional situation, an emotionally intelligent person chooses to respond rather than react on the spot. This allows them to calm their emotions and think more rationally about all the factors surrounding the argument. Emotional intelligence helps to succeed in professional and personal life. Dance promotes well-being as it is observed to have a therapeutic effect to deal with emotional crises. Dance classes help to develop a sense of psychological well-being. It decreases anxiety and depression and also enhances the individual's self-perception of confidence, relaxation, energy, and intelligence. Dance training enhances the self-concept, quality of life, and emotional intelligence so, it helps individuals improve their self-concept, quality of life, and emotional intelligence.

## Usage of E-Commerce among Youth: A Boon to Economic downturn

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### Abstract:

India Ratings assessment is within the line of the International Monetary Fund's (IMF) estimates of India's economic growth. According to IMF India is growing at 5.8 percent in 2020-21 and predicts that it will have a growth of 6.5 percent possibly in 2021-22. Purchasing Managers' Index (PMI) for January stands at the very best (highest) since February 2012. Simply put, sales have gone up and there is an increase in the job market. The survey found that new staff were hired on a large scale. This is mainly a result of growth in new businesses. However, this does not mean that economic slowdown is irrefutably over. But if there has been an improvement, what are the factors responsible for this? Could one of them be the increasing usage of e-commerce? With these questions in mind the researcher took up this study. The present study focused on the usage of e-commerce among the youth studying in the semi-urban areas in and around Rasayani. The researcher developed a questionnaire and data was received from 600 respondents. Thus, this paper throws light on the usage of e-commerce by youngsters and also tries to explain the reasons for the same.

**Keywords:** recession, economic downturn, e-commerce

### Introduction:

Economic downturn is known as Economic recession. When inflation increases, the percentage of goods and services that can be purchased by the consumer with the same amount of money decreases. Another factor that can cause recession is by a loss of business and consumer confidence. Consumers will not spend money if they believe the economy is bad. As confidence retreats, so does demand. There is a natural process for economic cycle where it grows for the span of 6-8 years and then experiences decline for the period of six months to two years. E-Business came in as a drastic and far-reaching change that transformed companies round the world, and it impacted all the industries in the way of thinking and behaving process. E-commerce is beyond the mere online purchase and execution of computer applications by the IT departments or putting up a company website. The advantage of adopting E-Commerce is that it allows the companies in reduction of costs and enables to respond to the customer at their own pace. Organizations that adopted new technology by transforming their business practices, benefited up to a great extent.

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**Kitchen Green/Waste Management at the Individual Level**

*Asst. Prof. Dr. Bhavna Dave & Student teachers -Dubey Shweta, Inamdar Sayra,  
Jain Ankita*

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**Introduction:**

Green waste management includes access to residential and work site composting, education on proper disposal of waste, and other opportunities to divert waste from landfills. Green waste management is a relatively new service at the city level and education and outreach are needed to change residents' behavior to properly dispose of green waste. Nationwide, organic wastes, including food scraps and yard waste, constitute over 25% of the solid waste sent to landfills. This organic waste is a great opportunity for waste reduction—to divert materials from the traditional garbage can to landfill waste stream. It is also an opportunity for positive environmental impact as composting green waste not only prevents organic waste from entering landfills but also produces compost, a useable product.

Green or sustainable building defines constructing healthier, more energy efficient and eco-friendly buildings. A Green Building uses less energy, water and natural resources creates less waste and is healthier for the people living inside compared to a standard building. GRIHA, an acronym for Green Rating for Integrated Habitat Assessment, is the National Rating System of India. GRIHA has been conceived by TERI and developed jointly with the Ministry of New and Renewable Energy, Government of India.

In early pre-industrial times, waste generation was not an issue as populations were smaller. The Ways in which solid wastes generated by human activities are handled, stored and disposed of can pose different level of risk to the environment and to the public health. MSW is nothing but a heterogeneous mixture of paper, plastic, metal, glass, stones, etc.

Dry waste is divided into recyclable and non-recyclable waste. Items like used paper towels, hazardous chemical or food containers, foam materials, and dishware are some examples of dry waste that cannot be recycled or reused. Dry recyclable waste includes pet bottles, plastic carry bags, newspapers, glass bottles, shoes, plastic cutlery, tires, cardboard, and so on.

**Sanitation and Hygiene at the Individual/Household Level**

*Asst. Prof. Dr. Bhavna Dave & Student teachers -Ambat Nilam, Archana Kumari,  
Babar Shraddha*

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**Introduction:**

According to the World Health Organization, “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Personal hygiene involves regular washing of body, washing the hands when necessary, cutting the nails, washing one’s clothing, keeping the hair neat and brushing the teeth.”

A healthy body can only bring a healthy mind and it became an important topic at social and educational context. Regarding self-hygienic face and hair must be cleaned because they accumulate grime, emit bad odors, and make one seem dull, skin diseases such as ringworm, scabies and sweat fungi. can also occur. The hands and finger nails have to be cleaned because the germs in between the fingers and finger nails cause contagious diseases such as diarrhea, worms and epidermophytosis. The teeth and mouth have to be cleaned because they emit bad odor’s, cause mouth and dental diseases such as cavities, gingivitis, etc., and stomach disorders due to ingestion. Thus, one’s face hair, body, legs and hands should be cleaned thoroughly, and the teeth have to be brushed properly. Ears, an important part of the human body it should be kept clean and carefully protected from injury. Failure to keep up a standard of hygiene can cause many problems.

Sanitation is more than just toilets, it encompasses the facilities, behaviours, and services that prevent diseases caused by contact with human waste and arrangements to protect the public health specially the provision of clean drinking water and proper disposal of sewage. Hygiene is the practice of keeping oneself and one's surroundings clean in order to prevent infection and disease and remain healthy and fit. It refers to behaviours that can improve cleanliness and lead to good health. Maintaining proper sanitation and hygiene is very crucial for one’s wellbeing.

Sanitation means the prevention of human contact with wastes, for hygienic purposes. Basic sanitation: refers to the management of human faeces at the household level. It means access to a toilet or latrine. Onsite sanitation: the collection and treatment of waste at the place where it is deposited. It is more than just toilets, it encompasses the



**CORRELATIONAL STUDY: MOTIVATION AND LEARNER ENGAGEMENT AMONG  
HIGHER EDUCATION LEARNERS**

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*Abstract:*

*Motivation plays an important role in learners' active learning. Learners who are highly motivated have better learner engagement in the class. Various studies have shown linkage between student engagement and learning motivation. Higher Education plays a crucial role in augmenting efficiency and technical expertise of human resources of a nation. The aim of this study was to find correlation between Motivation Levels and Learner Engagement Levels among higher education learners. The sample consisted of 423 learners based on their enrolment in any form regular or distance degree (both Undergraduate and Postgraduate) education program from Arts, Science, Commerce, Engineering, and Management streams, in and around Mumbai. The research design used for this study was descriptive correlational research method. Findings: A low, definite but small correlation between Motivation Levels and Learner Engagement Levels in higher education learners was found.*

**Keywords:** Motivation, Learner Engagement, Correlation, Higher Education

**INTRODUCTION**

Education plays an important role in the human resource development of any country. Citizens of India are the most valuable resource and workforce. Our billion-strong nation needs the nurture and care in the form of basic education to achieve a better quality of life. There is an absolute need for an all-round development of our citizens, which can only be achieved by building strong foundations in education. Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, morals, beliefs, and habits.

The education system in India follows "10+2+3" pattern of education. In this pattern, study of 10 years is done in school and 2 years in Junior college, then 3 years of graduation for a bachelor's degree. The first 10 years is further subdivided into 5 years of primary education, 3 years of upper primary education, 2 years of secondary education followed by 2 years of Junior college. This pattern originated from the recommendation of the Education Commission of 1964-66.

Higher education is the tertiary education that leads to award of an academic degree. Higher education is also called as post-secondary education, third-level, or tertiary education. It is an optional final stage of formal learning that occurs after completion of higher secondary education. India's higher education system is the third largest in the world, next to the United States and China. As per the statistics released by MHRD in its publication, Statistics at a Glance-2018 Gross Enrolment Ratio (tertiary) was 24.5% in India, 43.4% in China, 68.3 % in Germany, 80.4% in Russia, 56.5% in UK, 85.8% in USA and 9.9% in Pakistan (ESAG-2018). Despite on the path to progress, India's institutions for higher education have not reached the world excellence standards.

## Energy Management at the Community Level

*Asst. Prof. Dr. Geeta Thakur & Student teachers -Patankar Jyoti, Vaidehi Barku,  
Pattem Nisha, Paul Sheli*

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### **Introduction:**

Energy management can be broadly defined as the proactive, organized and systematic management of energy use in a building or organization to satisfy both environmental and economic requirements. The steps for the process of energy management are as follows:

1. Collecting and analysing continuous data.
2. Identify optimizations in equipment schedules, set points and flow rates to improve energy efficiency.
3. Calculate return on investment. Units of energy saved can be metered and calculated just like units of energy delivered.
4. Execute energy optimization solutions.
5. Repeat step two to continue optimizing energy efficiency.

Thus, “Energy management is the proactive, organized and systematic coordination of procurement, conversion, distribution and use of energy to meet the requirements, taking into account environmental and economic objectives”.

### **Why energy management is important?**

Objectives of energy management are resource conservation, climate protection and cost savings, while the users have permanent access to the energy they need. It is connected closely to environmental management, production management, logistics and other established business functions.

Energy management is the means to controlling and reducing a building's energy consumption, which enables owners and operators to:

- Reduce costs – energy represents 25% of all operating costs in a building.
- Reduce carbon emissions in order to meet internal sustainability goals and regulatory requirements.
- Reduce risk – the more energy you consume, the greater the risk that energy

**Water Management at Community Level**

*Asst. Prof. Dr. Geeta Thakur & Student teachers -Khan Sana, Zainab Khan, Lobo Melita, Madhu Rani*

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**Introduction:**

Water, once an abundant natural resource, is becoming a more valuable commodity due to droughts and overuse. Water is vital for sustaining our natural environment and supporting human activities. It delivers economic value through its allocation to towns, irrigation, agriculture and industry, while healthy waterways provide environmental, cultural and recreational value. However, the impacts of drought and climate change threaten water resources. Water resource management is the activity of planning, developing, distributing and managing the optimum use of water resources. Water policy and action plan 2020: an alternative – A report for the Planning Commission

The action programme and implementation schedule proposed by the authors along with this policy clarifies the practical implications of the changes proposed in the policy, suggests an approach for action and emphasizes the urgency of carrying out the proposed changes. The organizational and institutional changes suggested can come about only if there is an attitudinal change among the government functionaries as well as the people with respect to de- centralization and transferring authority and responsibility to the people at the community level. The policy put forward suggests suitable changes at the macro level in the governmental organizational structures and the adoption of the river basin approach to the integrated planning and management of water resources. At the micro level the policy suggests the setting up of community organizations throughout the country - Watershed Management Associations (WMAs) in rainfed areas, Water Users Associations (WUAs) in irrigated areas, Joint Forest Management (JFM) committees in forest areas and Resident Welfare Associations (RWAs) in urban areas. These community organizations will be the organizational mechanism through which people can be involved in the management of water resources.

One initiative Currently being trialed is to utilize a water resources management framework to encourage wider community participation in managing both water resources and water assets. The framework is derived from water resources and water

**Water Management at the Individual Level**

*Asst. Prof. Mrs. Namrata Saxena & Student teachers -Kauchali Uzma, Khamkar  
Pratik, Khan Aneera, Khan Neha*

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**Introduction:**

We have been gifted with a wonderful home – Mother Earth. For all living beings to survive, air, water and food are the primary requirements. Mother Earth has provided for these requirements in plenty. As human beings evolved, and with the development of industrialized societies, we as the inheritors of the planet have misused these valuable resources. Water is one such resource that we have misused resulting in dire consequences for the survival our planet and our species.

One of the biggest concerns for our water based resources in the future is the sustainability of the current and future water resource allocation .As water becomes more scarce, the importance of how it is managed grows vastly. Finding a balance between what is needed by humans and what is needed in the environment is an important step in the sustainability of water resources.

**Importance of Water:**

Let's first take a look at how water is a part of our makeup. Water constitutes about 66% of the human body. 70% of the human brain is made up of water. One can say, water is the building block of life. Studies show that a person can live about a month without food, but only about a week without water. Therefore, it is a very critical resource for our survival.

On the planet, 97% of water is ocean water, 2% is iced water, and ONLY 3% is potable or drinking water. This means we have access to only 3% of water for our survival as a species – see figure 1. If the entire world's water were fit into a 4 liter jug, the fresh water available for us would equal only about one tablespoon.

- Two-thirds of the world's population is projected to face water scarcity.
- Water withdrawals are predicted to increase by 50 percent in developing countries and 18 percent in developed countries.
- Half the world's people will live in countries with high water stress.
- With that as the backdrop, let us look at a few facts about water as it pertains to

**Sanitation & Hygiene at the Community Level**

*Asst. Prof. Mrs. Namrata Saxena & Student teachers -Baghela Manisha,  
Bhakare Ashwini*

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**Introduction:**

Sanitation is the hygienic means of promoting health through prevention of human contact with the hazards of waste. For any social and economic development, proper sanitation along with good hygiene and safe water are essential. Lack of access to safe and adequate sanitation with poor hygiene are major threats to human well-being. Today 2.2 billion people lack access to safely managed drinking water services and 4.2 billion people lack safely managed sanitation services (UNICEF 2019). The impact on child mortality rates is devastating with more than 297000 children under 5, who die annually from diarrheal diseases due to poor sanitation poor hygiene or unsafe drinking water. (WHO 2019). There is an urgent need to prioritize sanitation and hygiene. There are many partnerships organization and multi stakeholders that work with poor people, governments, and local entrepreneurs to improve sanitation and hygiene at large scale. The main three objectives to achieve while working with communities are to promote change in hygiene behaviours, to deliver sanitation technologies, and to build systems of community management. Many new ways of sanitation and hygiene were explored for through the inputs of various stakeholders well as sanitation enthusiasts.

India is one of the largest countries of the world with diverse population both in geographical and cultural terms. The ideology of co-existence made India one of the most vibrant civilizations of the world. With a population of about 1,000 million, India is the 2nd most populated country in the world after China. Having 29 States, 594 districts, India has about half million locally self- governmental institution in rural areas. Any national programme for water supply, sanitation and hygiene education, especially for school, needs resources, deep understanding and sustained commitment to face these challenges. Govt. of India has, therefore, given special focus on SSHE, which is being mounted across the country. This challenge is at the same time an entry point, because the school water, sanitation and hygiene education programme, which by its nature is rather popular, can also serve, and is serving, as an entry point for improving sanitation and hygiene within the family and community.

## Green Building Initiatives

*Asst. Prof. Mr. Gyanendrapratap Singh & Student teachers -Shanbhag Aditi, Sharma Jyoti, Siddiqui Irfana, Singh Priyanka*

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### **Introduction:**

Green building defines constructing healthier, more energy efficient and eco- friendly buildings. A Green Building uses less energy, water and natural resources creates less waste and is healthier for the people living inside compared to a standard building. A 'green' building is a building that, in its design, construction or operation, reduces or eliminates negative impacts, and can create positive impacts, on our climate and natural environment. Green buildings preserve precious natural resources and improve our quality of life. It is a green building design evaluation system, and is suitable for all kinds of buildings in different climatic zones of the country.

### **Why do we need Green building initiatives?**

As we know day by day population increases because of that climate changes and natural resources reducing. The air is getting warmer - summer comes sooner in most continents. Sea level is rising, Island is sinking. The glaciers feeding water for the Ganga are melting faster than it should. It means the Ganga could dry up in another about 60 years or so. This would leave over 50 million people thirsty who are living on the banks. Pollution also increases. Pollution damages the quality of air, water, and land. All Carbon Dioxide emissions produced are absorbed in the oceans. Carbon dioxide dissolved in ocean water becomes a corrosive acid which kills sea life. Thus fish catches are falling. That would leave hundreds of coastal communities hungry. Resources such as ground cover, forests, water, and energy are depleted to construct and operate buildings. So we need Green buildings initiatives to reduce harmful effect on environment and human beings.

### **Importance/ Benefits of Green buildings initiatives**

- Reduction of natural resource consumption.
- Reduction of operating costs.
- Health, comfort and safety for all residents
- Energy optimization and reduction of energy consumption.

**Solid Dry Waste Management at the Community Level**

*Asst. Prof. Dr. Jiji Sahaya & Student teachers -Dheb Reshma, Dmello Sylvia, Doad Manjinder Kaur, Solanke Meenakshi*

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**Introduction:**

Over the years, waste management has come a long way. In ancient cities, waste was thrown on the sides of the unpaved streets and roadways and left to accumulate. It wasn't until 320 BCE in Athens, that the first known law forbidding this practice was established. At that time a system was developed in Greece for proper waste removal. In Ancient Rome, property owners were made responsible for the area in front of their own property. Despite that, organised waste collection was associated only with State-sponsored events, such as parades disposal methods often included deep pits dug just outside the city wall, but as the population started increasing, an effort was made to transport the waste further away from the city. The government nowadays plays a huge role in waste management, not to mention several other organisations and each have their own ideas and plans, some great, others not so great. This article will be discussing 5 of these plans.

**Bhagidari scheme in Delhi:** The Resident Welfare Association (RWA), civic agencies and the government agreed to have close cooperation with each other for this scheme to work and was instituted by the Delhi government. On January 1, 2004, a court order for compulsory segregation of waste at the household level was passed. When this scheme was launched, 11 citizen groups were identified, but by 2008, it grew up to 2000 groups. The scheme received recognition from various national and international agencies. The idea behind this scheme was to include the common populace in the democratic process. Like several other legislations that have been passed, a miniscule amount of people have actually followed the rules, as people do not see it as their responsibility, rather the responsibility of the municipal government. In December 2003, the municipal commissioner of Delhi announced a new system of transporting pre-segregated garbage to the drop site, by the cart having 2 compartments. He also mentioned that the system would reduce up to 50% garbage going to the landfills, which would result in cost reduction. In the initial phase, zones were selected in colonies like Hauz Khas, Gulmohar Park, Vasant Vihar, Green Park, Safdarjung Enclave and Sewa Nagar. The

**Solid -Dry Waste Management at the Individual Level**

*Asst. Prof. Mrs. Pradnya Jadhav & Student teachers -Dhar Soma, Dhavale Pritam,  
Sinha Surabhi*

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**Introduction:**

Solid waste management is an essential service in any society. Before introducing the process, however, let us start with a discussion of the material being managed—solid waste. Solid waste refers to the range of garbage materials—arising from animal and human activities—that are discarded as unwanted and useless. Solid waste is generated from industrial, residential, and commercial activities in a given area, and may be handled in a variety of ways. As such, landfills are typically classified sanitary, municipal, construction and demolition, or industrial waste sites. Waste can be categorized based on material, such as plastic, paper, glass, metal, and organic waste. Categorization may also be based on hazard potential, including radioactive, flammable, infectious, toxic, or non-toxic wastes. Categories may also pertain to the origin of the waste, whether industrial, domestic, commercial, institutional, or construction and demolition.

**Waste Prevention:** The ideal waste management alternative is to prevent waste generation in the first place. Hence, waste prevention is a basic goal of all the waste management strategies. Numerous technologies can be employed throughout the manufacturing, use, or post-use portions of product life cycles to eliminate waste and, in turn, reduce or prevent pollution. Some representative strategies include environmentally conscious manufacturing methods that incorporate less hazardous or harmful materials, the use of modern leakage detection systems for material storage, innovative chemical neutralization techniques to reduce reactivity, or water saving technologies that reduce the need for fresh water inputs.

**Waste Minimization:** Waste minimization strategies are extremely common in manufacturing applications; the savings of material use preserves resources but also saves significant manufacturing related costs. Advancements in streamlined packaging reduces material use, increased distribution efficiency reduces fuel consumption and resulting air emissions. Further, engineered building materials can often be designed with specific favorable properties that, when accounted for in overall structural design,



**Canteen/Green Waste Management at the Community Level**

*Asst. Prof. Mrs. Darshana Jadhav & Student teachers -Kumari Juhi, Joshi Prachi,  
Karle Prajakta*

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**Introduction:**

“The greatest threat to our planet is the belief that someone else will save it.” Robert Swan

Greenery symbolizes the reconnection we seek with nature, one another, and a larger purpose. Greenery in our living environment benefits more than just our health and well-being. However, by cutting the trees and demolishing forests we are depleting our oxygen supply. Greenery is also demolishing due to increase in population. More population leads to more amount of production which takes place in all the fields specially food sector. Nowadays, people’s food habit has also changed. Due to this, Food loss and food waste occur at each level of the food production process.

Greenery symbolizes the reconnection we seek with nature, one another, and a larger purpose. Greenery in our living environment benefits more than just our health and well-being. However, by cutting the trees and demolishing forests we are depleting our oxygen supply. Greenery is also demolishing due to increase in population. More population leads to more amount of production which takes place in all the fields specially food sector. Nowadays, people’s food habit has also changed. Due to this, Food loss and food waste occur at each level of the food production process.

Canteen wastes come from a wide variety of different businesses including:

- Restaurants, cafés and Canteens Self-catering kitchens, Mobile caterers, outside caterers supplying buffets.
- Waste from food preparation left-over food, Waste water.
- Food packaging, materials, Disposable cutlery, plates and napkins
- Waste electrical and electronic equipment such as cash registers and microwaves
- “Catering waste” means all waste food including used cooking oils originating in restaurants, catering facilities and kitchens, including central kitchens and household kitchens.

**Why the Solid dry waste management is important?**

## Digital Storytelling in Constructive Classrooms: A delve into the minds

Mrs. Rakhi Sawlani, Pillai College of Education & Research, New Panvel (W)

### Abstract:

The present study aims to find significant effect of digital storytelling in teaching of science concepts under STEAM education. The sample for present study comprised of 60 students of class VI English medium school. The researcher divided the sample into 2 groups i.e., control group and experimental group. During the session, experimental group students were narrated different stories for 15 days based on scientific concepts in view of STEAM education and the control group was taught the same content through traditional method. The tool for data collection comprised of teacher made achievement test used as post-test analysed through t-test. Difference between the scores in post-test of control and experimental group indicated whether story-telling improved the students' ability to explore the concepts from different point of views and roles. The results indicated that digital storytelling approach under STEAM education is more impactful than traditional teaching methods. It was observed that digital stories make complex concepts easier, gives a sequential flow in the teaching through events in the story, overcome students resistance and anxiety in remembering of scientific concepts.

**Keywords:** *Digital Stories, STEAM Education, Storytelling approach, teaching learning process.*

### Introduction:

Invention of new technologies in education provides better opportunities for teachers and higher engagement levels for students in unprecedented teaching learning experiences that enhance educational outcomes. STEAM Education is a creative process of exposing students to experience guided inquiry in the form of thoughtful questions, teamwork, discovering answers and applying what they learn practically. The components of STEAM approach are: activity oriented meaningful integration of related subjects, teachers providing varied teaching methods offering students the knowledge and skills to be competitive in this global world.

The Arts activities helps in increasing the student engagement in STEAM projects since the students can connect to artistic medium that they enjoy (like visual arts, music, dance, drama, stories). Out of the plethora of ways of guiding student's inquiry adopted under STEAM

## RESEARCH MANUALS AND TOOLS

### 1. Health Related Behaviour Survey Scale

*Mrs Bharti Iyer & Dr Sally Enos*

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**Name of the Inventory /Scale:** Health Related Behaviour Survey Scale (2009)  
(Researcher prepared tool)

**Introduction:** According to WHO "Health is a state of well-being with physical, cultural, psychosocial, economic and spiritual attributes, not merely the absence of illness. Hence, we can say that healthy eating, exercise, good sleep and good sense of self with supportive family network are important for our overall well-being.

**Purpose:** The prime need of the study was to investigate the health issues prevailing among the higher secondary school students. (Junior College students). The study was conducted among the students of Navi Mumbai.

**Parameters of the scale:** The researcher has used two types of tools multiple choice and rating scale. There are three parts. Part A deals with the behavior pattern of the respondents. Part B deals with the frequency of behavior and has 44 items. Part C deals with knowledge and awareness regarding health and has 14 items with five-point rating scale.

**Administration of the inventory:** Students of Higher Secondary School students from Navi Mumbai

#### **Scoring description and distribution of items:**

Tool A is a multiple option item and checks the general details of the respondent behavior with respect to factors that lead to health issues.

Part B uses a five-point scale to check the frequency of the behavior and the scale used is Always (5), Frequently (4), Sometimes (3), Rarely (2) Never (1) for positive statements and Always (1), Frequently (2), Sometimes (3), Rarely (4) Never (5) for Negative Statements

Part C: The scale is five-point Likert Scale and the value is Strongly Agree (5), Agree (4), Can't Say (3), Disagree (2), Strongly disagree (1) for positive statement

Strongly Agree (1), Agree (2), Can't Say (3), Disagree (4), Strongly disagree (5) for negative statement

**Validity (Type):** Content and Face validity by experts.

**Reliability (2009):** The reliability was calculated using split half method for Tool B and C and the reliability was found to be 0.80 and 0.98 respectively.

#### **4. Awareness towards Sexually Transmitted Diseases and Utility Value of the Awareness on Human Reproductive System.**

*Ms. Geeta Gusain & Dr. Sally Enos*

**Introduction:** As per the “Centre for Disease control and prevention (CDC), there are approximately 20 million new STD infections each year – almost half of them among young people ages 15 to 24. There are also a considerable number of teens that get pregnant each year, though the statistics show a decline in the number of cases globally. There is unawareness and inquisitiveness among the teens that leads them to experimentation with sex. Gauging the awareness of the students and understanding their attitude when they are at the threshold of adulthood is the need of the hour. **This tool will help to decide at which level and to what extent the awareness on sexually transmitted diseases and human reproductive system should be included in the curriculum.**

##### **Description of the tool:**

**1. Purpose** – To study students’ awareness towards sexually transmitted diseases and the utility value of human reproductive system.

**2. Parameters** – The tool has been prepared in two parts. Part A consisted of 10 items on students’ awareness towards sexually transmitted diseases and Part B consisted of 14 items on Utility value of students’ awareness towards human reproductive system. All the statements are marked on a 3point scale. The statements were in the opinion form. The statements were not of the yes/no type.

**3. No. of items-** 24 statements all together.

**4. Target Group** – Secondary School students (age group of 14 to 16 years).

**5. Administration of the tool-** Suitable instructions are given at the beginning of the opinionnaire to fill personal data sheet.

**6. Scoring Procedure** – The opinionnaire contained equal numbers of favorable and unfavorable statements. The scoring was done in accordance with the response style.

**7. Scoring Key-** For positive statements, 3 marks for agree, 2 for can’t say and 1 for disagree. For negative statements, 1 for agree, 2 for can’t say and 3 for disagree.

**8. Interpretation of Scores** – Higher scores indicate higher awareness towards sexually transmitted diseases and high utility value of towards human reproductive system.

**9. Validity-** Content validity

**10. Reliability-** The reliability coefficient of the students’ awareness towards sexually transmitted diseases is 0.63 and the reliability index is 0.77. The reliability coefficient of the students’ awareness towards utility value of human reproductive system is 0.68 and the reliability index is 0.80.

## 6. Carbon Foot Print

*Mrs. Priya Deshpande & Dr. Sally Enos*

**Introduction:** Carbon Footprint is a powerful tool to understand the impact of personal behavior on global warming. **Carbon Footprint is termed as the amount of carbon emitted by an individual by way of burning fossil fuels, cutting trees etc.** It is the sum of all emissions of carbon dioxide which were induced by our activities in a given time frame. They are released directly and indirectly into the atmosphere due to lifestyle changes. Educating students about their role in increasing carbon footprint will spread awareness among the adolescents developing deeper concern for environment and a sense of commitment and responsibility to take positive action.

### **Description of the tool:**

**1. Purpose** – To identify the lifestyle changes of the higher secondary students leading to their increased carbon footprint.

**2. Parameters** – It consists of parameters to analyze actions related to transport activities, food habits, improper utilization of electrical appliances and general life-style contributing to carbon footprint.

**3. No. of items-** It consists of three questionnaires. Questionnaire 1 is a five-point rating scale with 20 statements. The 5 options are Always, Frequently, Sometimes, Rarely and Never. Questionnaire 2 consists of 11 multiple choice questions with 4 answers. Questionnaire 3 consists of 19 multiple choice questions with 4 answers. The Questionnaire consists of a list of total 50 statements related to awareness regarding actions leading to an increase in carbon footprint.

**4. Target Group-** Higher Secondary Students

**5. Administration of the tool-** The respondents are asked to fill a personal data sheet that included all necessary information such as name, age, class, gender, stream, parent's income. Respondents have to attempt all questions and there is no time limit.

**6. Scoring Procedure** – The scoring was done by giving appropriate weightage to the responses.

**7. Scoring Key-** In Questionnaire 1, For Positive Statements, 5 marks are given to Always, 4 to frequently, 3 to Sometimes, 2 to rarely and 1 to Never. For Negative Statements, 1 mark is given to Always, 2 to frequently, 3 to Sometimes, 4 to rarely and 5 to Never. In Questionnaire 2, 1 mark is given for right answer for each multiple-choice question. In Questionnaire 3, first right response has 4 mark, second right response has 3-mark, third right response has 2 mark and fourth right response has 1 mark.

**8. Interpretation of Scores** – All the scores of three questionnaires are summed up to give total score of an individual. Low scores indicate more action related to carbon footprint.

**9. Validity-** Face and content validity

**10. Reliability-** The reliability of the tool was ensured.

## 9. Anxiety and Academic Adjustment

*Ms. Benazir Thakker & Dr. Sally Enos*

**Introduction:** The pressure from school and examination is more severe in an educational system like India. Anxiety has been a major mental health concerns in all countries. Exam Anxiety is a common phenomenon negatively affecting the academic, emotional, personal and social lives of students. **Anxiety is defined as the excessive concern, uneasiness or restlessness exhibited in tasks related to examinations, study habits and ancillary activities. Academic adjustment is defined as the level of constant perusal towards academic tasks.** Examination is the level of preparedness. Study habits refers to a well planned regular qualitative study undertaken by students leading to preparedness of any activities. Ancillary activities refer to observing the level of participation in academic related curricular and co-curricular activities.

### **Description of the tool:**

**1. Purpose** – To study anxiety among secondary school students in relation to their academic adjustment.

**2. Parameters** – The tool was prepared keeping in context the two areas of research which included 1) Anxiety 2) Academic Adjustments. The tool was further classified into three components under academic adjustment as: a) Examination b) Study habits c) Ancillary activities.

**3. No. of items** – The meticulously planned rating scale consisted of 71 items altogether.

**4. Target Group** – Secondary school Students.

**5. Administration of the tool** – Suitable instructions are given to the respondents at the beginning of the opinionnaire. There are no right or wrong answers.

**6. Scoring Procedure** – It is a four-point rating scale. The options provided were always, frequently, sometimes, never. An opinionnaire on anxiety consisted of 20 items. An opinionnaire on academic adjustment: Opinionnaire on Examination has 20 items, study habits have 16 items, ancillary activities have 15 items.

**7. Scoring Key-** For positive statements, 4 marks are given for always, 3 for frequently, 2 for sometimes and 1 for never. For negative statements, 1 for always, 2 for frequently, 3 for sometimes and 4 for never. The item number 16 of Examination, 6 & 14 of study habits and 6,7,10 & 13 of ancillary activities were negative statements and the rest were positive statements.

**8. Interpretation of Scores** – Higher scores indicates higher anxiety and need for academic adjustments.

**9. Validity-** Face and content validity.

**10. Reliability-** The reliability calculated was parametric. The reliability coefficient for anxiety tool was found to be 0.65, for examination tool 0.76, for study habit tool 0.62, for ancillary activities 0.95.

### 13. Awareness regarding Vocational Preferences & Study Habits

*Ms. Jatinder Kaur & Dr. Sally Enos*

#### **Introduction:**

The vocational aim of education is to improve the relevance of education to the world of work and make students more employable. Vocational Preference is a most likely course a student may take up after the completion of school. It is referred as a strong feeling that you ought to pursue a particular career or occupation. Study habits are a regular study by the student to gain knowledge. It is referred as the reading of books and other materials regularly and repeatedly to gain knowledge.

#### **Description of the tool:**

**1. Purpose** – To investigate the vocational preferences of the junior college students and the effects of study habit so as to provide proper guidance according to their potential and capabilities.

**2. Parameters** – The tool consisted of two parts; Part A: awareness regarding vocational preference, Part B: Opinionnaire for study habits. Part A has 12 questions with open and closed type questionnaire. It consists of multiple-choice questions regarding the course selected by the students like commerce stream. Statements with regard to study habits one possesses contained 23 closed questions with respect to aspects like planning, daily study, making time table, studying at regular time, revising lessons, preparing for exams.

**3. No. of items-** 35 items altogether

**4. Target Group** – Junior College students (XII)

**5. Administration of the tool-** The respondents have to fill personal information regarding name, sex, institution name/type, family income, qualification of father and mother.

**6. Scoring Procedure** – The study habit component of the tool was measured through the five-point Likert scale. The five points are Strongly agree, Agree, Can't say, Disagree, and Strongly disagree. The likert scaling technique assigns a value to each of the five responses.

**7. Scoring Key-** The scoring is done as follows: For positive statements, 5 marks for strongly agree, 4 for agree, 3 for undecided, 2 for disagree, 1 for strongly disagree. For negative statements, 1 for strongly agree, 2 for agree, 3 for undecided, 4 for disagree and 5 for strongly disagree.

**8. Interpretation of Scores** – Higher scores indicates higher study habits of students and vice versa.

**9. Validity-** Face and content validity is ascertained.

**10. Reliability-** The reliability index for study habits is 0.50 and the reliability index for vocational preferences is 0.62 by split half method.

#### 44. Teacher Awareness on Inclusive Education

*Ms. Deepa Patil & Dr. Ms. Sally Enos*

##### **Introduction:**

Awareness is the state or ability to perceive, to feel or to be conscious of events, objects, or sensory patterns. In this level of consciousness, sense data can be confirmed by an observer without necessarily implying understanding. More broadly it is the state or quality of being aware of something. **In biological psychology, Awareness is defined as human or an animal perception and cognitive reaction to a condition or event.** Awareness is the knowledge of teachers about information concerning inclusive education. The programme and methods used to educate exceptional children is known as Special education. It meets both needs and makes efforts to bring exceptional children to the maximum of their developmental potential and to prepare them adequately to face the problems of life boldly. When special educational needs children are put in general education then it is called as Inclusive education.

##### **Description of the tool:**

- 1. Purpose** – To study the awareness of teachers towards inclusive education with respect to gender, types of school, sections of school, years of experience, affiliated board and teachers' qualification.
- 2. Parameters** – The multiple-choice questionnaire for teacher awareness comprised of 20 items with three options.
- 3. Total No. of items** – 21 multiple choice questions
- 4. Target Group** – School teachers
- 5. Administration of the tool** – Instructions are given to be filled in with the tool correctly. Personal information needs to be filled in such as name of the student, gender, standard, division, roll no., name of the college and working status of parents.
- 6. Scoring Procedure** – Questions bear 3 multiple choice options as a, b, c.
- 7. Scoring Key** – Scoring for the questionnaire is done as per the scoring key.
- 8. Interpretation of Scores** – Higher scores indicate higher attribute of teacher awareness on inclusive education.
- 9. Validity-** Face and content validity is ensured.
- 10. Reliability-** Split half method is used to calculate the reliability. The reliability coefficient is found to be 0.43 and reliability index is 0.60.



## 45. Teacher Perception on Inclusive Education

*Ms. Deepa Patil & Dr. Ms. Sally Enos*

### **Introduction:**

Perception means the ability to understand the true nature of things. Perception is a way of regarding, viewing or interpreting by the school teachers about the visually impaired and hearing-impaired children with the mainstream children. It is an idea or belief or an image you have as a result of how you see or understand something. It may vary from person to person. Different people perceive different things about the same thing. Inclusive education means education to all children with and without disabilities or difficulties, in ordinary pre-school provision, schools, colleges and universities with appropriate networks of support. There is a need to understand the strength and weakness of children and analyze whether it can be practiced and what techniques are to be adopted to make the system effective in the best interest of the child.

### **Description of the tool:**

- 1. Purpose** – To study the perception of teachers towards inclusive education with respect to gender, types of school, sections of school, years of experience, affiliated board and teachers' qualification.
- 2. Parameters** – The tool for teacher perception included 25 statements with five-point rating scale. The rating scale comprised of 7 negative items out of total 25 items.
- 3. Total No. of items** – 25 statements
- 4. Target Group** – School teachers
- 5. Administration of the tool** – Instructions are given to be filled in the tool correctly. Personal information needs to be filled as name of the student, gender, standard, division, roll no., name of the college and working status of parents.
- 6. Scoring Procedure** – Scoring for the questionnaire is done as per the scoring key.
- 7. Scoring Key** – For positive items, 5 mark is given for the option SA, 4 for A, 3 for can't say, 2 for disagree, 1 for SD. For negative items, 1 mar is given for SA, 2 for A, 3 for can't say, 4 for D and 5 for SD.
- 8. Interpretation of Scores** – Higher scores indicate higher attribute of teacher perception on inclusive education.
- 9. Validity**- Face and content validity is ensured.
- 10. Reliability**- Split half method is used to calculate the reliability. The reliability coefficient is found to be 0.29 and reliability index is 0.57.

## Effect of Self Regulated Learning Strategy on the Academic Scores in Science

*Dr. Sally Enos, Professor, MES' Pillai College of Education and Research,  
New Panvel; Ms. Arzhee Sayed, Student, Dept. of Post Graduation, MES'  
Pillai College of Education and Research, New Panvel*

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### **Abstract:**

Self regulated learning has emerged as a powerful new learning theory that is able to promote the transfer of knowledge and skills to real-life situation and make students more independent of their teachers. Self-regulated learning emphasizes on three components first is learner itself, second metacognitive strategies for planning and third is monitoring and modifying their cognitive. Metacognitive process involves planning, monitoring, and evaluation, which help individuals control and regulate their own cognitive processes. This study has focused on the effect of self regulated learning in the learning outcome of Science subject among grade 7 students.

**Key words:** Self Regulated Learning, Metacognitive process, Lower order thinking skills, Higher order thinking skills.

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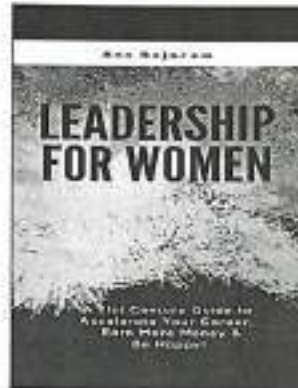
### **Introduction:**

The emergence of cognitivism has placed responsibility on the shoulders of learners for their own learning. Learners act as an active participant, during the learning process. Learners are actively involved in organizing and reconstructing their already existing knowledge. Learners can set their goals for learning and then attempt to monitor, regulate and control their cognition motivation, behaviour and also control the context of learning. This active constructive process is called Self-regulated learning (SRL).

Zimmerman and Risemberg (1997) define Self-regulated learning (SRL) as self-initiated actions such as setting a goal and regulating efforts towards self-monitoring, time management, and physical and social regulation. It is conceptualized as the learners ability to use metacognitive strategies. A second approach views SRL as the learner's ability to use metacognitive and

## BOOK REVIEW

**Author:** Ann Rajaram  
**Publisher:** JA Publishing  
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**Price:** Rs. 72  
**Reviewed by:** Dr. Latha Venkataraman  
Educationist



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### **Introduction:**

The Author Ann Rajaram is Senior Director, Clarivate Analytics, USA. She has written two other books that have made it to Amazon bestsellers list. This book is a modern guide that promises to show young professionals how to accelerate their careers, increase their earning potential and achieve success in their chosen fields.

### **Strength of the book:**

The Author has given key points at the end of each chapter, so readers have the option of reading only those if they need to or when they peruse the book a second or third time!

### **Point of view from which the book is written:**

The book is written based on the author's personal experiences as a working professional, a young immigrant in a foreign country and a woman of colour that too, in a traditionally male bastion.

Ann, the author hopes to inspire women to step out of their comfort zones and reach for things they assume are out of their league! She makes a powerful case for women to take charge of their careers, while adapting to the cards dealt by fate.

### **The book is different from other books:**

This book uses a **fractal format** rather than the linear narrative usually seen in most books. The 28 chapters of this book are stand-alone, precise, flow in a logical manner, yet are complete by themselves, allowing readers to read

## 7. Identify Value Crisis

Mrs. Sadia Khan & Dr. Pratima Pradhan

### Introduction:

NPE, 1986 says the growing concern over the erosion of values and an increasing cynicism in society has brought to focus the need for adjustment in the curriculum in order to make education powerful tool for cultivation of social and moral values. *“The decline in the inheritance, teaching, acceptance, practice, application and manifestation of values in the complete sphere of human endeavor is termed as Value Crisis”.*

### Description of the tool:

- 1. Purpose** – To identify the existence of value crisis or otherwise and the factors correlated to the same.
- 2. Parameters** – The tool is divided under different parameters based on values pertaining to six categories i.e., self, home, college, teacher, and society. Every category had a set of five questions based on values like Cleanliness, honesty, punctuality, self-help, social responsibility, sensitivity, respect for elders, helpfulness, discipline, politeness, and dignity of labor, customs and traditions.
- 3. No. of items-** 30
- 4. Target Group-** Junior college students (16-18) years
- 5. Administration of the tool-** The respondents had to fill personal information like Name, standard, gender, college, stream and family background consisting of father’s qualification, mother’s qualification, occupation of father, mother’s status, number of family members and family annual income.
- 6. Scoring Procedure** - Each question has four options as a, b, c and d. Q. No. 1 to 5 pertains to self, Q. No. 6 to 10 pertains to teacher, Q. No. 11 to 15 pertains to mother, Q. No. 16 to 20 pertains to home, Q. No. 21 to 25 pertains to friends, Q. No. 26 to 30 pertains to society.
- 7. Scoring Key-** The highest score was given to option “d” with highest value and the lowest score was given to option “a” with lowest value, “b” and “c” option were given to average and little high respectively. The scores are entered in the sheet with different column for each parameter then the total of all parameters together is summed up.
- 8. Interpretation of Scores** – The entire scores are categorized as: 30-40 Very Low, 41-60 Low, 61-80 Medium, 81-100 High, 101-120 Very High.
- 9. Validity-** Face and content validity
- 10. Reliability-** The reliability of the tool was ensured.

## 10. School Climate Inventory

Mrs. Bidisha Chatterjee & Dr. Pratima Pradhan

(English/Marathi version) (Revised tool made by S.P. Anand)

**Introduction:** School climate describes the environment that affects the behavior of teachers and students. Several aspects of a school like physical environment and social environment comprise its climate. School climate is evident in the feelings and attitude about a school expressed by students, teachers, staff, principals and parents. It also affects the scholastic achievement of the students to a large extent. School Climate is often referred to as the social atmosphere of a setting or learning environment in which students have different experiences, depending upon the protocols set up by the teachers and administrators.

### Description of the tool:

**1. Purpose** – To find out the correlation between levels of scholastic achievement and school climate.

**2. Parameters** – An inventory was constructed in the form of a questionnaire. It consists of a series of questions or statements to which subjects respond by answering 'yes' or 'no'; 'agree' or 'disagree'; or in a similar way indicate opinions or feelings. The subject is required to indicate preferences or to mark those items that describe his typical behavior. Few items from the original school climate inventory have been selected.

**3. No. of items-** The inventory has 18 positive items and 22 negative items.

**4. Target Group** - Secondary School Students.

**5. Administration of the tool-** Suitable instructions are given at the beginning of the questionnaire to fill personal data sheet. Subjects are advised to provide truthful and frank replies.

**6. Scoring Procedure** – The tool was measured through Five-point Likert scale. The five points are 'strongly agree', 'agree', 'undecided', 'disagree', 'strongly disagree'. The Likert scaling technique assigns a value to each of the five responses. Starting with a particular viewpoint, all statements favoring above position was scored. For the statement opposing this point of view, items are scored in the opposite order.

**7. Scoring Key-** For positive statements, 5 marks for strongly agree, 4 for agree, 3 for undecided, 2 for disagree, 1 for strongly disagree. For negative statements, 1 for strongly agree, 2 for agree, 3 for undecided, 4 for disagree and 5 for strongly disagree.

**8. Interpretation of Scores** – The maximum score that a student could obtain was 200 and the minimum score would be 40.

**9. Validity-** Face and content validity

**10. Reliability-** The reliability of the tool was found to be 0.68.

## 14. Social Awareness Questionnaire

Prepared by: Ms. Kavita Rajbhar & Dr. Pratima Pradhan

**Introduction: Social Awareness is the state or ability to perceive, to feel, or to be conscious of events, objects or sensory patterns.** Occupational awareness means awareness the nature of work, hours of working, minimum and maximum age requirement of the selected occupation, work setting, minimum educational qualification required, working alone or with other people or both, employment outlook for that occupation, avenues of promotion, occupational skills, language/license requirement, physical or health considerations concerning the occupation.

### Description of the tool:

- 1. Purpose** – To study the level of awareness of social issues among higher secondary school students.
- 2. Parameters** – The tool included items related to three social issues, which were occupation, drug addiction and obesity. The questionnaire was divided into three parts: A, B and C. A part dealt with first social issue that is **occupation**. It included three introductory items which students had planned in the future. The second introductory statement asked about designation at which students wanted to enter into their selected occupation. The third introductory statement asked about type of sector for their selected occupation. After three introductory items, questionnaire included 14 occupational awareness items based on selected occupation, designation and the type of sector. B part deals with 15 awareness questions regarding **drug addiction** dealing with meaning, signs, causes, effects, sources, functions of drug addiction. Each item was presented with three options. Part C of social awareness questionnaire dealt with 15 awareness items regarding **obesity** having three options. Items dealt with awareness regarding causes, effects and management of obesity.
- 3. No. of items**- 44 items altogether.
- 4. Target Group** – XI Standard Students.
- 5. Administration of the tool**- Options regarding different occupations were provided to the students from which they had to tick mark their choice of occupation.
- 6. Scoring Procedure** – In social awareness questionnaire, each correct answer fetched 1 mark and wrong answer fetched 0 marks.
- 7. Scoring Key**- The scoring key is attached with the test.
- 8. Interpretation of Scores** – For each social issue, minimum marks for scoring is 15 and maximum marks is 44.
- 9. Validity**- Face and content validity.
- 10. Reliability**- The reliability of social awareness scale is 0.62 and acceptable value of reliability is 0.5.

## 15. Attitude Towards Social Issues Scale

*Ms. Kavita Rajbhar & Dr. Pratima Pradhan*

### Introduction:

Our society includes social interaction, social processes, social norms and behavior. Along with these there are social issues also which everyone needs to be aware. **Social issues mean situation or event that is thought about a phenomenon that follows and is caused by some previous phenomenon.** Social issues are related to the fabric of the community including conflicts among the interests of community members and lie beyond the control of any one individual such as occupation, drug addiction, obesity. These social issues are of very much importance to the children who fall under the category of adolescents.

### Description of the tool:

**1. Purpose** – To study the attitude of secondary school students towards the various social issues.

**2. Parameters** – The tool consisted of three parts: Part A has 10 items based on Attitude towards occupation. It included six positive and four negative statements. Part B has 10 items based on attitude towards drug addiction. It included nine positive and one negative statement. Part C has 10 items based on attitude towards obesity. It included six positive and four negative statements.

**3. No. of items-** 30 items altogether.

**4. Target Group** – XI standard students.

**5. Administration of the tool-** Suitable instructions are given to the respondents at the beginning of the test. Respondents should choose the correct answer out of the three options given to them.

**6. Scoring Procedure** – The scoring of items is done based on the type of statement. It included positive as well as negative statements. It is based on five-point scale.

**7. Scoring Key-** The scoring is done as follows: For positive statements, 5 marks for strongly agree, 4 for agree, 3 for undecided, 2 for disagree, 1 for strongly disagree. For negative statements, 1 for strongly agree, 2 for agree, 3 for undecided, 4 for disagree and 5 for strongly disagree.

**8. Interpretation of Scores** – Higher scores indicates higher attitude towards social issues.

**9. Validity-** Face and content validity is ascertained.

**10. Reliability-** The reliability Value of attitude scale is 0.9.

### 23. Interest in Science

*Ms. Devanshi Gupta & Dr. Pratima Pradhan*

**Introduction:** Interest has a vital role to play in science. Interest is considered as a powerful dictator, inspirer and motivator in the learning process. **Interest is a tendency to give attention, to attract by, to like and find satisfaction in an activity, object or a person.** It is a feeling or emotion that causes attention to focus on an object, event or a process. It may encompass other more specific psychological terms such as curiosity and to a much lesser degree a surprise. The more interest a child has in an object or thought, the more intense will be his attention towards it. Thus, interest is necessary to do any work that can be generated or acquired by instinct.

#### **Description of the tool:**

**1. Purpose** – To study the interest in science of secondary school students in relation to Gender, types of institutions and board of education. To study the branches of science that are liked, to study the reading materials mostly used, and to study the materials related to science mostly collected by secondary school students.

**2. Parameters** – This tool consisted of three parts: A, B and C. In part A, list of 8 branches of science was given. Each branch was followed by 3 alternatives: Like most, It's OK, Like least. {Part B was divided into 3 parts: 1 and 2. In part B (1), some science related reading material was given, followed by 3 alternatives: most, It's OK, Like least. In part B (2), 10 science related collecting materials were given, followed by 2 alternatives: right or wrong. In Part C, 29 statements related to interest in science were framed, followed by 5 alternatives: Always, Frequently, Sometimes, Rarely and never the tool consisted of all positive statements.

**3. No. of items-** 32 questions

**4. Target Group** – secondary school students

**5. Administration of the tool-** Suitable instructions are given to the respondents at the beginning of the questionnaire.

**6. Scoring Procedure** – Part C is a five-point rating scale. The options provided are Always, Frequently, Sometimes, Rarely and never.

**7. Scoring Key-** In Part A and B, frequency of responses was taken into consideration. In Part C, all statements had value 5,4,3,2 and 1 for Always, Frequently, Sometimes, Rarely and never.

**8. Interpretation of Scores** – Higher scores indicates higher interest in science.

**9. Validity-** Face and content validity.

**10. Reliability-** The reliability coefficient of the tool is 0.88 and reliability index is 0.93.



## **24. Problem Solving Ability in Science**

*Ms. Devanshi Gupta & Dr. Pratima Pradhan*

### **Introduction:**

Problem solving the framework of pattern within which creative thinking and reasoning take place. It is the ability to think and reason on given levels of complexity. Problem solving ability is the highest level of learning. The task of problem solving requires prediction, analysis of facts and principles to develop cause effect relationship in physical phenomenon in the environment. The problem solving is the complex mental process involving visualization, imagination, manipulation, abstraction and association of ideas.

### **Description of the tool:**

- 1. Purpose** – To study the perceived effect of problem-solving ability of secondary school students in relation to Gender, type of institutions and board of education.
- 2. Parameters** – This tool was developed by Shaikh Farhat Afshan. Each Question has 3 options out of which 1 is correct.
- 3. No. of items-** 34 questions
- 4. Target Group** – secondary school students
- 5. Administration of the tool-** Suitable instructions are given to the respondents at the beginning of the questionnaire and time limit given was 30 minutes.
- 6. Scoring Procedure** – Each question is followed by 3 choices, out of which 1 is correct. The students were asked to put a tick mark in the column of their choice.
- 7. Scoring Key-** Marks given only for the correct answer.
- 8. Interpretation of Scores** – Higher scores indicates higher interest in science.
- 9. Validity-** Face and content validity.
- 10. Reliability-** The reliability coefficient of the tool is 0.66

## 25. Decision Making Style

*Mrs. Janet Priya Dickson & Dr. Pratima Pradhan*

### **Introduction:**

Decisions are an evitable part of human activities. The decision maker must view the problems as opportunities. Every decision-making process produces a final choice. The output can be an action or an opinion of choice. Thus, understanding one's own decision-making style is a precursor to adapting it throughout one's career. A decision is the result of making a judgment or reaching a conclusion. Efficient decision-making style involves a series of steps that require the input of information at different stages of the process, as well as a process for feedback. **Decision making style has been defined as an outcome of mental processes (Cognitive processes) leading to the selection of a course of action among several alternatives.**

### **Description of the tool:**

- 1. Purpose** – To study the decision-making style of the teachers at higher secondary level with respect to gender, types on institutions, and discipline.
- 2. Parameters** – The self-evaluation questionnaire is prepared keeping in context the different styles of decision making such as analytical, conceptual, behavioral and directive style. Analytical style has high tolerance for ambiguity and is rational. Conceptual style also has high tolerance and is intuitive in nature. Behavioral has low tolerance and is intuitive. Directive style has low tolerance and is rational.
- 3. No. of items-** 20 items
- 4. Target Group** – Teachers
- 5. Administration of the tool-** Suitable instructions are given to the respondents at the beginning of the questionnaire. There are no right or wrong answers.
- 6. Scoring Procedure** – It is a four-point rating scale. The options provided are Strongly Disagree, Disagree, Agree, Strongly Agree.
- 7. Scoring Key-** The tool comprised of positive and negative items in the four different styles of decision making. Each style has 5 items. For positive statements, 4 marks are given for Strongly agree, 3 for Agree, 2 for Disagree and 1 for Strongly Disagree. For negative statements, 1 for Strongly agree, 2 for Agree, 3 for Disagree and 4 for Strongly Disagree.
- 8. Interpretation of Scores** – Higher scores indicates higher decision-making style.
- 9. Validity-** Face and content validity.
- 10. Reliability-** The reliability coefficient of the tool is 0.55.

## 26. Teacher Morale

*Mrs. Janet Priya Dickson & Dr. Pratima Pradhan*

*College teacher-morale Opinionnaire prepared by Dr. Anjali Mehta (1977) Modified by Dr. Karuna Gupta (2005)*

### **Introduction:**

Morale is the mental state or condition as regards to discipline, confidence, cheerfulness and zeal. Morale is the attitudes of the individuals and group towards their work environment and voluntary cooperation to fully extend their ability in the best interest of the organization (Davis Keith, 1957). **Morale is generally referred as a feeling tone of belongingness in a group and identification with the goals of the same group.** It is a pattern of effect, underlying effectiveness, efficiency and satisfaction.

### **Description of the tool:**

**1. Purpose** – To study the morale of the teachers at higher secondary level with respect to gender, types on institutions, and discipline.

**2. Parameters** – The opinionnaire considers the eight dimensions such as teacher welfare (9), security (7), conditions of work (17), interpersonal relations (7) job satisfaction (8), administration(13), need satisfaction(11) and cohesion(5). Thus, the tool consists of 77 items overall. Teacher morale is studied from individual point of view and not group or institutional point of view.

**3. No. of items-** 77 items

**4. Target Group** – Teachers

**5. Administration of the tool-** Suitable instructions are given to the respondents at the beginning of the questionnaire. There are no right or wrong answers.

**6. Scoring Procedure** – It is a four-point rating scale. The options provided are Agree, Partly agree, Partly disagree, Disagree.

**7. Scoring Key-** The tool comprised of positive and negative items in the eight different areas. For positive statements, 4 marks are given for Agree, 3 for Partly Agree, 2 for partly disagree and 1 for Disagree. For negative statements, 1 for Agree, 2 for Partly Agree, 3 for Partly Disagree and 4 for Disagree.

**8. Interpretation of Scores** – Higher scores indicates higher teachers' morale.

**9. Validity-** Face and content validity.

**10. Reliability-** The reliability coefficient of the tool is 0.55.

### 30. Stress Management Questionnaire

*Ms. Latha Shukla & Dr. Pratima Pradhan*

**Introduction:** Stress is an integral part of human existence having an immense influence over the lives of individuals. Stress management is the need of the hour. However hard we try to go beyond a stressful situation, life seems to find new ways of stressing us out and plaguing us with anxiety attacks. We tend to overlook causes of stress and the conditions triggered by those. In such unsettling moments we often forget that stressors, if not escapable, are fairly manageable and treatable. Efficiency in stress management enables the individual to deal or cope with stressful situations instead of avoidance.

#### **Description of the tool:**

**1. Purpose** – To study the emotional quotient of teacher educators in relation to stress management.

**2. Parameters** – The opinionnaire has three dimensions: **A. Emotional Dimension-** Emotional wellness emphasizes an awareness and acceptance of one's feelings. (19 items based on social support, touch, humor and mood management) **B. Cognitive Dimension** is the knowledge management holds almost limitless potential for increasing profitability and competitiveness. (16 items based on visual imagery, autogenic training, self-talk and reframing) **C. Physical Dimension** encourages cardiovascular flexibility and strength by regular physical activity. (5 items based on nutrition, deep breathing, massage, exercise and relaxation)

**3. No. of items-** 40 questions

**4. Target Group** – B.Ed. and D.T.Ed. teacher educators

**5. Administration of the tool-** Suitable instructions are given to the respondents at the beginning of the questionnaire. There is no right or wrong answers.

**6. Scoring Procedure** – A five-point rating scale was used. The options provided are Always, mostly, occasionally and never. The tool comprised of positive and negative statements. For positively framed statements, 4 mark is given for always, 3 marks for mostly, 2 for occasionally, 1 for never. Vice versa for negatively framed statements.

**7. Scoring Key** - Emotional Wellness is measured by the items 1, 2, 3, 4, 6, 7, 8, 10, 12, 13, 14, 15, 18, 20, 25, 27, 28, 34, 35. Cognitive dimensions are measured by the item 5, 9, 11, 16, 17, 19, 22, 23, 24, 26, 29, 31, 33, 37, 39, 40. Physical wellness is measured by the item 21, 30, 32, 36 and 38. All items are framed according to a problematic situation.

**8. Interpretation of Scores** – Higher scores indicate high level of stress management and lower scores indicates low level.

**9. Validity-** Face and content validity has been ensured.

**10. Reliability-** The split-half method for reliability has been used. The reliability of the tool is found to be 0.09.

### **35. Rating Scale on Peer Pressure**

*Ms. Shimail Naaz & Dr. Pratima Pradhan*

#### **Introduction:**

Peers are any persons or group of people who have a close but generic relationship to one another. Peer pressure is a social force exerted by a group or powerful individual within a group. It is generally a pressure to conform to a social norm within any given group. Peer pressure is the influence of a social group on an individual. It is the pressure developed by the people who are close to someone and also who are not close but their behavior or suggestion matters more than their parents. Peer influence can be positive or negative. Coping well with peer influence is about getting the right balance between being yourself and fitting in with your group. **Longman Dictionary defines Peer Pressure as a strong feeling that one must do the same thing as the other people of his/her age want him/her to like it.**

#### **Description of the tool:**

- 1. Purpose** – To study the stress experienced by higher secondary students due to peer pressure.
- 2. Parameters** – The tool has 12 each component as: **physical, social, emotional and psychological.**
- 3. Total No. of items-** 51 questions
- 4. Target Group** – Higher secondary school students
- 5. Administration of the tool-** Suitable instructions are given to the respondents at the beginning of the questionnaire. A personal data table was used to collect information from students in terms of their name, class, gender and name of the school, mother tongue and other languages known.
- 6. Scoring Procedure** – The scoring was done using five-point rating scale. Scores of the items were positively worded and some were negatively worded. The scoring was done as, Response category is always, frequently, sometimes, rarely and never.
- 7. Scoring Key-** The scoring key is prepared to mark the scores of respondents.
- 8. Interpretation of Scores** – Higher scores indicates high level of peer pressure and lower scores indicates low level of the attribute.
- 9. Validity-** Face and content validity has been ensured.
- 10. Reliability-** The reliability coefficient of the tool is found to be 0.9.

### 36. Rating Scale on Stress

*Ms. Shimail Naaz & Dr. Pratima Pradhan*

#### **Introduction:**

Stress is defined as any type of change that causes physical, emotional, or psychological strain. Stress is your body's response to anything that requires attention or action. Everyone experiences stress to some degree. The way you respond to stress, however, makes a big difference to your overall well-being. Sometimes, the best way to manage your stress involves changing your situation. At other times, the best strategy involves changing the way you respond to the situation. Stress can be short-term or long-term. Both can lead to a variety of symptoms, but chronic stress can take a serious toll on the body over time and have long-lasting health effects. **The emotional, social and educational uneasiness or pressure experienced by an individual is termed as Stress.**

#### **Description of the tool:**

- 1. Purpose** – To measure the stress scale among higher secondary students.
- 2. Parameters** – The tool has component as: **physical (26 items) and psychological (16 items).**
- 3. Total No. of items-** 42
- 4. Target Group** – Higher secondary school students
- 5. Administration of the tool-** Suitable instructions are given to the respondents at the beginning of the questionnaire. A personal data table was used to collect information from students in terms of their name, class, gender and name of the school, standard and timings of the school.
- 6. Scoring Procedure** – The scoring of Stress (Psychological) was done using five-point rating scale. Scores of the items were positively worded and some were negatively worded. The scoring was done as, Reference category is strongly agree, agree, undecided, disagree and strongly disagree. The scoring of stress scale (Physical) was done on Yes and No. For positive worded statements, 1 mark for right answer and 0 for wrong answer.
- 7. Scoring Key-** The scoring key is prepared to mark the scores of respondents.
- 8. Interpretation of Scores** – Higher scores indicates high level of Stress and lower scores indicates low level of the attribute.
- 9. Validity-** Face and content validity has been ensured.
- 10. Reliability-** The reliability of the tool has been ensured.

## A Study of the Effectiveness of Cooperative Learning Method on Academic Achievement in Science among School Students

Dr. Bhavna Dave, Asst. Prof. PCER-Panvel (W) & Ms. Ashwathi Nair,

Presentation Convent High School-Nerul

### Abstract:

The general attitude of teachers practicing the traditional teaching-learning process has to be changed and content and processes have to be designed keeping in mind cooperative methods like the jigsaw strategy, thus suiting the needs of every individual student. Only then will education be successful in developing creative and intelligent individuals. Cooperative learning strategy involves working together of pupils in heterogeneous grouping, so cooperative learning can boost positive effects among science learners of varied abilities. The researcher used the Jigsaw Cooperative Learning Strategy and conducted a research to test its effectiveness on academic achievement in Science. This paper throws light on some of the major findings of the study.

### Introduction:

Cooperative Learning, sometimes called small-group learning, is an instructional strategy in which small groups of students work together on a common task. The task can be as simple as solving a multi-step math problem together, or as complex as developing a design for a new kind of school. In some cases, each group member is individually accountable for part of the task; in other cases, group members work together without formal role assignments. It is an educational approach which aims to organize classroom activities into academic and social learning experiences.

According to David Johnson and Roger Johnson (1999), there are five basic elements that allow successful small-group learning:

- **Positive interdependence:** Students feel responsible for their own and the group's effort.
- **Face-to-face interaction:** Students encourage and support one another; the environment encourages discussion and eye contact.

  
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**Teachers' Views on Value Degradation among Students and Means of  
Inculcation of Values**

*Dr. Bhavna Dave, Asst. Prof., Pillai College of Education & Research,  
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**Abstract:**

Be it at home, in school or in a get-to-together, again and again, like a boomerang, a question that bursts out is "Where have the values gone?" The issue becomes all the more thought-provoking when it comes to fixing up of the responsibilities- who is to inculcate values? Is it the parents, thinkers, teachers or experts? The easy and obvious answer is- "the teacher is the prime inculcator of values because the young are under his or her formal care". According to C. V. Good, "Value-education is the aggregate of all the process by means of which a person develops abilities, attitudes and other forms of behaviour of the positive values in the society in which he lives." Modern India is committed to the guiding principles of socialism, secularism, democracy, national integration and so on. These guiding principles should be emphasized in the educational system and suitable values are to be inculcated in the students for promoting equality, social justice, national cohesion and democratic citizenship. But it is important to know the views of the teachers regarding the same. Therefore a research was conducted to find the views of the teachers on value degradation among students and means of inculcation of values. The following paper highlights the findings of the research study.

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**Introduction:**

'Education' can be defined as equipping individuals with knowledge, attitudes, values, and behaviors that have a positive impact on their lives. However efforts have to be taken to develop qualities that positively impact individuals' lives and so educational institutions plan implicit and explicit programs to cultivate these qualities in individuals. It has been noted in recent years that activities that promote values or correct behaviour are



## Correlation between Spirituality and Identity Status in Adolescence

*Dr. Geeta S. Thakur, Asst. Prof. MES' Pillai College of Education and Research, New Panvel and Mrs. Isha Dhody, Post graduate department, MES' Pillai College of Education and Research, New Panvel*

### Abstract:

Our lives are like paintings. Every choice we make adds a facet to the picture we create. Our deeply ingrained beliefs form the background or watermark on our canvas, and the splashes of colour represent the choices we make. As we observe the painting, we rarely think of the pure white canvas, the foundation which made it all possible. It is the purity of this foundation that is the perfection we seek. The white canvas signifies our soul which is filled with the elements of spirituality which are happiness, kindness, gratitude, goodness, cheerfulness, and a zeal for life. We all come to that stage in life wherein we are surrounded by questions that question the very purpose of our existence. These questions drive us towards knowledge and wisdom. While finding the answers one may change their disposition in life. The present study was aimed at establishing relationship of spiritual quotient of adolescents with their identity status. Descriptive correlational research method was used to ascertain this relationship between the variables and the extent to which they were related. The sample for the present study comprised of students from Higher Secondary School from colleges affiliated to Central Board of Secondary Education and Maharashtra State Board of Examination situated at Panvel, Navi Mumbai. The tool employed for studying the identity status was constructed while the tool used to measure the spiritual quotient of student teachers was a standardized tool by Dr. K. S. Misra. The data obtained was subjected to statistical analysis and correlation between the two variables was established using the 'product-moment' coefficient of correlation.

**Key words:** Spirituality, Identity status, Adolescents

### Introduction:

When there is an empty feeling deep within us which we can't explain; when things once that gave joy now seem mundane, boring, useless; when

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## **Effect of Flipped Classroom Technique on Students' Academic Achievement in Science**

*Bindu S Tambe, Asst. Prof., & Malka Ahmed, M.Ed. student, MES' Pillal  
College of Education and Research, New Panvel(W)*

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### **Abstract:**

Educational institutions have been practicing traditional teaching methods since ages. Most schools teach through traditional methods where one teacher teaches fifty students at a time. Teachers keep on lecturing without any consideration that those fifty students can understand what she is explaining or students paying attention to his/her lecture.

The lessons are teacher oriented mostly, teacher talk, and the students exclusively listen. Students were expected to sit as motionless and quietly as possible, behavior prized as a sign of an attentive, engaged student that means students were the passive party in the classroom and that leads to less interaction between students in class and no critical thinking for issues being presented. Modern day use of technology has opened various new methods of teaching that can help engage the students better in their learning process. One such method is flipped classroom. This technique helps both the students and teachers engage in meaningful discussions in the class. It allows better student participation and better learning experiences. This paper focuses on the effect of flipped classroom on the academic achievement of the students in Science.

*Key words: flipped classroom, critical thinking, academic achievement*

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### **Introduction:**

New education system replaced chalkboards with whiteboards and Smart Boards. Notebooks and textbooks are being replaced with laptops and iPads. Nowadays parent's expectations for their children and their education have been changed. Schools are now preparing our youth for a global society that is technologically advanced and economically interdependent. Teachers aim is to develop problem solvers, decision makers, critical thinkers, and techno savvy students to be beneficial to their community and society. Education has become a collaborative endeavor shared amongst teachers, students, parents,



## ENCASHING WASTE-NEED OF THE HOUR!

**Dr. Bhavna Dave**, Asst. Prof., Pillai College of Education & Research, New Panvel

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### Abstract:

We need to refrain from disposing plastic along with other solid waste. This paper throws light on the work done by Aarohana EcoSocial Developments Private Ltd., a company that upcycles waste plastic bags and wrappers to make products of great utility value. The paper highlights how its products are ecosocial and how its team and the founder members are able to satisfy the needs of the people in the cities and yet are able to contribute towards making this world livable. Their ways of minimizing the negative effects of plastic on the surrounding environment are noteworthy and exemplary. A survey was also conducted to find out the awareness about recycling & upcycling of plastic bags/wrappers among women. The results of this survey revealed that it is necessary to spread awareness about disposal of plastic bags and wrappers. This paper also throws light on the research findings and presents the need of companies like Aarohana!

**Keywords:** Upcycle, Ecosocial, Aarohana

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### Introduction

The present urban environments have been found to exhibit unique local temperatures, precipitation, and other characteristic activity due to a variety of factors. One of these factors is plastic, the most versatile material that we make use of. Plastic is used everywhere and for varied purposes. Plastics such as Styrofoam, trash bags, zip pouches, bubble wrap, cereal box plastic, clear plastic wrap, potato chips bags, some department store plastic bags, candy wrappers and soiled plastic bags cannot be recycled. The unfortunate part about plastic is that once used it is simply thrown into landfills along with other waste. We are not only running out of landfill space at an

## Correlation between Emotional Intelligence and Problem Solving Ability of Students

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### Abstract:

Education in its general sense is transfer of knowledge, skills, values, beliefs and habits of a group of people from one generation to the next through storytelling, discussion, teaching, training, or research. It also includes informal transmission of such information from one human being to another which frequently takes place under the guidance of others or through self-learning. Any experience that has a formative effect on the way one thinks, feels, or acts may be considered educational. Education is commonly and formally divided into stages such as preschool, primary school, secondary school and then college or university. It helps the child to develop understanding of his needs and the options available around him to fulfill them. The ultimate of education is the wholistic development of the child; mind, body and soul; the focus is not only on the cognitive or intellectual development but also on emotional development. Our education system helps in the development of intelligence very effectively. Development of rationality, logic, analytical abilities, critical thinking and reasoning is central to the development of future resourceful problem solvers. However just cognitive development does not ensure success in life, development of emotional competencies is at the core of successful people. Emotional development helps children to understand their emotions as well as of others and help them to overcome the problems they face in their day to day life. The aim of the study was to find the level of emotional intelligence and problem studying among secondary school students as well as the relationship between the variables i.e. it deals with the effect of emotional intelligence on problem solving ability of secondary school students.

**Key words:** Correlation, emotional intelligence and problem solving ability

  
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**A Study of the Effect of Screen -Casting Videos on the Knowledge  
Acquisition of Distance Learners**

*Ms. Bindu S Tambe, Ph.D. Scholar, Dr. Sally Enos, Principal, PCER-Ph.D.  
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**Abstract:**

Education in the present world cannot keep itself away from technology. Technology has taken over all aspects of life and education is technology driven too! Technology helps impart teaching-learning process in multiple ways. Screen-casting video is one such way to do the same. These videos have both audio and video presentation which helps students learn with multi-sensory approach. These kind of screen-casting videos are very useful for students of distance learning. Earlier distance learning traditionally has provided access to instructional programs for students who are separated by time and/or physical location from an instructor. Today information technologies and internet allow rich interactive distance learning experiences that may surpass the interactivity of a traditional classroom.

This research paper discusses the effect of screen casting videos on the knowledge acquisition of students who accessed these video lessons using an online mode. An experimental design was selected. The sample considered is from 1<sup>st</sup> year Bachelor of Commerce. Nearly 200 students were given the pre-test based on the achievement test conducted in the subject of Business Management. 10 modules were prepared and samples were added to the online platform of Google Classroom where they had to listen to the screen casting videos. A post -test of the achievement test was conducted and data analysed through descriptive and inferential analysis using t-test. The findings see a significant difference in the achievement scores of the students who studied using the screen-casting videos.

**Key words:** Screen-casting videos, knowledge acquisition, etc.

  
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## A Study of the Socio-emotional Competence among Secondary School Students

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\*\* M.Ed. Student teacher, PCER-Panvel

### Abstract:

One of the main aims of education is the all- round development of children. All round development means the physical, social, emotional, moral development. Social and emotional development is extremely important to be imbibed by our students. Social skill is any competence facilitating interaction and communication with others where social rules and relations are created, communicated, and changed in verbal and nonverbal ways. The process of learning these skills is called socialization. Lack of such skills can cause social awkwardness. Emotional skills include being able to understand and control emotions, understand and care about others, and make good decisions. These skills also include behaving responsibly and with good intentions, establishing and maintaining positive relationships, and avoiding negative behaviours. Social emotional development represents a specific domain of child development. It is a gradual, integrative process through which children acquire the capacity to understand, experience, express, and manage emotions and to develop meaningful relationships with others. This paper deals with the study of socio-emotional competence among secondary school students.


**Key words:** Socio-emotional competence

### Introduction:

The progress of nation depends mostly on students who can lead and guide their peer group. In ancient times also people were in need of the help of mighty one among themselves to take lead in all important activities in their lives. Modern system of education is in dire need of realization of educational objectives, adequate knowledge of scientific administrative principles for proper functioning of educational institutions.

Socio-Emotional Competence is one of the most important areas of research into human social behaviour. The concept and content of social competence is defined as components of emotional competence and their functions.

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## Nature Our Teacher

*Dr Sally Enos, Principal, MES' Pillai College of Education and Research, NewPanvel*

### Abstract:

I had the privilege to attend the three day FDP program of UGC, HRDC, Shivaji University organized and conducted by the Bahai Academy at Panchgani. The sessions made me ponder on the essential principles of life based on human values for healthy and better living. Where do we go to find these truths of life? Is it religion, customs, traditions that provide the answers? The answer my friend is blowing in the wind. It is within us and around us. In God's creation there is no mistake, but only harmonious living and nature has lessons for every situations and challenges of life. This paper highlights the principles of life we learn from nature and the reflection of the creator in the creation.

Human beings are blessed with two wonderful gifts by the creator, the gift of free will and the gift of creativity. Gift of free will provides us with the ability to discern right from wrong, to choose what is right and walk the straight path by managing all responsibilities with rectitude of conduct. The gift of free will can be fruitfully applied when we grow spiritually and know our creator more closely. However many a times we misuse this free gift of God to mankind which in turn leads to chaos and confusion in the cosmos. On any given day we see that majority of the news that we read or hear, talks about crime, violence, hatred, jealousy and anger. Our day to day life is filled with strife and contempt creating self-centered and selfish human beings.

The gift of creativity is associated with intellectual abilities, which help us fulfill ourselves as humans. Creation requires a positive attitude and requisite skills and only human beings can create or recrystallize the disintegrating society. This requires us to grow intellectually and contribute creatively in order to build a better world wherein all live amicably in a sustained manner. As Gandhiji stated "we have sufficient for our need, not for our greed". We need to change our outlook as to how effectively we can return to nature what we take from it. We could learn so much from the world around us. The animals, plants, land, water and air has lessons for us to live life amicably, fruitfully, peacefully and sustainably. We could grow

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## Vanity Metrics and Decision Making in the Era of Information Overload

Dr. Latha Venkataraman, Dr. Pillai Global Academy

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### Abstract

Every day we are confronted by headlines blaring that some publication has a million subscribers or that somebody on Twitter has a million followers. We see impressive numbers that unfold great success stories. People who read this would in all likelihood assume that each article would have a potential million readers or that each Tweet would have a million impressions! But the dismal fact might actually be that with Twitter's algorithm, as little as 1% to 2% of their followers would actually ever see that individual Tweet. Actual impressions are thus vastly overstated in most cases when impressive, even intimidating numbers are being cited. Are businesses unwittingly using vanity metrics? Do vanity metrics influence business decision making? How do vanity metrics influence business decision making? The researcher was curious to know the answers to these questions. The researcher attempts to answer them in this research paper.

*Key Words: Vanity Metrics, Decision Making, Business Organization, Social Media, and Information Overload*

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### Introduction

Every day we are confronted by headlines blaring that some publication has a million subscribers or that somebody on Twitter has a million followers. We see impressive numbers that unfold great success stories. People who read this would in all likelihood assume that each article would have a potential million readers or that each Tweet would have a million impressions!

But the dismal fact might be that with Twitter's algorithm, as little as 1% to 2% of their followers would ever see that individual Tweet. Actual impressions are thus vastly overstated in most cases where impressive, even intimidating numbers are being cited.

The terms 'vanity metrics' has been buzzing in both the business world and the world of academics in recent years. A 'vanity metric' refers to a number that looks

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## Attitude of Higher Secondary School Students towards Universal Human Values

*Dr. Pratima Pradhan, Asst. Prof. & Ms. Preeti Sakpal, B.Ed. Student, MES' Pillai College of  
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### Abstract

Human values are necessary in today's society and business world. Human values are the features that guide people to take into account the human element when one interacts with other human. They have many positive characters that create bonds of humanity between people and thus have value for all human beings. They are strong positive feelings for the human essence of the other. Thus, this study was designed to estimate the understanding of the students in various human values and their attitude towards them. Thirty five higher secondary students were the participants. A researcher made tool was used keeping the objectives in view to gather required data. The findings reveal that a major section of the students have no knowledge or idea of certain universal values such as empathy, responsibility, tolerance etc.

*Key Words:* Universal Human Values, attitude, awareness, higher secondary, students

### Introduction

Values are beliefs that have an inherent worth in usefulness or importance to the holder," or "principles, standards, or qualities reflected worthwhile or desirable." Values institute an important characteristic of self-concept and serve as supervisory principles for person. A value is a **universal value** if it has the same value or worth for all or almost all people, all culture, all religions, and all legal and political systems. Spheres of human value encompass morality, aesthetic preference, human traits, human endeavour, and social order. Whether universal values exist is an unproven speculation of moral philosophy and cultural anthropology, though it is clear that certain values are found across a great diversity of human cultures, such as primary attributes of physical attractiveness (e.g. youthfulness, symmetry) whereas other attributes (e.g. slenderness) are subject to aesthetic relativism as governed by cultural norms.

S. H. Schwartz, along with a number of psychology colleagues, has carried out empirical research investigating whether there are universal values, and what those values

## Impact of School Climate on Secondary School Students' Social Competence

Dr. Pratima Pradhan, Asst. Prof.  
Pillai College of Education & Research, Panvel

### Abstract

The school is not a place where children learn reading, writing, and math. It is also a place where they learn to get along with classroom peers and teachers and develop social skills. Social skills are the skills we need to interact adaptively in our cultural environment. It plays an important role in a child's emotional health and well-being and is an effective medium of socialization. Thus, the aim of this study was to ascertain the perceived impact of school climate on the social competence of the students. The sample was comprised of 450 secondary school students of SSC, CBSE and ICSE boards in Kharghar and Kamothe area of Navi Mumbai. The researcher made tools were used to collect the required information. The findings showed that the school plays a significant role on the social competence of the students.

*Key words: School climate, social competence, school boards, Secondary school students, School Boards*

  
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### Introduction

Human beings are social individuals. He always likes to be with the other people. He mingles with different individuals and influences them with his own nature, outlook, views and opinions and is himself influenced by their ideas and behaviour. He can grow only in union with others. The social aspects of human life are maintained and transmitted by education.

The school is not a place where children learn reading, writing, and math. It is also a place where they learn to get along with classroom peers and teachers and

## Right Living- The Path to Happiness

*Dr. Bhavna Dave, Asst.Prof., MES' Pillai College of Education & Research, New Panvel (W)*

### Abstract:

Why do some people tend to help others in need while others do not? Why are some people more religious than others? What accounts for some individuals to be happy in any situation whereas some others are always cribbing in spite of all their needs being satisfied easily? It is our mind that decides whether we are happy or sad, bright or dull, calm or agitated. It is our mind that drives us to do great things or something evil. In turn, our mind is trained by our value system which is formed through a combination of genetic heritage and the impact of exposure to multiple social environments, such as the family, education system, community and society at large. This paper reflects on what is mind, how it functions, how we can train it appropriately, and finally explains the difference between standard of living and standard of life.

Keywords: mind, intellect, integration of mind, standard of living, standard of life

### What is mind?

Most people are quite curious about what goes on in other people's mind and their lives. This is the reason why magazines, daily soaps on T.V. or cinema which focuses on others' lives or features gossips are read and watched interestingly. This is a strange fact! We show great interest in knowing what is going on in others' mind but we rarely think of our own. However it is important to know what the mind is!

The mind is a faculty that does four important duties. For each duty it does, it is given a name. Look at the table below:

Table no. 1: Duties of the Mind and the names given to them

| NAME          | DUTY                  | AREA                               |
|---------------|-----------------------|------------------------------------|
| Mind          | Feeling               | Emotions (anger, joy, fear etc.)   |
| Intellect     | Thinking              | Thoughts (judging, analyzing etc.) |
| Memory        | Remembering           | Past experiences                   |
| Individuality | Sense of 'I' and 'My' | As different from others           |

It is important to understand that the mind is a single faculty, which is given four names for four duties. Together it is generally known as the mind. What we call the 'brain' refers to merely the physical or biological portion of our body. What actually thinks and feels is the mind.

  
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**A study of the awareness of Swachh Bharat Abhiyan in India among school and college teachers**

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**Abstract:** The 'Swachh Bharat Abhiyan' is a massive mass movement that seeks to create a Clean India. Prime Minister Shri Narendra Modi launched the 'Swachh Bharat Abhiyan' (Clean India Mission) on 2nd October 2014, the 145th birth anniversary of Mahatma Gandhi. In the education sector, this mission aims at ensuring every school in India to be well equipped with sanitation, drinking water and hygiene facilities. Some essential measures under this initiative are captivating and have drilled down to the basics. It is essential that capacities are improved at various levels to develop the right mix of skills, knowledge and experience to facilitate finance, manage and monitor water, sanitation and hygiene programmes in schools effectively. Teachers need to understand ways of ensuring equitable use and maintenance of facilities, making sure hygiene is adequately promoted and that monitoring of these elements takes place regularly at the school level. Most private schools in towns and cities do have proper facilities of water, sanitation and hygiene but it is important that the students-both boys and girls are given proper training to utilize the facilities provided appropriately. However, for this, not only does every teacher have to be aware about this mission and its activities but also have a positive attitude to be able to carry out this mission forward.

A survey was conducted to find out the level of awareness about the Swachh Bharat Abhiyan among teachers in schools and colleges in Rasayani. This paper will highlight the results of the survey and role of schools for 'capacity building' which is the main objective of 'Swachh Bharat-Swachh Vidyalay' mission.

**Introduction:** Prime Minister Shri Narendra Modi launched the 'Swachh Bharat Abhiyan' (Clean India Mission) at Rajpath in New Delhi after paying tribute to two great sons of Mother India, Mahatma Gandhi and Former

Prime Minister Lal Bahadur Shastri. The 'Swachh Bharat Abhiyan' mission has an interesting theme of inviting nine new people by each person involved in the campaign and continuing this chain until the each and every citizen of India

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## Value Education in India: Vedic and Historical Review

*Dr. Amit Gosar, Research Guide, Sikkim Manipal University & Mrs. Geeta S. Thakur, Asst.  
Prof. MES' Pillai College of Education and Research, New Panvel*

### Abstract:

In this ever evolving world, education and technology is at the peak of its development. Educators are putting in more efforts to make education hyper-efficient and skill based education holds a prominent position in the current era. However in keeping up with the rat race, we also have to give due importance to the inculcation of moral values among our future generations. Values cannot be taught, they are caught and hence value education has to be an integral part of the entire educational process the child has to go through. It cannot be achieved in a day and is a gradual process; a process by which people understand the significance of values in life and gradually internalize them. Values are manifested in thoughts, action and speech. Burton Russell rightly emphasized the importance of education and language development. While the whole world is working on development of models for inculcating Values, we just have to peep into the roots of our Indian culture and traditions. Ancient Indian value system holds a key to solving our issues with imbibing those values which will help our children to achieve success in life. This paper highlights the ancient Vedic education system which largely contributed to the progress of our nation and attracted learners from across the world with its fragrance. It also suggests the ways through which the modern education system can be modified to include the essence of the past to shape our future.

**Keywords:** Value education, Human values, Vedic education system, Gurukul

**Introduction:** For centuries, India served as a pole star for the whole world in the field of Education. Being world's oldest civilization, ancient India was the main center for learning and higher education. It attracted learners from across the world and was a hub for dissemination of vast knowledge. Universities like Takshshila and Nalanda and huge libraries were part of the Indus-Valley Civilization. Education was always been given a great significance in the Indian society ever since the Vedic Civilization. With evolving time, ancient India also evolved and had Gurukuls and Ashrams as learning centers, established across the nation. The social structure of ancient India was built in such a way that an ideal pattern of an individual's life reaches the ultimate Goal. This was done by means of Ashram

Controlling Ocean Pollution: Role of Shipping Industry

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**Abstract:** Oceans are the largest and most successful ecosystem on Earth. It is essentially planet's life supporting system. If we need to survive on earth and prosper we need hale and hearty oceans. Almost half of the oxygen we breathe is generated by the ocean and at any given moment, they contain more than 97% of the world's water. Oceans are a source of at least a sixth of the animal protein people consume. Living oceans are like the lungs of the earth as they absorb carbon dioxide from the atmosphere and give away oxygen thereby reducing climate change impacts. The diversity and productivity provided by the oceans is a vital interest for humankind. Our security, our economy our very survival all require healthy oceans. Oceans also form a major part of commerce between countries. There are over 52000 ocean going ships of various types in addition to the numerous smaller coastal and inland boats which transport over 90% of the world's cargo. The contribution which the shipping industry makes to the conservation of the marine environment is clearly of vital importance, Shipping is commonly misunderstood as to its impact to the marine environment. This paper will highlight the laws enforced to control pollution as well as the techniques used to prevent ocean pollution.

**Key Words:** MARPOL, prevention of pollution by oil and chemical, by sewage and by garbage.

**Introduction:** Oceans are essential to life on earth and to survive and prosper we need healthy oceans. It is the largest ecosystem on Earth and is the planet's life support system. Oceans generate half of the oxygen we breathe and, at any given moment, they contain more than 97% of the world's water. They provide at least a sixth of the animal protein people eat. Living oceans absorb

carbon dioxide from the atmosphere and reduce climate change impacts. The diversity and productivity of the world's oceans is a vital interest for humankind. Our security, economy and very own survival requires healthy oceans.

**Role of Shipping Industry:** There are over 52000 Ocean going ships of various types in addition to the

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## A Study of Moral Values among School Students

*Asst. Prof. Ms. Bindu S Tambe & Ms. Namitha Pai, Student-S.Y.B. Ed., Pillai College of Education and Research, New Panvel(W)*

### Abstract:

Values are integral for our growth and development. Values are what make us live in a civil society. Our values are the things that we believe are important in the way we live and work. Values determine our priorities, and, deep down, they're probably the measures we use to tell if our life is turning out the way we want it to. They motivate our behaviour, help us make judgements about good, bad, desirable or undesirable actions. There are many types of values in our lives - social, emotional, moral and spiritual values. These values are essential for our well-being and growth. It is extremely important that students, who are the future of our country, imbibe these values. It is said that values are caught, not taught. Hence, the society must manifest these values in their everyday working. The society includes, parents, teachers, neighbours, peer and others. Moral values such as integrity, determination, loyalty, truthfulness, honesty, giving respect to each other etc should be inherited by every individual. This study was conducted to study the awareness among students about moral values and also to suggest ways in which the school can help create these values among students.

### Introduction:

Moral Values is combination of two words. Moral means rules which people used to guide their behaviour and thinking and distinguish between right and wrong. Value means principle.

Moral values are the values defined by the society, based on which a person's character is judged. A person is said to be good or bad, on the basis of these values. A person's choice and decision in life are dependent to a large extent on the moral value he/she bears. Moral values are the standards of good and evil which govern on individual's behaviour and choices. Moral values are acquired as a part of cultural evolution.

Some of the basic moral values are:

Generosity: willingness to give resource, help or time to others.

Honesty: being truthful and sincere.

  
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## Universal Human Values in Teaching of Science

*Ms. Bindu S Tambe, Asst. Prof., Pillai College of Education and Research, New Panvel (W)*

### Abstract

When human beings their existence in this world, we have been known to live in groups, wither big or small. As we developed, we formed societies which anchored us and our lives. These societies became our ground for growth and development and we flourish here. But being a part of the society means we follow certain rules which are set for our well-being and must be followed by all. These rules also develop and inculcate certain values in us like truth, honesty, kindness, sympathy, empathy. These values become universal human values when we apply it to deal with everyone around us. These human values help us become better individuals, which is required for better society and finally a better world.

This is a conceptual paper which discusses the universal human values as inculcated by the subject of Science. It deals with looking at various values imbibed by all through the teaching and learning of Science.

### Introduction:

Man being a social animal lives and thrives in a society, a society which can provide an environment of growth. Every society is bound by rules and regulations and another very important aspect which binds us together is common values. These values help us, the members, understand what is expected of us and what to expect of each other. These values also have some shared principles by which to manage our differences without resorting to violence. That is true of local communities and of national communities. But today globalization has brought us all closer together, and our lives are affected almost instantly by things that people say and do on the other side of the world, we also feel the need to live as a global community. And having Universal Human values help us live in peace and harmony.

Universal Human values like for example respect, acceptance, consideration, appreciation, listening, openness, affection, empathy and love towards other human beings helps us as



## ANALOGY FOR HIGHER ORDER THINKING AND LEARNING

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### Abstract

Higher order thinking skills have been the buzz word of the millennial education. These skills are generally considered difficult to incorporate in teaching learning process. Expertise and practise is imperative for teachers to be able to design the lessons for developing higher order thinking skills in the lessons. This paper discusses about the use of 'Analogy' as a method for developing higher order thinking skills and also attempts to give insight on the role of analogy in forming new learning. The paper brings clarity on the understanding of the meaning of 'higher order thinking skills' and 'Teaching through analogies'. Using 'Structure mapping' model on decoding the process of higher order thinking and analogy, the paper establishes analogy as a learning method in the process of developing higher order thinking skills. The paper points to the utility of using analogies in teaching to make shift from rote learning. The discussion in this paper will help educators and all stakeholders of education to realize the potential of using analogies in building the higher order thinking skills and also in its importance in the formation of new learning.

### Introduction

Technology developments, the omnipresence of the Internet, the global trade, and the globalization of collective contributions to formal education around the world have changed formal education's priorities and functions. A growing body of research has begun to prioritize a set of skills know as higher order thought that are over and above from the collection of academic facts (e.g. mathematics, science, history) and may be more apt for quality educational and job outcomes in the current market economy. With plenty of information readily available through the widespread use of computing and search engines, cognitive skills that support classifying, categorizing, generalizing, analyzing, drawing inferences from and otherwise transforming knowledge may be more fundamental to successful academic performance as well as a life skill for sustaining societal and economic participation.

Analogical reasoning is one of those cognitive abilities that anchors many of these skills of the 21st century. According to Gentner, Analogical reasoning is the process of representing information and objects in the world as systems of relationships, such that these systems of relationships can be compared, contrasted, and combined in novel ways depending on contextual goals. This paper discusses how analogical reasoning provides for, as a bridging mechanism for the higher order thinking skills, both as a tool for facilitating knowledge acquisition and as an important foundational cognitive process itself for working on information.

## Human Values for a Sustainable World

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### Abstract:

Universal human values- one of the most frequently heard phrases today; we are constantly coming across it on the pages of newspapers and magazines. Its repeated visibility in the media creates a myth that there is clarity in its understanding among all. However, the various versions of what is understood by universal human values-the good, truth, beauty, freedom, or civil society, a non-nuclear world, ecological protection, pluralism, etc.-show that this is by no means the case. This paper will help to understand the concept of Universal Human values, its need and importance in sustainable development and the role of Education in promoting Human Values.

### Introduction:

Human values are the guidelines that guide us to consider the human component in mind when one collaborates with another human. They comprise our feelings for the human factor of others. It's both what we expect others to do to us and what we aim to give to other human beings. These human values give the feeling of warmth, affection and trust.

### Common human values are as under:

1. Brotherhood, friendship, empathy, compassion, and love.
2. Openness, listening, welcoming, acceptance, recognition, and appreciation.
3. Honesty, fairness, loyalty, sharing, and solidarity.
4. Civility, respect, and consideration.

The essence of these basic values enlightens every human to attain highest human value for building relations of peace and yet it remains unclear. Its comprehension varies according to the maturity, to one's educational background and environment. It is better assumed when combined with other values: a disposition that is deeper than graciousness, very close to consideration, and approaching appreciation. Truly, to respect someone, one must be able to

  
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**IMPACT OF ECOTOURISM: A LITERATURE REVIEW**

Dr. Pratima Pradhan, Asst. Prof.,  
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**Abstract**

*The objectives of ecotourism are to provide a nature-based, environmental education experience for visitors and to manage this in a sustainable fashion. As forests become logged, as streams become polluted, and as other signs of human activity become ubiquitous, the requirements of a true ecotourism experience are increasingly difficult to fulfill. The impact of ecotourism on various aspects of our lives has been realized through the findings obtained from several researches conducted on ecotourism. Reasonably there has been a significant number of research work done in the area of ecotourism, education and related issues, but comparatively research attempts are less on the educational potential of the ecotourism. Hence, this paper makes a humble attempt to present a brief review of the existing relevant literature about the impact of ecotourism especially on education in the international, national based research studies.*

*Key Words: Ecotourism, ecotourist, sustainable environment, education, ecopedagogy etc.*

**Introduction**

Tourism as an industry has great potential to bring about educational, economic, social and cultural development in any nation. The objectives of ecotourism are to provide a nature-based, environmental education experience for visitors and to manage this in a sustainable fashion. As forests become logged, as streams become polluted, and as other signs of human activity become ubiquitous, the requirements of a true ecotourism experience are increasingly difficult to fulfill. Ecotourism has promoted the educational aspects of the experience to compensate for the invasion of human disturbance. Examples include opportunities to work with researchers to collect field data in a remote area or travel with a naturalist to learn the secrets of a tropical rain forest. Environmental education serves to provide information about the

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## Global Perspectives among Higher Secondary School Students

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### **Abstract:**

In an era defined by war, terrorism, human rights abuses, racism, poverty, widespread environmental degradation and unprecedented globalization, the need for 'global' perspectives of students have never been more apparent. An individual's global perspective impacts the extent to which the person perceives and knows the people and cultures within the world. It includes an individual's sense of people, nation, and a world beyond themselves. Our students, at this critical juncture, urgently require 'global' perspectives to enable its inhabitants to realize and sustainably manage its problems such as terrorism, endangered ecosystems, and refugees. They are prepared to live within, profit from, and contribute to the 21st-century global environment marked by diversity, change, and expanded opportunities for learning and growth. Thus, by understanding the global perspectives among the students, the stakeholders of the education system will be able to focus on the development of informed, responsible and active global-local citizens, who work towards a preferred, equitable, socially just, peaceful and sustainable future world for 'all' people. This paper explores the level of global perspectives among the Higher Secondary School Students through a descriptive survey of research. It further describes the major findings of the study and its implications.

**Key words:** *Global perspectives of students, global environment*

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*'We live in one world. What we do affects others, and what others do affects us, as never before. To recognise that we are all members of a world community and that we all have responsibilities to each other is not romantic rhetoric, but modern economic and social reality.'* (Department for Education and Skills, UK, 2004)

### **Introduction**

The world is becoming increasingly interconnected as we embarked upon the twenty first century. Technology has connected continents like never before. Within seconds, we hear about triumphs or tragedies happening in faraway places. With this amazing knowledge comes a deep responsibility. This is the world in which our children live. We have the privilege of introducing them to its beauties, its cultures, and even its challenges. They can

## Peer Review: Towards the Excellence of Scholarly Communication

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### Abstract

Conducting research can be an enjoyable and intellectually stimulating endeavor, especially if the findings leave the personal laptops and research labs of the researchers, and are read and used by others in the field. So, the process of sharing, disseminating and publishing research findings of academics and researchers to make that available to the global academic communities is called scholarly communication. The scholarly communication process assures the quality of the information outputs generated by researchers. In an academic research environment, scholarly communication requires peer review to ensure quality assurance, adherence to the presentation and ethical standards, and novelty in reported research results. Peer reviewing is seen as a key quality control mechanism for a reputed journal to keep it amongst the best in its subject field. It forms an archive of knowledge and distributing rewards. Thus, this paper will focus on the process of peer review to help the researchers in guiding their efforts in enhancing their scientific productivity and the higher rate of paper acceptance and consequently enhancing the quality of scholarly communication.

**Key words:** Scholarly communication, quality assurance, and peer review.

### Introduction

The scholarly communication is the process of sharing, disseminating and publishing research findings of academics and researchers so that the generated academic contents are made available to the global academic communities. Scholarly communication has been defined as 'the system through which research and other scholarly writings are created, evaluated for quality, disseminated to the scholarly community, and preserved for future use' (Association of Research Libraries 2014).

Conducting research can be an enjoyable and intellectually stimulating endeavor, especially if the findings leave the personal laptops and research labs of the researchers, and are read and used by others in the field. So, the process of sharing, disseminating and

## SUSTENANCE OF THE LOCAL SENSE AND THE PLACE IDENTITY THROUGH EDUCATION

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Ms. Uma Mishra, F.Y.B. Ed.  
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*Globalization brought the world closer, but at the same time, it is transforming the cities into global forms. The distinct identities of local culture and settlement are getting deteriorated. In order to restore the sense of distinction in terms of the culture, tradition and settlement, it is essential that educational efforts should be done. Ecotourism is increasing in popularity across the world, a new thought in tourism ecotourism involve travel to natural areas to appreciate the natural history, culture, and moral values of our country. Each city, village, and settlement have distinct values, and are worth visiting for some or other cause. Through education, we can develop sense of appreciation and pride, and concern can be inculcated to sustain the distinct identities, values, preservation of culture, and to transmit these treasures to next generations. This paper gives a framework of educational programme for the development of ecotourism values through Awareness, Priority and Advocacy. It would help to sustain the distinct local sense of place and the identity inherent to each individual area.*

*Key words: Ecotourism, Ecotourism values, Local sense, Place identity,*

### Goals of the program

To make the students sensitive about local, cultural and place identity values of their own surrounding.

To inculcate the sense of responsibility towards sustenance of local, cultural and place identity of their own surrounding.

To make future generation ambassadors of their own area.

Following is the framework of programme to support sustainable development

## Let's make the Augmented reality the 'REALITY'

*Dr. Geeta R Thakur<sup>1</sup> & Ms. Deepa Bal<sup>2</sup>*

*<sup>1</sup>Asst. Prof. <sup>2</sup>B.Ed. student teacher, MES' Pillai College of Education and Research, New Panvel*

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### Abstract:

Augmented Reality (AR) is a technology that layers computer-generated enhancements atop an existing reality in order to make it more meaningful through the ability to interact with it. AR is developed into apps and used on mobile devices to blend digital components into the real world in such a way that they enhance one another. The main purpose of the study on Augmented Reality is to redefine or augment how an individual would interact with and interpret the real world, by introducing virtual information to his or her direct surroundings and approach to the real world environment as a whole. The study was carried on in Savitribai Phule School (New Panvel). The Pedagogical study was carried in Science subject on lesson 'Circulation of Blood' on a sample size of 30 students of Std. VII, SSC Board. Both pre - test and post- test were carried on. The analysis of the research data showed that pupils' cognitive thought process and depth of understanding of the topic after use of Augmented Reality Technolog, both individually and in group, significantly improved. This technology is seen to be promoting Constructivist approach, encouraging the students to carry on problem solving and enquiry based learning. Clay modeling was used for formative evaluation purpose.

*Key words: Science education, Augmented Reality technology, Clay modeling, Constructive based learning*

### Introduction

Learning deepens, not just through reading and listening, but also through creating and interacting. In today's classroom, a teacher needs to fulfill the needs of the students, and provide a varied teaching-learning transaction. Science teaching-learning needs to be carried in such a manner that stimulates all the three domains- cognitive, affective and psychomotor domains of every student in the class. (Lamauskas, Vilkonis & Klangauskas, 2007) showed that most of the respondents prefer a real learning environment or combine real and virtual environments while learning natural sciences. The latest scientific research shows that along the real or virtual teaching/learning environment, a combined environment can also be acceptable (Adams, 2005; Billingham, 2002; Azuma, 1997). The introduced environment can

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## A STUDY OF AWARENESS AND PENCHANT FOR ECOTOURISM ACTIVITIES AMONG ADOLESCENTS

Dr. Bhavna Dave-Asst. Prof.  
Ms. Sanjana Gandhi, S.Y.B. Ed.  
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### Abstract:

*A definition of Ecotourism from the World Conservation Union (IUCN) says: "Environmentally responsible travel to natural areas, in order to enjoy and appreciate nature (and accompanying cultural features, both past and present) that promote conservation, have a low visitor impact and provide for beneficially active socio-economic involvement of local people." This implies that the tourist should be aware that he or she is having an impact both on the local environment and on the local community, and should try, within reasonable limits, to reduce this impact. Furthermore, the tourist should not only try to do as little damage as possible but also to support the local community whenever this is possible.*

*Of course, this doesn't mean that the whole experience becomes less pleasant – on the contrary, this appreciation attitude often leads to the traveler enjoying his experience even more. But the question that arose in the minds of the researchers was: Are the youth of today aware about the variety of ecotourism activities that are provided at tourist destinations? If 'Yes' do they enjoy these activities? And if 'No' how can they be made aware of the numerous adventurous activities which cause no harm but enthrall teenagers. The present study was focused to find answers to these questions.*

*This paper focuses on the results of the study conducted on the students of CKT Jr. College located in New Panvel with respect to their awareness and penchant towards ecotourism activities. It also highlights the measures that need to be taken by educational institutions & the government to attract a generation of techno-savvy youth towards the essence of ecotourism.*



## LET'S JOIN THE GREEN ARMY MAHARASHTRA...

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Ms. Radhika Dave & Ms. Deepa Vinod, F.Y. B.Ed.  
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### Abstract:

*Maharashtra is a treasure trove of fascinating natural grandeurs. It is a land of rich diversity of flora and fauna. The State Government of Maharashtra has undertaken some Ecotourism initiatives in order to protect and conserve forests, animals and small creatures. It needs support and manpower to assist in preserving the environment. Thus, the Government started with the initiative of Green Army Maharashtra.*

*This paper will throw light on the ecotourism places in the state of Maharashtra & the state government's Green army initiative. This paper will help not only to spread awareness but also give some take-home tips on how people could help at their individual level and what would be the benefits of these actions.*

### Introduction:

Our innate attraction to forests is a part of a phenomenon known as 'biophilia'. Biophilia draws humans to water, woods and other natural scenery. Exposure to forests boosts creativity, suppresses ADHD, speeds up recovery, and encourages meditation and mindfulness. It even helps us live longer. The abstract blend of shade, greenery, activity and tranquility of forests yields concrete advantages for people. They help tourists explore and relax. It convinces tourists to appreciate and preserve old-growth forests for future generations. Natural beauty may be the most obvious and yet least tangible benefit a forest offers. Forests cover a third of all land on Earth, providing vital organic infrastructure for some of the planet's densest, most diverse collections of life. They support countless species as well as 1.6 billion human livelihoods. Nearly half of all known species live in forests, including 80 percent of biodiversity on land. Forests pump out oxygen we need to live and absorb the carbon dioxide we exhale (or emit). A single mature, leafy tree is estimated to produce a day's supply of oxygen for anywhere from two to 10 people. Beyond all their specific

## A Study of Civic Literacy amongst Different Generations in a Semi-Urban Set-up

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### Abstract:

In this 21<sup>st</sup> century, the challenges of being a responsible, effective citizen are more diverse, nuanced and complex than in the past. As citizens we need to be active in physical communities, online and through social media, get involved in local politics as well as cooperate in global initiatives. Sustaining our democracy, strengthening economic competitiveness and meeting challenges at all levels demands a broader vision of citizenship. Therefore, all of us irrespective of our age-group need to be more globally aware, better able to navigate the digital world and more engaged as the 21st century citizens. Civic participation not only encompasses voting during elections, but also a consciousness about the issues that are most important to an individual and his or her community. But, here the questions that arise are - Do all of us possess Civic literacy required to face the challenges of this 21<sup>st</sup> Century? Are we participating and initiating change in the community and the greater society? What is the role of education to develop civic literacy and civic participation in students? This paper will answer these questions with reference to the results of the survey based on the above mentioned topic.

*Key words: civic literacy, social responsibility, eco-friendly, e-transactions*

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### Introduction:

Civic Literacy is the knowledge of how to actively participate and initiate change in your community and the greater society. It is the foundation by which a democratic society functions. Generally, civic responsibility is understood as voting in elections, and fulfilling duties like paying taxes or obeying laws. But civic literacy is something more than that. It can be defined in two parts-first, understanding the role and operation of local, state and national governments and second active participation in civic processes.

To participate actively, one should possess:

- **Knowledge** about the Government function, structure and the impact of civic decisions at the local, state, national and global level, awareness about their duties and rights, our economy etc.

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## A Study of Awareness and Attitudes of Teachers of Higher Education towards Open Access Resources

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### Abstract

Open Access resources are the global platforms for promoting new age learning. Access to these resources make way for the shifting gaps in present age academic curriculum in relation to concerns of vocation, technical knowhow and also in the concerns of traditional educational set up. Online educational resources have leveraged the solutions to address new age educational challenges. There has been an integration of the library system and underlying services within this framework. New age education has been witnessing quality outcomes of the teaching- learning process, improved retention of knowledge in terms of learning disabilities, learning techniques etc. Thus, the open access to various educational resources can be instrumental in bringing resourceful teachers. Though, such a globalized platform of education is empowering, there is a complacency in terms of the awareness and attitudes towards it. A survey was conducted to study the attitudes and the awareness among teachers of Higher Education with respect to Open Educational resources. The paper will throw light on the results of this survey.

### Introduction

Where education globally faces deficit to define different logical education systems and differing paces of learning, libraries become an advantage or a viable option. Though, geographical boundaries have been throttling its physical need, integrated library resources via educational resources sum up a solution.

The world has been opened to reach out to educational goals. The new age teacher is an instructor, influencing simulated realities, a learner in oneself. Thus, a teacher who avails knowledge from diverse platforms is raised above the pretext of learning experiences.

Open Educational resources level up the educational standards with creation of diverse learning experiences and development in student handling rates. With the new

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Integrating Library System and Services for Quality Education

## CORRELATIONAL STUDY OF ECOLOGICAL FOOTPRINT OF STUDENT TEACHERS WITH THEIR EMOTIONAL QUOTIENT

Ms. Geeta S. Thakur, Asst. Prof. MES' Pillai College of Education and Research, New Panvel

### Abstract

It is believed that life is fundamentally a relationship between living organism and its environment; an environment which provides us with all our needs. It is this underlying principle that exists behind the need to conserve and preserve our natural environment, since the very existence of mankind depends on it. The present study was aimed at establishing relationship of ecological footprint of the student teachers with their emotional quotient. Descriptive correlational research method was used to ascertain this relationship between the variables and the extent to which they were related. The sample for the present study comprised of student teachers pursuing Diploma in education, Bachelor of Education and Master of Education degree from the colleges affiliated to the University of Mumbai from rural and urban setup. The tool employed the studying the ecological footprint was constructed with the help of inputs from a tool available on [http://www.epa.gov/airnow/workshop\\_teachers/calculating\\_carbon\\_footprint.pdf](http://www.epa.gov/airnow/workshop_teachers/calculating_carbon_footprint.pdf). changes were made to suit the requirement of the study. The tool used for measuring the emotional quotient of student teachers was a standardized tool by Dr. H.C. Sharma and Dr. R.L. Bharadwaj. The data obtained was subjected to statistical analysis and correlation between the two variables was established using the 'product-moment' coefficient of correlation.

**Keywords:** Emotional quotient (EQ) and Ecological footprint (EF)

**Introduction:** Human impact on the globe has grown 80 per cent over the last four decades. <sup>1</sup>As per the Global Ecological Footprint data, humanity is using resources and producing CO<sub>2</sub> emissions at a rate of 60 per cent higher than what nature can regenerate and reabsorb. This gap has resulted in the deterioration of the natural environment on which all the species depend upon for their survival. Nature has a natural capacity to get back to its original form gradually over a period of time, however the vigorous activities of mankind has overpowered and interfered with this natural activity of nature. Natural calamities like floods, droughts, famine, tsunamis, blizzards, earthquakes, erratic rains and unpredictable weather conditions have become more common and frequent from the past few years. Damage to all forms of life can be seen in all these cases. We fail to understand how much is needed, how much we are using and how much we have that is left for use. In order to find out this information, 'Ecological Footprint' (EF) has emerged as the world's premier measure of humanity's demand on nature. A person's ecological footprint is an estimation of the amount of land required to sustain a person based on their current lifestyle. It expresses the consumption pattern of an individual to maintain a particular life style. It mainly focuses on the consumption of energy, water and other commodities, food habits and processing of domestic waste and recycling. It is assumed that a higher standard of living reflects higher ecological footprint. The solutions to all the

<sup>1</sup>[http://www.footprintnetwork.org/en/index.php/GFN/page/the\\_footprint\\_and\\_biodiversity/](http://www.footprintnetwork.org/en/index.php/GFN/page/the_footprint_and_biodiversity/)

## ECOLOGICAL FOOTPRINT AND SPIRITUAL INTELLIGENCE: A CORRELATIONAL STUDY

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### Abstract

*"Ecology and spirituality are fundamentally connected because deep ecological awareness, ultimately, is spiritual awareness." -Fritjof Capra*

*Life is essentially a relationship between living organism and its environment; an environment which provides us with all our needs. It is this underlying principle that exists behind the need to conserve and preserve our natural environment, since the very existence of mankind depends on it. The present study was aimed at establishing relationship of ecological footprint of the student teachers with their emotional quotient. Descriptive correlational research method was used to ascertain this relationship between the variables and the extent to which they were related. The sample for the present study comprised of student teachers pursuing Diploma in elementary education from colleges affiliated to Maharashtra State Council of Examination and Bachelor of Education and Master of Education degree from the colleges affiliated to the University of Mumbai. The sample size for the study was 1465 student teachers. The tool employed the studying the ecological footprint was constructed with the help of inputs from "Personal Eco-Footprint Calculator" given by Tim Turner in his paper 'How big is my Ecological footprint' and Global Footprint Network. Changes were made to suit the requirement of the study. Spiritual quotient was studied using 'The Spiritual Intelligence Self-Report Inventory or the SISRI-24' tool constructed by Dr. David B. King (2008). The data obtained was subjected to statistical analysis and correlation between the two variables was established using the 'Pearson's Product-Moment coefficient of correlation'. A negative linear correlation was found between the ecological footprint of student teachers with their spiritual quotient with respect to gender and location of college.*

**Keywords:** *Spiritual quotient (SQ) and Ecological footprint (EF)*



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### Introduction:

<sup>1</sup>As per the Global Ecological Footprint data, humanity is using resources and producing CO<sub>2</sub> emissions at a rate of 60 percent higher than what nature can regenerate and reabsorb. This gap has resulted in the deterioration of the natural environment on which all the species depend upon for their survival. Nature has a natural capacity to get back to its original form gradually over a period of time, however the vigorous activities of mankind has overpowered and interfered with this natural activity of nature. Natural calamities have

<sup>2</sup>[http://www.footprintnetwork.org/en/index.php/GFN/page/the\\_footprint\\_and\\_biodiversity/](http://www.footprintnetwork.org/en/index.php/GFN/page/the_footprint_and_biodiversity/)

# Ecological Footprint With Emotional Quotient and Spiritual Quotient : A Correlational Study

Geeta S. Thakur

**Abstract :** Earth is the only known planet that supports life and life is fundamentally a relationship between living organism and its environment; an environment which provides us with all our needs. It is this underlying principle that exists behind the need to conserve and preserve our natural environment, since the very existence of mankind depends on it. The present study was aimed to identify whether spiritual and emotional quotient of student teachers are related to their ecological footprint. Descriptive correlational research method was used to ascertain this relationship between the variables and the extent to which they were related. The sample for the present study comprised of student teachers pursuing Diploma in elementary education from colleges affiliated to Maharashtra State Council of Examination and Bachelor of Education and Master of Education degree from the colleges affiliated to the University of Mumbai. The sample size was 1465 student teachers. The tool employed for studying the ecological footprint was constructed with the help of inputs from "Personal Eco-Footprint Calculator" given by Tim Turner in his paper 'How big is my Ecological footprint' and Global Footprint Network. Changes were made to suit the requirement of the study. For measuring the emotional quotient of student teachers, The scale of Emotional Competencies developed and standardized by Dr. H.C. Sharma and Dr. R.L. Bharadwaj was used. Spiritual quotient was studied using 'The Spiritual Intelligence Self-Report Inventory or the SISRI-24' tool constructed by Dr. David B. King (2008). The data obtained was subjected to statistical analysis and correlation between the three variables was established using the 'Pearson's Product-Moment coefficient of correlation'. A negative linear correlation was found between the ecological footprint of student teachers with their emotional and spiritual quotient. A positive linear correlation was found between emotional and spiritual quotient of student teachers.

**Keywords :** Ecological footprint (EF), Emotional quotient (EQ), Spiritual Quotient (SQ)

### Introduction :

Human impact on the globe has grown 80 percent over the last four decades. As per the Global Ecological Footprint data, humanity is using resources and producing CO<sub>2</sub> emissions at

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### **Transformation of Learner Strategies: Then and Now**

Mrs. Bindu S. Tambe, Asst. Prof., Pillai College of Education and Research,  
New Panvel (W)

---

#### **Abstract:**

Students of the 21st century live in a world that is immersed in digital technology that allows them to connect, create and collaborate in ways that were previously not possible. No generation is more at ease with collaborative, online technologies than today's digital citizen, who is caught up in the technological world. The generation before this considered and used only pen and notebook, but today's learners come to the class armed with knowledge accessed from computers, smart phones, internet, and so on. Technological innovation is changing the way how students learn and also how schools, colleges and universities teach. Teachers belong to the previous generation, who had to adapt to technology as a necessity in their profession, find themselves in situations where their students have changed the way in which they learn. As teachers are we willing to change the way we teach? Educational organizations and those within have a responsibility to ensure that students are being equipped with the skills they need to be responsible citizens and successfully navigate the world that they live in. Teachers have a major role in this and changing the teaching strategies to connect with the learning strategies of our students is inevitable. This paper throws light on the shift in education from the earlier times and today due to technological advancements and how teachers have to change their teaching strategies to teach students with learning strategies of their own.

## **A Study of the Environment Consciousness among the Secondary School Students**

*Mrs. Bindu S. Tambe, Asst. Prof. Ms. Priyanka Sreekumar, B.Ed. student, Ms. Krishna Acharya, B.Ed.,  
email id: bindustambe@mes.ac.in*

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---

### **Abstract:**

Environment and its destruction is the sole responsibility of human beings. With our greed for more and more, we have destroyed the environment that was our blessing. As we sit up and take notice of the destruction, we also have become aware of the various measures taken around the world to stop further deterioration of the environment. We realize how planting trees, using renewable sources of energy and using the resources in a judicious manner, will help sustain the environment for the generations to come.

But, awareness about the conservation and preservation of the environment is not enough. It has to become part of our consciousness. It has to become part of our daily life. It is said that any work done for some days becomes a habit. Environment consciousness has to become a habit in all of us if we want to sustain our life, our environment. This study is aimed at understanding the level of environment consciousness amongst secondary school students as they belong to an age group where the students can think and take decisions independently. They are also the ones who can make a change in the society.

*Key words: Environmental consciousness, secondary school students.*

---

### **Introduction:**

*"Because we don't think about future generations, they will never forget us."*

*Henrik Tikkanen*

All the things, both living and non-living, which surround us constitute our environment. It involves all the interactions between the living species. In order to continue having a healthy interaction, we need to understand how to preserve and conserve this environment with sustainable means.

Sustainability is the ability to continue a defined behavior indefinitely. Sustainable development is a vision of development that encompasses populations, animals and plant species, ecosystems, natural resources and that integrates the concern such as fight against poverty, gender equality, human rights, education for all, human security, health, intercultural dialogues etc. The three principles of sustainability are social sustainability, economic sustainability and environmental sustainability.






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| No. | CONTENTS   | Pg.Nos. |
|-----|--|---------|
| 1.  | Resilience and Social Well-being during the COVID -19 Pandemic<br><i>Mrs. Vidhya Satish</i>  | 1       |
| 2.  | Effect of Experiential Learning in Science on the Reasoning Ability of Upper Primary Students<br><i>Ms. Jyotirmayee Lenka &amp; Dr. Sally Enos</i> | 8       |
| 3.  | Digital Storytelling in Constructive Classrooms: A delve into the minds<br><i>Mrs. Rakhi Sawlani</i>   | 25      |
| 4.  | Usage of E-Commerce among Youth: A Boon to Economic downturn<br><i>Mr. Hardik Dave &amp; Dr. Bhavna Dave</i>                                       | 33      |
| 5.  | Developmentally Appropriate Practices for Children<br><i>Ms. Bhakti Gala</i>   | 41      |
| 6.  | Motivation & Learner Engagement<br><i>Ms. Deepa Bal</i>  | 48      |
| 7.  | Book Review: "Integrating the Visual Arts across the Curriculum"<br><i>Mrs. Archana Poshe</i>  | 63      |

  
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**TOOLS &  
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**VOLUME 2**

## Table of Contents

|  |   |            |
|--|---|------------|
| <b>RESEARCH MANUALS AND TOOLS.....</b> |   | <b>1</b>   |
| <b>1.</b>                              | <b>Home Environment and Attitude Scale on Current Social Issues</b> <i>Ms. Gael A. Dmello &amp; Dr. Pratima Pradhan</i> ..... | <b>1</b>   |
| <b>2.</b>                              | <b>Academic Stress Rating Scale</b> <i>Ms. Juhi Bahl &amp; Dr. Sally Enos</i> .....   | <b>9</b>   |
| <b>3.</b>                              | <b>Rating Scale on Task Performance and Work Motivation</b> <i>Ms. Nadar Jeban Rosy John &amp; Dr. Sally Enos</i> .....       | <b>12</b>  |
| <b>4.</b>                              | <b>Opinionnaire on Social Networking Sites</b> <i>Ms. Nandita Shah &amp; Dr. Sally Enos</i> .....                             | <b>16</b>  |
| <b>5.</b>                              | <b>Reality Shows and Rating Scale on Achievement Motivation</b> <i>Ms. Nisha Wilson K.V. &amp; Dr. Karuna Gupta</i> .....     | <b>21</b>  |
| <b>6.</b>                              | <b>Study Habits Scale</b> <i>Ms. Prabha Jasmine &amp; Dr. Pratima Pradhan</i> .....   | <b>28</b>  |
| <b>7.</b>                              | <b>Rating Scale on Self Concept</b> <i>Ms. Reema Thapar &amp; Dr. Pratima Pradhan</i> .....                                   | <b>36</b>  |
| <b>8.</b>                              | <b>Role Conflict Scale</b> <i>Ms. Savvy Gomes &amp; Dr. Sally Enos Modified Version of the tool by Dr. V. Sumangala</i> ..... | <b>40</b>  |
| <b>9.</b>                              | <b>Teacher Performance Scale</b> <i>Ms. Savvy Gomes &amp; Dr. Sally Enos</i> .....  | <b>45</b>  |
| <b>10.</b>                             | <b>Attitude towards Civics Subject and Awareness of Democratic values</b> <i>Ms. Soniya Avlu &amp; Dr. Karuna Gupta</i> ..... | <b>48</b>  |
| <b>11.</b>                             | <b>Questionnaire on Values</b> <i>Ms. Valencia Iris Le' Blond &amp; Dr. Karuna Gupta</i> .....                                | <b>55</b>  |
| <b>12.</b>                             | <b>Environmental Awareness on Water Resources</b> <i>Ms. Amrita Chakrabarti &amp; Dr. Sally Enos</i> .....                    | <b>61</b>  |
| <b>13.</b>                             | <b>Spiritual Quotient Scale</b> <i>Ms. Anne Jacob &amp; Dr. Pratima Pradhan</i> .....   | <b>65</b>  |
| <b>14.</b>                             | <b>Stress Management Scale</b> <i>Ms. Anne Jacob &amp; Dr. Pratima Pradhan</i> .....  | <b>68</b>  |
| <b>15.</b>                             | <b>Social Maturity Scale</b> <i>Ms. Bindu S. Tambe &amp; Dr. Pratima Pradhan</i> .....  | <b>71</b>  |
| <b>16.</b>                             | <b>Emotions Scale</b> <i>Ms. Bindu S. Tambe &amp; Dr. Pratima Pradhan</i> .....   | <b>75</b>  |
| <b>17.</b>                             | <b>Professional Attitude Scale</b> <i>Ms. Chitra More &amp; Dr. Pratima Pradhan</i> .....                                     | <b>79</b>  |
| <b>18.</b>                             | <b>Social Message Based Advertisement Tool</b> <i>Ms. Dhanisha Ambadiyil Gangadharan &amp; Dr. Karuna Gupta</i> .....         | <b>87</b>  |
| <b>19.</b>                             | <b>Empathy Development Tool</b> <i>Ms. Dhanisha Ambadiyil Gangadharan &amp; Dr. Karuna Gupta</i> .....                        | <b>91</b>  |
| <b>20.</b>                             | <b>Rating Scale for Learning Problems</b> <i>Ms. Diksha Madhok &amp; Dr. Pratima Pradhan</i> .....                            | <b>96</b>  |
| <b>21.</b>                             | <b>Rating Scale for Study Habits</b> <i>Ms. Diksha Madhok &amp; Dr. Pratima Pradhan</i> .....                                 | <b>100</b> |
| <b>22.</b>                             | <b>Perception on Continuous and Comprehensive Evaluation</b> <i>Ms. Dolly Thakkar &amp; Dr. Sunita N. Wadikar</i> .....       | <b>103</b> |
| <b>23.</b>                             | <b>Social Intelligence Scale</b> <i>Ms. Jency M.S. &amp; Dr. Karuna Gupta</i> .....   | <b>111</b> |

---

|     |  |     |
|-----|--|-----|
| 24. | <b>Parenting Style Rating Scale</b> Ms. Jency M.S. & Dr. Karuna Gupta .....  | 117 |
| 25. | <b>Questionnaire on Continuous Comprehensive Evaluation CCE</b> Ms. Joyce Furtado & Dr. Anna Fernandes.....            | 120 |
| 26. | <b>Task Motivation</b> Ms. Joyce Furtado & Dr. Anna Fernandes .....  | 123 |
| 27. | <b>Questionnaire on Students' Interest in the Subject History</b> Ms. Manjiri Karekar & Prof. (Mrs) Sally George ..... | 126 |
| 28. | <b>Rating Scale for Counselling Functions</b> Ms. Laxmi Sunil Tolamatti & Dr. Karuna Gupta .....                       | 129 |
| 29. | <b>Tool for Coping with Problems</b> Ms. Laxmi Sunil Tolamatti & Dr. Karuna Gupta                                      | 132 |
| 30. | <b>Perception of Students on Teachers' Attitude</b> Ms. Manjiri Karekar & Prof.(Ms) Sally George .....                 | 138 |
| 31. | <b>Self-Concept Scale</b> Ms. Neha Karia & Dr. Jayashree Ramanathan .....  | 142 |
| 32. | <b>Family Environment Scale</b> Ms. Neha Karia & Dr. Jayashree Ramanathan .....  | 145 |
| 33. | <b>Social Networking Sites</b> Ms. Payel Roy Chaudhury & Dr. Sally Enos.....   | 148 |
| 34. | <b>Teaching Style</b> Ms. Preena Abraham & Dr. Sally Enos.....   | 154 |
| 35. | <b>Classroom Climate</b> Ms. Preena Abraham & Dr. Sally Enos .....   | 157 |
| 36. | <b>Stress Scale</b> Ms. Saili Ghanekar & Dr. Jayashree Ramanathan .....  | 160 |
| 37. | <b>Time Management Scale</b> Ms. Saili Ghanekar & Dr. Jayashree Ramanathan .....                                       | 163 |
| 38. | <b>Coping Techniques of Anger Management</b> Ms. Sana A. Hussaini & Dr. Sally Enos .....                               | 166 |
| 39. | <b>Burnout Inventory</b> Ms. Shabnam Mukhtar Ahmad Khan & Dr. Asmita Huddar ....                                       | 171 |
| 40. | <b>Motivational Scale</b> Mrs. Shefali Karmokar & Dr.Karuna Gupta .....  | 174 |
| 41. | <b>Self-Concept Scale</b> Mrs. Shefali Karmokar & Dr.Karuna Gupta .....  | 177 |
| 42. | <b>Teacher Commitment Scale</b> Mrs. Shefali Karmokar & Dr.Karuna Gupta.....   | 180 |
| 43. | <b>Institutional Climate Scale</b> Ms. Simpu Rana & Dr. Ms. Pratima Pradhan .....                                      | 183 |
| 44. | <b>Interpersonal Relations Scale</b> Ms. Simpu Rana & Dr. Pratima Pradhan.....   | 188 |
| 45. | <b>Life Skill Scale</b> Ms. Sriekala Nair & Dr. Ms. Pratima Pradhan .....  | 192 |
| 46. | <b>Self Confidence Scale</b> Ms. Sriekala Nair & Dr. Ms. Pratima Pradhan .....   | 196 |
| 47. | <b>Continuous and Comprehensive Evaluation</b> Ms. Tulip Mendonca & Dr. Sunita Wadikar .....                           | 199 |
| 48. | <b>Job Stress Scale</b> Ms. Tulip Mendonca & Dr. Sunita Wadikar.....   | 203 |



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INDEX

| Sr. No | TOPICS   | Pg. No. |
|--------|--|---------|
| 1.     | <b>Preface</b>   | 1       |
| 2.     | <b>Biodiversity- Ways to Increase and Safeguard the Level of Flora and Fauna in the Surrounding Environment</b><br><i>Principal Dr. Sally Enos &amp; Student teachers –Sonia Pawar, Shanmugaraj Pillai, Ruby Singh</i> | 3       |
| 3.     | <b>Energy management at the Community Level</b><br><i>Asst. Prof. Dr. Geeta Thakur &amp; Student teachers -Patankar Jyoti, Vaidehi Barku, Pattem Nisha, Paul Sheli</i>   | 19      |
| 4.     | <b>Energy Management at Individual Level</b><br><i>Asst. Prof. Dr. Saramma Mathew &amp; Student teachers - Mankoo Kiranjyot Kaur, Markad Pooja, Pandey Beena, Parulekar Jasmine</i>                                    | 33      |
| 5.     | <b>Green building Initiatives</b><br><i>Asst. Prof. Mr. Gyanendrapratap Singh &amp; Student teachers - Shanbhag Aditi, Sharma Jyoti, Siddiqui Irfana, Singh Priyanka</i>   | 43      |
| 6.     | <b>Water Management at the Individual Level</b><br><i>Asst. Prof. Mrs. Namrata Saxena &amp; Student teachers - Kauchali Uzma, Khamkar Pratik, Khan Aneera, Khan Neha</i>   | 68      |
| 7.     | <b>Water Management at Community Level</b><br><i>Asst. Prof. Mr. Dr. Geeta Thakur &amp; Student teachers -Khan Sana, Zainab Khan, Lobo Melita, Madhu Rani</i>  | 79      |
| 8.     | <b>Canteen Waste Management at the Community Level</b><br><i>Asst. Prof. Mrs. Darshana Jadhav &amp; Student teachers - Kumari Juhi, Joshi Prachi, Karle Prajakta</i>   | 93      |
| 9.     | <b>Solid Dry Waste Management at Community Level</b><br><i>Asst. Prof. Dr. Jiji Sahaya &amp; Student teachers -Dheb Reshma, Dmello Sylvia, Doad Manjinder Kaur, Solanke Meenakshi</i>                                  | 117     |



- 10. Kitchen Green/Waste Management at the Individual level**      **125**  
*Asst. Prof. Dr. Bhavna Dave & Student teachers -Dubey Shweta, Inamdar Sayra, Jain Ankita*
- 11. Solid - Dry waste management at Individual level**      **138**  
*Asst. Prof. Mrs. Pradnya Jadhav & Student teachers -Dhar Soma, Dhavale Pritam, Sinha Surabhi*
- 12. Sanitation & Hygiene at the Community Level**      **147**  
*Asst. Prof. Dr. Namrata Saxena & Student teachers -Baghela Manisha, Bhakare Ashwini*
- 13. Sanitation and Hygiene at the Individual/Household Level**      **162**  
*Asst. Prof. Dr. Bhavna Dave & Student teachers -Ambat Nilam, Archana Kumari, Babar Shraddha*



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| No. | CONTENTS   | Pg.Nos. |
|-----|--|---------|
| 1.  | Resilience and Social Well-being during the COVID -19 Pandemic<br><i>Mrs. Vidhya Satish</i>  | 1       |
| 2.  | Effect of Experiential Learning in Science on the Reasoning Ability of Upper Primary Students<br><i>Ms. Jyotirmayee Lenka &amp; Dr. Sally Enos</i> | 8       |
| 3.  | Digital Storytelling in Constructive Classrooms: A delve into the minds<br><i>Mrs. Rakhi Sawlani</i>   | 25      |
| 4.  | Usage of E-Commerce among Youth: A Boon to Economic downturn<br><i>Mr. Hardik Dave &amp; Dr. Bhavna Dave</i>                                       | 33      |
| 5.  | Developmentally Appropriate Practices for Children<br><i>Ms. Bhakti Gala</i>   | 41      |
| 6.  | Motivation & Learner Engagement<br><i>Ms. Deepa Bal</i>  | 48      |
| 7.  | Book Review: "Integrating the Visual Arts across the Curriculum"<br><i>Mrs. Archana Pashe</i>  | 63      |

  
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|-----|--|---------|
| 1.  | Resilience and Social Well-being during the COVID -19 Pandemic<br><i>Mrs. Vidhya Satish</i>  | 1       |
| 2.  | Effect of Experiential Learning in Science on the Reasoning Ability of Upper Primary Students<br><i>Ms. Jyotirmayee Lenka &amp; Dr. Sally Enos</i> | 8       |
| 3.  | <b>Digital Storytelling in Constructive Classrooms: A delve into the minds</b><br><i>Mrs. Rakhi Sawlani</i>  | 25      |
| 4.  | Usage of E-Commerce among Youth: A Boon to Economic downturn<br><i>Mr. Hardik Dave &amp; Dr. Bhavna Dave</i>                                       | 33      |
| 5.  | Developmentally Appropriate Practices for Children<br><i>Ms. Bhakti Gala</i>   | 41      |
| 6.  | Motivation & Learner Engagement<br><i>Ms. Deepa Bal</i>  | 48      |
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VOLUME 1

## Table of Contents

|  |           |
|--|-----------|
| RESEARCH MANUALS AND TOOLS.....  | 1         |
| <b>1. Health Related Behaviour Survey Scale Mrs Bharti Iyer &amp; Dr Sally Enos.....</b>   | <b>1</b>  |
| 2. Study Habits Scale Mrs Resmy Varghese & Dr Usha Kumar .....   | 6         |
| 3. Self Esteem Inventory Mrs. Deepti B. Pillai & Dr. Sunita N. Wadikar .....   | 12        |
| <b>4. Awareness towards Sexually Transmitted Diseases and Utility Value of the Awareness on Human Reproductive System. Ms. Geeta Gusain &amp; Dr. Sally Enos</b> | <b>15</b> |
| 5. Earning for Learning Ms. Nidhi Ashish Gupta & Dr. Jayashree Ramanathan .....  | 18        |
| <b>6. Carbon Foot Print Mrs. Priya Deshpande &amp; Dr. Sally Enos .....</b>  | <b>23</b> |
| 7. Identify Value Crisis Mrs. Sadia Khan & Dr. Pratima Pradhan .....   | 30        |
| 8. Educational Aspirations and Educational Awareness Ms. Beena Sanjay Singh & Dr. Usha Kumar.....  | 38        |
| <b>9. Anxiety and Academic Adjustment Ms. Benazir Thakker &amp; Dr. Sally Enos .....</b>   | <b>45</b> |
| 10. School Climate Inventory Mrs. Bidisha Chatterjee & Dr. Pratima Pradhan.....  | 50        |
| 11. Questionnaire on Leadership Style Ms. Dipika Das & Dr. Sunita Wadikar.....   | 55        |
| 12. Perceived Parental Behaviour Ms. Shaikh Fathima Kazim & Prof (Ms.) Sally George .....  | 61        |
| <b>13. Awareness regarding Vocational Preferences &amp; Study Habits Ms. Jatinder Kaur &amp; Dr. Sally Enos .....</b>  | <b>66</b> |
| 14. Social Awareness Questionnaire Prepared by: Ms. Kavita Rajbhar & Dr. Pratima Pradhan .....   | 71        |
| 15. Attitude Towards Social Issues Scale Ms. Kavita Rajbhar & Dr. Pratima Pradhan .....  | 76        |
| 16. Multiple Intelligence Rating Scale Ms. Pratigya Shetty & Dr. Jayashree Ramanathan .....  | 79        |
| 17. Reasoning Ability in Science and Value Awareness Ms. Ganti Savita Ram & Dr. Usha Kumar.....  | 83        |
| 18. Opinionnaire on Organizational Culture Ms. Shubha Pillai & Dr. Usha Kumar...   | 92        |
| 19. Teacher's Commitment Scale Ms. Shubha Pillai & Dr. Usha Kumar.....   | 96        |
| 20. Self-Concept Thomas Mathai & Dr. Usha Kumar .....  | 100       |

---

|     |   |     |
|-----|---|-----|
| 21. | <b>Cultural Knowledge</b> Ms. Thazhavana Blessy Achenkunju & Dr. Usha Kumar .....                     | 105 |
| 22. | <b>Socializing Ability</b> Ms. Thazhavana Blessy Achenkunju & Dr. Usha Kumar .....                    | 108 |
| 23. | <b>Interest in Science</b> Ms. Devanshi Gupta & Dr. Pratima Pradhan.....                              | 111 |
| 24. | <b>Problem Solving Ability in Science</b> Ms. Devanshi Gupta & Dr. Pratima Pradhan                    | 115 |
| 25. | <b>Decision Making Style</b> Mrs. Janet Priya Dickson & Dr. Pratima Pradhan .....                     | 121 |
| 26. | <b>Teacher Morale</b> Mrs. Janet Priya Dickson & Dr. Pratima Pradhan.....                             | 124 |
| 27. | <b>Decision-Making Ability</b> Ms. Jiesha Krishnan Kutty & Dr. Karuna Gupta.....                      | 130 |
| 28. | <b>Stress Management Ability</b> Ms. Jiesha Krishnan Kutty & Dr. Karuna Gupta .....                   | 133 |
| 29. | <b>Self Esteem</b> Ms. Jiesha Krishnan Kutty & Dr. Karuna Gupta .....                                 | 136 |
| 30. | <b>Stress Management Questionnaire</b> Ms. Latha Shukla & Dr. Pratima Pradhan ...                     | 139 |
| 31. | <b>Leadership behaviour</b> Ms. Rajesh Nagnath Kalyankar & Dr. Karuna Gupta .....                     | 142 |
| 32. | <b>Job Satisfaction</b> Ms. Rajesh Nagnath Kalyankar & Dr. Karuna Gupta .....                         | 146 |
| 33. | <b>Home Environment</b> Ms. Rejitha Sanal Kumar & Dr. Usha Kumar .....                                | 150 |
| 34. | <b>Social Sensitivity</b> Ms. Rejitha Sanal Kumar & Dr. Usha Kumar .....                              | 156 |
| 35. | <b>Rating Scale on Peer Pressure</b> Ms. Shimail Naaz & Dr. Pratima Pradhan.....                      | 160 |
| 36. | <b>Rating Scale on Stress</b> Ms. Shimail Naaz & Dr. Pratima Pradhan .....                            | 164 |
| 37. | <b>Classroom Climate Scale</b> Ms. Shomi Chacko & Dr. Ms. Karuna Gupta .....                          | 167 |
| 38. | <b>Adjustment Problem Scale</b> Ms. Shomi Chacko & Dr. Ms. Karuna Gupta .....                         | 170 |
| 39. | <b>Assessment Questionnaire for Personality Attributes</b> Ms. Sunu Ivan Nainan & Dr. Usha Kumar..... | 174 |
| 40. | <b>Rating Scale for Self Esteem</b> Ms. Vinita Desai & Dr. Karuna Gupta.....                          | 179 |
| 41. | <b>Rating Scale for Building Relationships</b> Ms. Vinita Desai & Dr. Karuna Gupta..                  | 181 |
| 42. | <b>Assertiveness</b> Ms. Vinita Desai & Dr. Karuna Gupta .....  | 184 |
| 43. | <b>Rating scale for Leadership</b> Ms. Vinita Desai & Dr. Karuna Gupta.....                           | 186 |
| 44. | <b>Teacher Awareness on Inclusive Education</b> Ms. Deepa Patil & Dr. Ms. Sally Enos .....            | 189 |
| 45. | <b>Teacher Perception on Inclusive Education</b> Ms. Deepa Patil & Dr. Ms. Sally Enos .....           | 192 |





ISSN - 2249 - 4367

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Volume 10

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Jan - June 2021

**PILLAI JOURNAL OF EDUCATIONAL RESEARCH &  
TECHNOLOGY(PJERT)**

Volume 10

Number 01

January-June, 2021

| CONTENTS |  | Pg.Nos. |
|----------|--|---------|
| 1.       | <b>Investigations on Indicators and Symptoms Signifying Problems and Requirement of Corrective Measures in the Process of Composting of Organic Residues</b><br><i>Prof. Moses Kolet</i> | 7       |
| 2.       | <b>Effect of Self-Regulated Learning Strategy on the Academic Scores in Science</b><br><i>Dr. Sally Enos &amp; Ms. Arshee Sayed</i>  | 16      |
| 3.       | <b>Effect of Flipped Classroom Technique on Students' Academic Achievement in Science</b><br><i>Mrs. Bindu Tambe &amp; Ms. Malka Shaikh</i>  | 29      |
| 4.       | <b>Reflective Thinking: Concept &amp; Enhancing Strategies</b><br><i>Ms. Teena Johnny</i>  | 40      |
| 5.       | <b>Correlation between Spirituality and Identity Status in Adolescence</b><br><i>Dr. Geeta S. Thakur &amp; Ms. Isha Dhody</i>  | 47      |
| 6.       | <b>Exploring the Mindset: Prognosticator of Psychological Well-Being?</b><br><i>Ms. Pooja Talreja</i>  | 62      |
| 7.       | <b>Book Review: 'Leadership for Women- A 21st Century Guide to Accelerate Your Career, Earn More Money &amp; Be Happy!'</b><br><i>Dr. Latha Venkataramana</i>                            | 69      |



ISSN - 2249 - 4367

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No. 01

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Volume 10

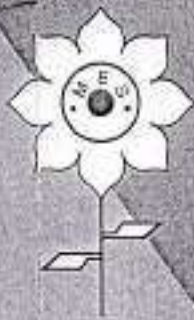
Number 01

January-June, 2021

**CONTENTS**

Pg.Nos.

- |    |  |    |
|----|--|----|
| 1. | <b>Investigations on Indicators and Symptoms Signifying Problems and Requirement of Corrective Measures in the Process of Composting of Organic Residues</b><br><i>Prof. Moses Kolet</i> | 7  |
| 2. | <b>Effect of Self-Regulated Learning Strategy on the Academic Scores in Science</b><br><i>Dr. Sally Enos &amp; Ms. Arshee Sayed</i>  | 16 |
| 3. | <b>Effect of Flipped Classroom Technique on Students' Academic Achievement in Science</b><br><i>Mrs. Bindu Tambe &amp; Ms. Malka Shaikh</i>  | 29 |
| 4. | <b>Reflective Thinking: Concept &amp; Enhancing Strategies</b><br><i>Ms. Teena Johnny</i>  | 40 |
| 5. | <b>Correlation between Spirituality and Identity Status in Adolescence</b><br><i>Dr. Geeta S. Thakur &amp; Ms. Isha Dhody</i>  | 47 |
| 6. | <b>Exploring the Mindset: Prognosticator of Psychological Well-Being?</b><br><i>Ms. Pooja Talreja</i>  | 62 |
| 7. | <b>Book Review: 'Leadership for Women- A 21st Century Guide to Accelerate Your Career, Earn More Money &amp; Be Happy!'</b><br><i>Dr. Latha Venkataramana</i>                            | 69 |



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TECHNOLOGY(PJERT)**

Volume 09

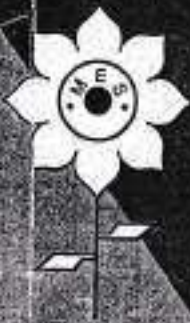
Number 02

July-December, 2020

**CONTENTS**

1. **Emotional intelligence of 8th standard students- A study**  
*Dr. Priyanka Prafulla Subhedar*
2. **A Study of the Effectiveness of Cooperative Learning Method on Academic Achievement in Science among School Students**  
*Ms. Ashwathi Nair*
3. **A Study of Vocational Choice of Higher Secondary School Students' in relation to Career Awareness**  
*Ms. Renu Sharma*
4. **Learning Motivation: Concept & Enhancing Strategies**  
*Ms. Sanjana Gandhi*
5. **A Study of Situational Motivation in Relation to Programme Satisfaction among Student Teachers**  
*Ms. Darshana Jadhav*
6. **Teacher's Views on Value Degradation among Students and Means of Inculcation of Values**  
*Dr. Bhavna Dave*
7. **Book Review: Differentiated Instructional Strategies -One Size Doesn't Fit All**  
*Ms. Latha Murali*

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Volume 09      No. 02      July - December 2020

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TECHNOLOGY(PJERT)**

Volume 09

Number 02

July-December, 2020

**CONTENTS**

1. **Emotional intelligence of 8th standard students- A study**  
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Volume 10

No. 01

Jan - June 2021

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TECHNOLOGY(PJERT)**

Volume 10

Number 01

January-June, 2021

**CONTENTS**

Pg.Nos.

- |    |  |    |
|----|--|----|
| 1. | <b>Investigations on Indicators and Symptoms Signifying Problems and Requirement of Corrective Measures in the Process of Composting of Organic Residues</b><br><i>Prof. Moses Kolet</i> | 7  |
| 2. | <b>Effect of Self-Regulated Learning Strategy on the Academic Scores in Science</b><br><i>Dr. Sally Enos &amp; Ms. Arshee Sayed</i>  | 16 |
| 3. | <b>Effect of Flipped Classroom Technique on Students' Academic Achievement in Science</b><br><i>Mrs. Bindu Tambe &amp; Ms. Malka Shaikh</i>  | 29 |
| 4. | <b>Reflective Thinking: Concept &amp; Enhancing Strategies</b><br><i>Ms. Teena Johnny</i>  | 40 |
| 5. | <b>Correlation between Spirituality and Identity Status in Adolescence</b><br><i>Dr. Geeta S. Thakur &amp; Ms. Isha Dhody</i>  | 47 |
| 6. | <b>Exploring the Mindset: Prognosticator of Psychological Well-Being?</b><br><i>Ms. Pooja Talreja</i>  | 62 |
| 7. | <b>Book Review: 'Leadership for Women- A 21st Century Guide to Accelerate Your Career, Earn More Money &amp; Be Happy!'</b><br><i>Dr. Latha Venkataramana</i>                            | 69 |



ISSN - 2249 - 4367

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Volume 10

No. 01

Jan - June 2021

**PILLAI JOURNAL OF EDUCATIONAL RESEARCH &  
TECHNOLOGY(PJERT)**

Volume 10

Number 01

January-June, 2021

**CONTENTS**

Pg.Nos.

- |    |  |    |
|----|--|----|
| 1. | <b>Investigations on Indicators and Symptoms Signifying Problems and Requirement of Corrective Measures in the Process of Composting of Organic Residues</b><br><i>Prof. Moses Kolet</i> | 7  |
| 2. | <b>Effect of Self-Regulated Learning Strategy on the Academic Scores in Science</b><br><i>Dr. Sally Enos &amp; Ms. Arshee Sayed</i>  | 16 |
| 3. | <b>Effect of Flipped Classroom Technique on Students' Academic Achievement in Science</b><br><i>Mrs. Bindu Tambe &amp; Ms. Malka Shaikh</i>  | 29 |
| 4. | <b>Reflective Thinking: Concept &amp; Enhancing Strategies</b><br><i>Ms. Teena Johnny</i>  | 40 |
| 5. | <b>Correlation between Spirituality and Identity Status in Adolescence</b><br><i>Dr. Geeta S. Thakur &amp; Ms. Isha Dhody</i>  | 47 |
| 6. | <b>Exploring the Mindset: Prognosticator of Psychological Well-Being?</b><br><i>Ms. Pooja Talreja</i>  | 62 |
| 7. | <b>Book Review: 'Leadership for Women- A 21st Century Guide to Accelerate Your Career, Earn More Money &amp; Be Happy!'</b><br><i>Dr. Latha Venkataramana</i>                            | 69 |

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## TABLE OF CONTENTS

| Sr.no. | Contents  | Pg.no. |
|--------|---|--------|
| 1.     | About our Institution   | 01     |
| 2.     | Report of the National Seminar on Environmental Re-engineering Series-10: 'People & Nature -A livable & Sustainable Future'                           | 03     |
| 3.     | Bursting the Myth of the Century: Do Plastics really Degrade?<br><i>Moses J. Kolet, Principal, KME Society's G.M. Momin Women's College, Bhiwandi</i> | 08     |
| 4.     | A Study on Customer Perception towards Organic Products<br><i>Ms. Kinjal Gosai, Asst. Professor, Sheth N.K.T.T. College, Thane(W)</i>                 | 16     |
| 5.     | Mindful Consumption for a Sustainable Gen-Next<br><i>Larisa Pareira, Pillai College of Education &amp; Research, New Panvel(W)</i>                    | 25     |
| 6.     | Case Study of a Sustainable Farm: Govardhan Eco Village<br><i>Aditya Kumar Sahoo &amp; Sanatan Kumar, Mahatma International School, New Panvel</i>    | 28     |
| 7.     | Mindful Consumption for Sustainable Development<br><i>Naitik Maheshwari, Mahatma International School, New Panvel (W)</i>                             | 38     |
| 8.     | Encashing Waste-Need of the Hour!<br><i>Dr. Bhavna Dave, Asst. Prof., Pillai College of Education &amp; Research, New Panvel</i>                      | 41     |
| 9.     | Will our Next Generation be deprived of Resources because of us? Start Thinking!<br><i>Nitika Srivastava, K. J. Somaiya College, Mumbai</i>           | 49     |
| 10.    | SOLAR – the Bi-polar for Electricity<br><i>Vibhav Rajendra Galadagekar, Asst. Professor, Sheth NKTT College, Thane</i>                                | 56     |



ISSN - 2249 - 4367

PJERT

PILLAI  
JOURNAL OF  
EDUCATIONAL  
RESEARCH AND  
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(A Peer Reviewed Journal)

  
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Volume 09

No. 01

Jan - June 2020

---

**PILLAI JOURNAL OF EDUCATIONAL RESEARCH &  
TECHNOLOGY(PJERT)**

---

Volume 09

Number 01

January-June 2020

---

**CONTENTS**

- |    |   |    |
|----|---|----|
| 1. | Effectiveness of System Thinking Instructional Module on Self Efficacy of Student Teachers<br><i>Ms. Resmy Varghese</i>                       | 01 |
| 2. | Effect of Transdisciplinary Integrated Curriculum Approach on the Academic Performance of the Upper Primary Students<br><i>Ms. Neha Karia</i> | 18 |
| 3. | A New Way of LIS Education through Distance Mode e-Learning System in India<br><i>K. Nedumaran &amp; Dr. R. Ramesh</i>                        | 35 |
| 4. | A Study of the Socio-emotional Competence among Secondary School Students<br><i>Mrs. Bindu Tambe &amp; Ms. Indu Singh</i>                     | 41 |
| 5. | A Study of Situational Motivation in Relation to Professional Ethics among Student Teachers<br><i>Ms. Darshana Jadhav</i>                     | 50 |
| 6. | <b>Correlation between Emotional Intelligence and Problem Solving Ability of Students</b><br><i>Dr. Geeta Thakur &amp; Ms. Shabnoor Masum</i> | 63 |
| 7. | Book Review: Media Communication-An Introduction to Theory & Process<br><i>Ms. Lopamudra Dutta</i>  | 76 |





ISSN - 2249 - 4367

PJERT

PILLAI  
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RESEARCH AND  
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Volume 08

No. 02

July - December 2019

**PILLAI JOURNAL OF EDUCATIONAL RESEARCH &  
TECHNOLOGY(PJERT)**

Volume 08

Number 02

July-December 2019

**CONTENTS****Page**

- |    |   |    |
|----|---|----|
| 1. | <b>Interactive Mathematical software Geogebra and its achievement in Mathematics among Tenth standard students</b><br><i>C. E. Jayanthi</i> | 1  |
| 2. | <b>Transdisciplinary Integrated Curriculum Approach (TICA)</b><br><i>Neha Karia</i>   | 7  |
| 3. | <b>A Study of the Effect of Screen -Casting Videos on the Knowledge Acquisition of Distance Learners</b><br><i>Bindu Tambe</i>              | 12 |
| 4. | <b>A Reflection on Classroom Questioning Skill of Student Teachers</b><br><i>Farzana Y. Khambatta</i>                                       | 20 |
| 5. | <b>Clean India: A Dream or Reality?</b><br><i>Mary Varghese</i>   | 35 |
| 6. | <b>Education for Sustainability and Pollution Control</b><br><i>Dr. Sangita Nath</i>  | 41 |
| 7. | <b>Book Review: Thinking in Systems-A Primer</b><br><i>Resmy Varghese</i>   | 46 |

  
 Dr. (Ms.) Sally Enos  
 PRINCIPAL  
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 Pillai College of Education & Research  
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**Volume 09**

**No. 01**

**Jan - June 2020**



ISSN 2249-4367

**PILLAI JOURNAL OF EDUCATIONAL RESEARCH &  
TECHNOLOGY(PJERT)**

Volume 09

Number 01

January-June 2020

**CONTENTS**

1. Effectiveness of System Thinking Instructional Module on Self Efficacy of Student Teachers 01  
*Ms. Resmy Varghese*
2. Effect of Transdisciplinary Integrated Curriculum Approach on the Academic Performance of the Upper Primary Students 18  
*Ms. Neha Karia*
3. A New Way of LIS Education through Distance Mode e-Learning System in India 35  
*K. Nedumaran & Dr. R. Ramesh*
4. **A Study of the Socio-emotional Competence among Secondary School Students** 41  
*Mrs. Bindu Tambe & Ms. Indu Singh*
5. A Study of Situational Motivation in Relation to Professional Ethics among Student Teachers 50  
*Ms. Darshana Jadhav*
6. Correlation between Emotional Intelligence and Problem Solving Ability of Students 63  
*Dr. Geeta Thakur & Ms. Shabnoor Masum*
7. Book Review: Media Communication-An Introduction to Theory & Process 76  
*Ms. Lopamudra Dutta*

  
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| Sr. no. | TABLE OF CONTENT  | Pg. |
|---------|---|-----|
| 1.      | About our Institution   | 01  |
| 2.      | Report of the Workshop on "Education in Universal Human Values" held on 25 <sup>th</sup> & 26 <sup>th</sup> April, 2019           | 03  |
| 3.      | Report of the Symposium on "Education in Universal Human Values" held on 27 <sup>th</sup> April, 2019                             | 07  |
| 4.      | Nature Our Teacher<br><i>Principal Dr Sally Enos</i>  | 14  |
| 5.      | Attitude of Higher Secondary School Students towards Universal Human Values<br><i>Dr. Pratima Pradhan &amp; Ms. Preeti Sakpal</i> | 18  |
| 6.      | Values and Development of Self –Efficacy<br><i>Ms. Resmy Varghese</i>   | 28  |
| 7.      | Right Living- The Path to Happiness<br><i>Dr. Bhavna Dave</i>   | 35  |
| 8.      | Values are not Taught, they are Caught<br><i>Ms. Neha Karia</i>   | 40  |
| 9.      | Value Education in India: Vedic and Historical Review<br><i>Dr. Amit Gosar, Mrs. Geeta S. Thakur</i>                              | 44  |
| 10.     | Values: An Essence of Poetry<br><i>Mrs. Neelam Shaikh</i>   | 54  |
| 11.     | A Study of Moral Values among School Students<br><i>Mrs. Bindu S Tambe &amp; Ms. Namitha Pai</i>                                  | 59  |
| 12.     | Human Values for a Sustainable World<br><i>Mrs. Pradnya Jadhav</i>  | 68  |
| 13.     | Education in Universal Human Values<br><i>Ms. Parveen Arif</i>  | 76  |
| 14.     | Universal Human Values in Teaching of Science<br><i>Ms. Bindu S Tambe</i>   | 80  |
| 15.     | National Curriculum Framework: Inculcation of Values – An Overview<br><i>Ms. Pooja Joshi</i>                                      | 86  |



ISSN - 2249 - 4367

**PILLAI**

**JOURNAL OF  
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**RESEARCH AND**

**TECHNOLOGY**

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**July - December 2018**



ISSN 2249-4367



**PILLAI JOURNAL OF EDUCATIONAL RESEARCH  
AND TECHNOLOGY (PJERT)**

Volume 07    Number 2    July 2018

**CONTENTS**

**Page No.**

Editorial

- Globalization and its Impact on Indian Education  
*Mousumi Chaudhari* 1
- Vanity Metrics and Decision Making in the Era of Information  
Overload  
*Latha Venkataraman* 7
- A Study of the Impact of Scaffolding as an Instructional Strategy on  
the Academic Achievement in Science among the Secondary School  
Students  
*Farah Shaikh & Reni Francis* 13
- Effect of Personal Factors on Scholastic Achievement of Class IX  
Students in Sciences  
*Yogeshchandra K. Barot* 25
- Effectiveness of Two Contrasting Methods of Teaching on the  
Achievement of Students in Science  
*M. N. Anuradha & Pratima Pradhan* 33
- Mathematical Anxiety of Students of Standard VIII in Relation to  
their Meta-Cognitive Awareness  
*Prerana Panjari* 40
- A Study of the Effectiveness of Experiential Learning in the  
Teaching of Geography Secondary School Students  
*Gawrav Shinde* 48
- Book Review  
*Navneet Shandhu* 55

  
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| Sr. no. | TABLE OF CONTENT   | Pg. |
|---------|--|-----|
| 1.      | About our Institution  | 01  |
| 2.      | Report of the Workshop on "Education in Universal Human Values" held on 25 <sup>th</sup> & 26 <sup>th</sup> April, 2019                  | 03  |
| 3.      | Report of the Symposium on "Education in Universal Human Values" held on 27 <sup>th</sup> April, 2019                                    | 07  |
| 4.      | Nature Our Teacher<br><i>Principal Dr Sally Enos</i>   | 14  |
| 5.      | <b>Attitude of Higher Secondary School Students towards Universal Human Values</b><br><i>Dr. Pratima Pradhan &amp; Ms. Preeti Sakpal</i> | 18  |
| 6.      | Values and Development of Self -Efficacy<br><i>Ms. Resmy Varghese</i>  | 28  |
| 7.      | Right Living- The Path to Happiness<br><i>Dr. Bhavna Dave</i>  | 35  |
| 8.      | Values are not Taught, they are Caught<br><i>Ms. Neha Karia</i>  | 40  |
| 9.      | Value Education in India: Vedic and Historical Review<br><i>Dr. Amit Gosar, Mrs. Geeta S. Thakur</i>                                     | 44  |
| 10.     | Values: An Essence of Poetry<br><i>Mrs. Neelam Shaikh</i>  | 54  |
| 11.     | A Study of Moral Values among School Students<br><i>Mrs. Bindu S Tambe &amp; Ms. Namitha Pai</i>   | 59  |
| 12.     | Human Values for a Sustainable World<br><i>Mrs. Pradnya Jadhav</i>   | 68  |
| 13.     | Education in Universal Human Values<br><i>Ms. Parveen Arif</i>   | 76  |
| 14.     | Universal Human Values in Teaching of Science<br><i>Ms. Bindu S Tambe</i>  | 80  |
| 15.     | National Curriculum Framework: Inculcation of Values – An Overview<br><i>Ms. Pooja Joshi</i>   | 86  |

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## CONTENTS

**Page No.**

**Editorial**

|   |    |
|---|----|
| ICT Trends in Teacher Education<br><i>Dr. Gyanendra Kumar Rout</i>  | 1  |
| Development of Soft Skill among Teacher-trainees in 21 <sup>st</sup> Century<br><i>Sangeeta R. Kadam</i>      | 12 |
| Solar Activity as a Possible Indicator of Global Climate Change<br><i>Abhra Pratip Ray</i>                    | 19 |
| A Study on Nomenclature of Criminal Tribes and Differential Association Theory<br><i>Samata L. Mane</i>       | 27 |
| <b>Impact of School Climate on Secondary School Students' Social Competence</b><br><i>Dr. Pratima Pradhan</i> | 36 |
| Importance of English Vocabulary in Language Learning<br><i>Dr. Suvarna Gorakshanath Shikare</i>              | 45 |
| A Study of B.Ed. Students' Creativity View Point<br><i>Dr. Kavita P. Tote</i>                                 | 50 |



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| Sr. no. | TABLE OF CONTENT  | Pg. |
|---------|---|-----|
| 1.      | About our Institution   | 01  |
| 2.      | Report of the Workshop on "Education in Universal Human Values" held on 25 <sup>th</sup> & 26 <sup>th</sup> April, 2019           | 03  |
| 3.      | Report of the Symposium on "Education in Universal Human Values" held on 27 <sup>th</sup> April, 2019                             | 07  |
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| 6.      | Values and Development of Self-Efficacy<br><i>Ms. Resmy Varghese</i>  | 28  |
| 7.      | <b>Right Living- The Path to Happiness</b><br><i>Dr. Bhavna Dave</i>  | 35  |
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| 10.     | Values: An Essence of Poetry<br><i>Mrs. Neelam Shaikh</i>   | 54  |
| 11.     | A Study of Moral Values among School Students<br><i>Mrs. Bindu S Tambe &amp; Ms. Namitha Pai</i>                                  | 59  |
| 12.     | Human Values for a Sustainable World<br><i>Mrs. Pradhya Jadhav</i>  | 68  |
| 13.     | Education in Universal Human Values<br><i>Ms. Parveen Arif</i>  | 76  |
| 14.     | Universal Human Values in Teaching of Science<br><i>Ms. Bindu S Tambe</i>   | 80  |
| 15.     | National Curriculum Framework: Inculcation of Values – An Overview<br><i>Ms. Pooja Joshi</i>                                      | 86  |

  
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## TABLE OF CONTENTS

|  |           |
|--|-----------|
| PREFACE.....   | 1         |
| ABOUT THE INSTITUTION.....   | 2         |
| EXPERT TALK.....   | 3         |
| Waste to Wealth .....  | 3         |
| PAPER PRESENTATIONS.....   | 7         |
| Composting of Sanitary Wastes: A viable alternative ecological method to reduce sanitation related problems.....                 | 7         |
| Food Adulteration and its Effects on Human Health: Review.....   | 14        |
| Harmonization of Chemistry, Green Chemistry & Qbd In Drug Substance Life Cycle.....  | 18        |
| Synthesis of Some Substituted Schiff Bases by Microwave Irradiation: A Step To Eco-Friendly Synthesis .....                      | 30        |
| Bio-Medical Waste Management.....  | 38        |
| Incentives on Property Tax .....   | 42        |
| Mangrove destruction in Kerala – A threat to Green Planet.....   | 48        |
| The Nature: To Admire or Adore? To Work or Worship? .....  | 54        |
| Ionic Liquids – Step towards the Green Chemistry .....   | 64        |
| Solid Waste Management of Domestic Waste - A Case Study.....   | 77        |
| Assessment of reduction of heavy metal by manoeuvring fruit peel as efficient bio-adsorbent for ecological safe environment..... | 83        |
| <b>A study of the awareness of Swachh Bharat Abhiyan in India among school and college teachers .....</b>                        | <b>90</b> |
| Mangroves: The Shore reminders of Mumbai .....   | 97        |
| Sustainable Living: Waste Segregation at Home.....   | 110       |
| A Day in Village 'Bhoo' .....  | 116       |
| Industrial and Municipal Waste Management: Case Study .....  | 121       |
| Challenges of Sustainable Development.....   | 127       |

  
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| Sr. no. | TABLE OF CONTENT  | Pg. |
|---------|---|-----|
| 1.      | About our Institution   | 01  |
| 2.      | Report of the Workshop on "Education in Universal Human Values" held on 25 <sup>th</sup> & 26 <sup>th</sup> April, 2019           | 03  |
| 3.      | Report of the Symposium on "Education in Universal Human Values" held on 27 <sup>th</sup> April, 2019                             | 07  |
| 4.      | Nature Our Teacher<br><i>Principal Dr Sally Enos</i>  | 14  |
| 5.      | Attitude of Higher Secondary School Students towards Universal Human Values<br><i>Dr. Pratima Pradhan &amp; Ms. Preeti Sakpal</i> | 18  |
| 6.      | Values and Development of Self -Efficacy<br><i>Ms. Resmy Varghese</i>   | 28  |
| 7.      | Right Living- The Path to Happiness<br><i>Dr. Bhavna Dave</i>   | 35  |
| 8.      | Values are not Taught, they are Caught<br><i>Ms. Neha Karia</i>   | 40  |
| 9.      | <b>Value Education in India: Vedic and Historical Review</b><br><i>Dr. Amit Gosar, Mrs. Geeta S. Thakur</i>                       | 44  |
| 10.     | Values: An Essence of Poetry<br><i>Mrs. Neelam Shaikh</i>   | 54  |
| 11.     | A Study of Moral Values among School Students<br><i>Mrs. Bindu S Tambe &amp; Ms. Namitha Pai</i>                                  | 59  |
| 12.     | Human Values for a Sustainable World<br><i>Mrs. Pradnya Jadhav</i>  | 68  |
| 13.     | Education in Universal Human Values<br><i>Ms. Parveen Arif</i>  | 76  |
| 14.     | Universal Human Values in Teaching of Science<br><i>Ms. Bindu S Tambe</i>   | 80  |
| 15.     | National Curriculum Framework: Inculcation of Values - An Overview<br><i>Ms. Pooja Joshi</i>                                      | 86  |



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## TABLE OF CONTENTS

|  |     |
|--|-----|
| PREFACE.....   | 1   |
| ABOUT THE INSTITUTION.....   | 2   |
| EXPERT TALK.....   | 3   |
| Waste to Wealth.....   | 3   |
| PAPER PRESENTATIONS.....   | 7   |
| Composting of Sanitary Wastes: A viable alternative ecological method to reduce sanitation related problems.....                 | 7   |
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| Synthesis of Some Substituted Schiff Bases by Microwave Irradiation: A Step To Eco-Friendly Synthesis.....                       | 30  |
| Bio-Medical Waste Management.....  | 38  |
| Incentives on Property Tax.....  | 42  |
| Mangrove destruction in Kerala – A threat to Green Planet.....   | 48  |
| The Nature: To Admire or Adore? To Work or Worship?.....   | 54  |
| Ionic Liquids – Step towards the Green Chemistry.....  | 64  |
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| Mangroves: The Shore reminders of Mumbai.....  | 97  |
| Sustainable Living: Waste Segregation at Home.....   | 110 |
| A Day in Village 'Bhoo'.....   | 116 |
| Industrial and Municipal Waste Management: Case Study.....   | 121 |
| Challenges of Sustainable Development.....   | 127 |

  
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|  |     |
|--|-----|
| Green Street Practices .....   | 132 |
| <b>Controlling Ocean Pollution: Role of Shipping Industry</b> .....          | 136 |
| Waste Segregation using Gamification Method.....                             | 141 |
| Plastic: An Environmental Hazard, Its Impact & Alternatives for Plastic..... | 149 |
| Green Planet .....   | 165 |
| Waste Management.....  | 171 |
| Awareness on Solar Energy .....  | 176 |
| Conservation towards a Green India: Outlook.....                             | 182 |
| Green Energy.....  | 188 |
| प्रदुपण टाळा, पृथ्वी वाचवा !.....  | 194 |

  
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| Sr. no. | TABLE OF CONTENT  | Pg. |
|---------|---|-----|
| 1.      | About our Institution   | 01  |
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| 6.      | Values and Development of Self –Efficacy<br><i>Ms. Resmy Varghese</i>   | 28  |
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| 12.     | Human Values for a Sustainable World<br><i>Mrs. Pradnya Jadhav</i>  | 68  |
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| 15.     | National Curriculum Framework: Inculcation of Values – An Overview<br><i>Ms. Pooja Joshi</i>                                      | 86  |

  
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## ANALOGY FOR HIGHER ORDER THINKING AND LEARNING

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### Abstract

Higher order thinking skills have been the buzz word of the millennial education. These skills are generally considered difficult to incorporate in teaching learning process. Expertise and practise is imperative for teachers to be able to design the lessons for developing higher order thinking skills in the lessons. This paper discusses about the use of 'Analogy' as a method for developing higher order thinking skills and also attempts to give insight on the role of analogy in forming new learning. The paper brings clarity on the understanding of the meaning of 'higher order thinking skills' and 'Teaching through analogies'. Using 'Structure mapping' model on decoding the process of higher order thinking and analogy, the paper establishes analogy as a learning method in the process of developing higher order thinking skills. The paper points to the utility of using analogies in teaching to make shift from rote learning. The discussion in this paper will help educators and all stakeholders of education to realize the potential of using analogies in building the higher order thinking skills and also in its importance in the formation of new learning.

### Introduction

Technology developments, the omnipresence of the Internet, the global trade, and the globalization of collective contributions to formal education around the world have changed formal education's priorities and functions. A growing body of research has begun to prioritize a set of skills known as higher order thought that are over and above from the collection of academic facts (e.g. mathematics, science, history) and may be more apt for quality educational and job outcomes in the current market economy. With plenty of information readily available through the widespread use of computing and search engines, cognitive skills that support classifying, categorizing, generalizing, analyzing, drawing inferences from and otherwise transforming knowledge may be more fundamental to successful academic performance as well as a life skill for sustaining societal and economic participation.

Analogical reasoning is one of those cognitive abilities that anchors many of these skills of the 21st century. According to Gentner, Analogical reasoning is the process of representing information and objects in the world as systems of relationships, such that these systems of relationships can be compared, contrasted, and combined in novel ways depending on contextual goals. This paper discusses how analogical reasoning provides for, as a bridging mechanism for the higher order thinking skills, both as a tool for facilitating knowledge acquisition and as an important foundational cognitive process itself for working on information.



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**PROCEEDINGS**

On

**EDUCATION IN UNIVERSAL HUMAN**  
**VALUES**

**25-27<sup>th</sup> April, 2019**

**BOOK-16**

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| Sr. no. | TABLE OF CONTENT  | Pg. |
|---------|---|-----|
| 1.      | About our Institution   | 01  |
| 2.      | Report of the Workshop on "Education in Universal Human Values" held on 25 <sup>th</sup> & 26 <sup>th</sup> April, 2019           | 03  |
| 3.      | Report of the Symposium on "Education in Universal Human Values" held on 27 <sup>th</sup> April, 2019                             | 07  |
| 4.      | Nature Our Teacher<br><i>Principal Dr Sally Enos</i>  | 14  |
| 5.      | Attitude of Higher Secondary School Students towards Universal Human Values<br><i>Dr. Pratima Pradhan &amp; Ms. Preeti Sakpal</i> | 18  |
| 6.      | Values and Development of Self –Efficacy<br><i>Ms. Resmy Varghese</i>   | 28  |
| 7.      | Right Living- The Path to Happiness<br><i>Dr. Bhavna Dave</i>   | 35  |
| 8.      | Values are not Taught, they are Caught<br><i>Ms. Neha Karia</i>   | 40  |
| 9.      | Value Education in India: Vedic and Historical Review<br><i>Dr. Amit Gosar, Mrs. Geeta S. Thakur</i>                              | 44  |
| 10.     | Values: An Essence of Poetry<br><i>Mrs. Neelam Shaikh</i>   | 54  |
| 11.     | A Study of Moral Values among School Students<br><i>Mrs. Bindu S Tambe &amp; Ms. Namitha Pai</i>                                  | 59  |
| 12.     | <b>Human Values for a Sustainable World</b><br><i>Mrs. Pradnya Jadhav</i>   | 68  |
| 13.     | Education in Universal Human Values<br><i>Ms. Parveen Arif</i>  | 76  |
| 14.     | Universal Human Values in Teaching of Science<br><i>Ms. Bindu S Tambe</i>   | 80  |
| 15.     | National Curriculum Framework: Inculcation of Values – An Overview<br><i>Ms. Pooja Joshi</i>                                      | 86  |

  
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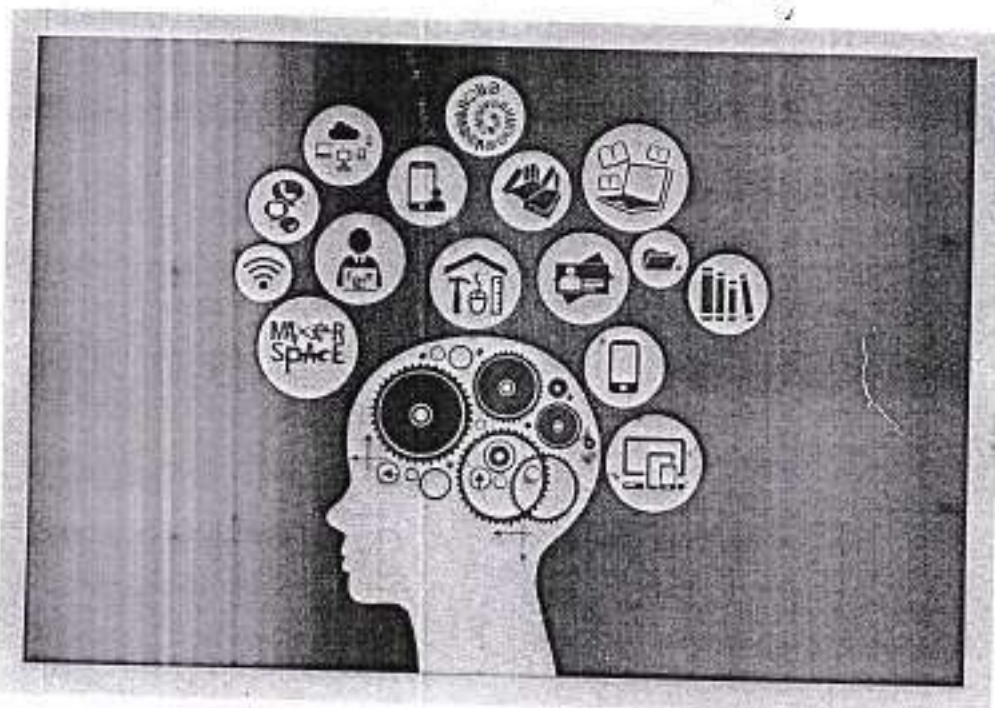


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## CONTENTS

|  |      |
|--|------|
| <b>PREFACE</b>   | Viii |
| <b>Redefining Library System &amp; Services</b>  | 1    |
| <i>Dr. Satish Kanamadi</i>   |      |
| <b>Knowledge Gateway: Open and Educational Resources</b>   | 7    |
| <i>Dr. Satish S. Munnoli</i>   |      |
| <b>Revamping the Libraries, with Re-designing of User-centered Services in the ICT Era</b>               | 9    |
| <i>Mr. Chetan Sudhakar Sonawane</i>  |      |
| <b>Digital Information Tools Needed for Research Scholars in Social Sciences in India</b>                | 15   |
| <i>Dr. NCH. Varadaraju</i>   |      |
| <b>Need of Fostering Digital Literacy in Higher Education</b>  | 33   |
| <i>Dr. Sanjay B. Munavalli</i>   |      |
| <b>Knowledge Management and School libraries</b>   | 40   |
| <i>Ms. Neha Ramakant Naik &amp; Mr. Joseph Anthony</i>   |      |
| <b>A Study of Awareness and Attitudes of Teachers of Higher Education towards Open Access Resources.</b> | 46   |
| <i>Dr. Bhavna Dave &amp; Ms. Abhyanika Iyer</i>  |      |
| <b>Peer Review: Towards the Excellence of Scholarly Communication.</b>                                   | 56   |
| <i>Dr. Pratima Pradhan</i>   |      |
| <b>Open Access Resources – An Insight</b>  | 64   |
| <i>Ms. Deepa Vinod &amp; Ms. Navneet Sandhu</i>  |      |
| <b>WordPress As A User-Friendly Content Management System</b>  | 72   |
| <i>Dr. Latha Venkataraman</i>  |      |
| <b>Glimpses of Seminar</b>   | 81   |

  
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## TABLE OF CONTENT

|   |    |
|---|----|
| PREFACE   | 1  |
| INAUGURAL SESSION   | 2  |
| ABOUT MES   | 3  |
| <b>SESSION I - KEYNOTE ADDRESS</b><br>DR. ANJUNA DHIR, DIRECTOR<br>ECOTOURISM SOCIETY OF INDIA                                    | 4  |
| <b>SESSION II - ECOTOURISM AND PERSONAL GROWTH</b><br>MR. LEON PEREIRA, Ph. D.<br>TRAINER   | 9  |
| <b>PAPER PRESENTATIONS</b>  |    |
| 1. <i>Environment Sustainability in Tourism – Role of a traveler</i><br>Mr. Ratan Kumar Singh                                     | 17 |
| 2. <i>A Study of Awareness and Penchant for Ecotourism activities among adolescents</i><br>Dr. Bhavna Dave and Ms. Sanjana Gandhi | 27 |
| 3. <i>Destination – Eco-traveller – The roadmaps from being a tourist to an eco-traveller</i><br>Ms. Suman Ananthanarayan         | 34 |
| 4. <i>Let's join Green Army – Maharashtra</i><br>Dr. Bhavna Dave, Ms. Deepta Vinod, Ms. Radhika Dave                              | 43 |
| 5. <i>Sustenance of the local sense and the place identity through education</i><br>Dr. Geeta R. Thakur, Ms. Uma Mishra           | 49 |
| 6. <i>Impact of Eco-tourism: A Literature Review</i><br>Dr. Pratima Pradhan   | 53 |
| 7. <i>Sustainable Tourism – Saguna Baug: A Case study</i><br>Ms. Purnima Srivastava   | 65 |
| 8. <i>Eco-tourism: A view of Heaven and nothing more</i><br>Ms. Teena Johnny  | 71 |

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Sub theme 3: Development of 21st century citizenship

|    |  |     |
|----|--|-----|
| 5  | Development of Environmental Consciousness.....  | 159 |
|    | <i>Dr. Kaluram Nathu Bhise</i>   |     |
| 80 | 'Social Media': Concurrent Power to Citizens' Voice.....   | 163 |
|    | <i>Ms. Ajita Deshmukh,</i>   |     |
| 83 | <b>Global Perspectives among Higher Secondary School Students</b> .....  | 169 |
|    | <i>Dr. Pratima Pradhan</i>   |     |
| 13 | A Study of Civic Literacy amongst Different Generations in a Semi-Urban<br>Set-up.....   | 180 |
|    | <i>Dr. Bhavna Dave, Ms. Sanjana Gandhi and Mr. Aldrian Augustine</i>   |     |
| 7  | Development of 21 <sup>st</sup> Century Citizenship .....  | 185 |
|    | <i>Dr. Meera Krishnappa</i>  |     |
| 1  | Designing the 21 <sup>st</sup> Century Classroom: Development of<br>Environmental Consciousness .....  | 192 |
| 7  | <i>Ms. Ranjana Rai</i>   |     |
|    | Moving forward from Environmental Awareness to<br>Environmental Consciousness .....  | 198 |
|    | <i>Ms. Teena Johny</i>   |     |
|    | शालेय जीवनात नागरिकशास्त्राचा अभ्यास करताना वद्यार्थ्यांकडून स्वतःतील व सभोवतालतील<br>बदलांची नोंद घेणे व त्यानुसार जबाबदार नागरिक घडवण्याचा प्रयत्न करणे - एक उपक्रम..... | 204 |
|    | श्री. गुणेश डोईफोडे  |     |
|    | Development of Civic Literacy: Thinking beyond I, Me and Mine .....  | 207 |
|    | <i>Ms. Smitha Kurup</i>  |     |
|    | A Study of the Environment Consciousness among the Secondary School<br>Students.....   | 212 |
|    | <i>Mrs. Bindu S. Tambe, Ms. Priyanka Sreeksumar, Ms. Krishna Acharya</i>   |     |
|    | International Mindedness: Embracing the 'otherness' to understand 'oneness' ....   | 220 |
|    | <i>Mrs. Suman Ananthanarayan</i>   |     |
|    | Build a 21st century classroom- Where the 3R's meet the 4C's.....  | 225 |
|    | <i>Dr. Frances Valdyia</i>   |     |

  
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## CONTENTS

|  |      |
|--|------|
| <b>PREFACE</b>   | Viii |
| <b>Redefining Library System &amp; Services</b>  | 1    |
| <i>Dr. Satish Kanamadi</i>   |      |
| <b>Knowledge Gateway: Open and Educational Resources</b>   | 7    |
| <i>Dr. Satish S. Munnoli</i>   |      |
| <b>Revamping the Libraries, with Re-designing of User-centered Services in the ICT Era</b>               | 9    |
| <i>Mr. Chetan Sudhakar Sonawane</i>  |      |
| <b>Digital Information Tools Needed for Research Scholars in Social Sciences in India</b>                | 15   |
| <i>Dr. NCH. Varadaraju</i>   |      |
| <b>Need of Fostering Digital Literacy in Higher Education</b>  | 33   |
| <i>Dr. Sanjay B. Munavalli</i>   |      |
| <b>Knowledge Management and School libraries</b>   | 40   |
| <i>Ms. Neha Ramakant Naik &amp; Mr. Joseph Anthony</i>   |      |
| <b>A Study of Awareness and Attitudes of Teachers of Higher Education towards Open Access Resources.</b> | 46   |
| <i>Dr. Bhavna Dave &amp; Ms. Abhiyanka Iyer</i>  |      |
| <b>Peer Review: Towards the Excellence of Scholarly Communication.</b>                                   | 56   |
| <i>Dr. Pratima Pradhan</i>   |      |
| <b>Open Access Resources – An Insight</b>  | 64   |
| <i>Ms. Deepa Vinod &amp; Ms. Navneet Sandhu</i>  |      |
| <b>WordPress As A User-Friendly Content Management System</b>  | 72   |
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| <b>Glimpses of Seminar</b>   | 81   |

  
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## TABLE OF CONTENT

|   |    |
|---|----|
| PREFACE   | 1  |
| INAUGURAL SESSION   | 2  |
| ABOUT MES   | 3  |
| <b>SESSION I - KEYNOTE ADDRESS</b><br>DR. ANJUNA DHIR, DIRECTOR<br>ECOTOURISM SOCIETY OF INDIA  | 4  |
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| <b>PAPER PRESENTATIONS</b>  |    |
| 1. <i>Environment Sustainability in Tourism – Role of a traveler</i><br>Mr. Ratan Kumar Singh   | 17 |
| 2. <i>A Study of Awareness and Penchant for Ecotourism activities<br/>among adolescents</i><br>Dr. Bhavna Dave and Ms. Sanjana Gandhi | 27 |
| 3. <i>Destinatton – Eco-traveller – The roadmaps from being a tourist<br/>to an eco-traveller</i><br>Ms. Suman Ananthanarayan         | 34 |
| 4. <i>Let's join Green Army – Maharashtra</i><br>Dr. Bhavna Dave, Ms. Deepa Vinod, Ms. Radhika Dave                                   | 43 |
| 5. <i>Sustenance of the local sense and the place identity<br/>through education</i><br>Dr. Geeta R. Thakur, Ms. Uma Mishra           | 49 |
| 6. <i>Impact of Eco-tourism: A Literature Review</i><br>Dr. Pratima Pradhan   | 53 |
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|  |            |
|--|------------|
| Activity Based and Chalk Duster (ABCD) Methodology of Teaching<br>and Learning .....                           | 75         |
| <i>Mr. Mukesh Pherwani</i>   |            |
| The Digital Workplace .....  | 80         |
| <i>Dr. Uma A. Bhamhani</i>   |            |
| Cloud Based Integrated Services in Library and Classroom Management .....                                      | 83         |
| <i>Ms. Navneet Sandhu and Ms. Bhagyashri Mhatre</i>  |            |
| Developing Learning Resources Using VSDC and Piktochart<br>to Facilitate Learning.....                         | 93         |
| <i>Mrs. Madhuri Bendal, and Mrs. Sonali Singh</i>  |            |
| Development of Computer Aided Learning Material .....  | 97         |
| <i>Dr. Manisha Verma</i>   |            |
| Technology for Open and Distance Learning – A Case Study of IGNOU .....  | 101        |
| <i>Mr. G. Anbalagan</i>  |            |
| Role of Technology in the 21 <sup>st</sup> Century Classrooms .....  | 107        |
| <i>Dr. Pooja Arora</i>   |            |
| Use of Internet for designing Open Learning Classrooms .....   | 113        |
| <i>Ms. Oitkar Bhagyashree C</i>  |            |
| Integrating Technology in the Classroom: A Virtual and Collaborative<br>Learning Experiences.....              | 119        |
| <i>Dr. Lata Kumari</i>   |            |
| Potentials of Virtual Reality in Education.....  | 124        |
| <i>Ms. Mrunalinee Rameshsingh Thakur</i>   |            |
| <b>Let's make the Augmented Reality the 'REALITY' .....</b>  | <b>128</b> |
| <i>Dr. Geeta R Thakur and Ms. Deepa Bal</i>  |            |
| Role of Government of Enterprise IT for Compliance in Designing<br>Augmented Reality based Curriculum .....    | 138        |
| <i>Mr. Rohit Banerjee</i>  |            |
| A study of the Effectiveness of 5E's Instructional Model on<br>students' Academic Achievement in Science ..... | 147        |
| <i>Mr. Rajendra B. Deshmukh</i>  |            |
| Technology for Open Learning.....  | 154        |
| <i>Ms. Rashi Ahuja, Ms. Janki Arya, Ms. Purnima Shrivastav</i>   |            |

  
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## TABLE OF CONTENT

|   |    |
|---|----|
| PREFACE   | 1  |
| INAUGURAL SESSION   | 2  |
| ABOUT MES   | 3  |
| <b>SESSION I - KEYNOTE ADDRESS</b><br>DR. ANJUNA DHIR, DIRECTOR<br>ECOTOURISM SOCIETY OF INDIA                                    | 4  |
| <b>SESSION II - ECOTOURISM AND PERSONAL GROWTH</b><br>MR. LEON PEREIRA, Ph. D.<br>TRAINER   | 9  |
| <b>PAPER PRESENTATIONS</b>  |    |
| 1. <i>Environment Sustainability in Tourism – Role of a traveler</i><br>Mr. Ratan Kumar Singh                                     | 17 |
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| 3. <i>Destination – Eco-traveller – The roadmaps from being a tourist to an eco-traveller</i><br>Ms. Suman Ananthanarayan         | 34 |
| 4. <i>Let's join Green Army – Maharashtra</i><br>Dr. Bhavna Dave, Ms. Deepa Vinod, Ms. Radhika Dave                               | 43 |
| 5. <i>Sustenance of the local sense and the place identity through education</i><br>Dr. Geeta R. Thakur, Ms. Uma Mishra           | 49 |
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| 7. <i>Sustainable Tourism – Saguna Baug: A Case study</i><br>Ms. Purnima Srivastava   | 65 |
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## TABLE OF CONTENT

|   |    |
|---|----|
| PREFACE   | 1  |
| INAUGURAL SESSION   | 2  |
| ABOUT MES   | 3  |
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New Panvel 410 206

**9<sup>th</sup> & 10<sup>th</sup> April, 2017**

**Sub theme 3: Development of 21st century citizenship**

|  |            |
|--|------------|
| Development of Environmental Consciousness.....  | 159        |
| <i>Dr. Kaluram Nathu Bhise</i>   |            |
| 'Social Media': Concurrent Power to Citizens' Voice.....   | 163        |
| <i>Ms. Ajita Deshmukh,</i>   |            |
| Global Perspectives among Higher Secondary School Students .....   | 169        |
| <i>Dr. Pratima Pradhan</i>   |            |
| <b>A Study of Civic Literacy amongst Different Generations in a Semi-Urban</b>   |            |
| <b>Set-up.....</b>   | <b>180</b> |
| <i>Dr. Bhavna Dave, Ms. Sanjana Gandhi and Mr. Aldrian Augustine</i>   |            |
| Development of 21 <sup>st</sup> Century Citizenship .....  | 185        |
| <i>Dr. Meera Krishnappa</i>  |            |
| Designing the 21 <sup>st</sup> Century Classroom: Development of<br>Environmental Consciousness .....  | 192        |
| <i>Ms. Ranjana Rai</i>   |            |
| Moving forward from Environmental Awareness to<br>Environmental Consciousness .....  | 198        |
| <i>Ms. Teena Johny</i>   |            |
| शालेय जीवनात नागरिकशास्त्राचा अभ्यास करताना बदलत्याकडून स्वतःतील व सभोवतालतील<br>बदलांची नोंद घेणे व त्यानुसार जबाबदार नागरिक घड घड्याचा प्रयत्न करणे - एक उपक्रम..... | 204        |
| <i>श्री. गुणेश डोईफोडे</i>   |            |
| Development of Civic Literacy: Thinking beyond I, Me and Mine .....  | 207        |
| <i>Ms. Smitha Kurup</i>  |            |
| A Study of the Environment Consciousness among the Secondary School<br>Students.....   | 212        |
| <i>Mrs. Bindu S. Tambe, Ms. Priyanka Sreekumar, Ms. Krishna Acharya</i>  |            |
| International Mindedness: Embracing the 'otherness' to understand 'oneness'....  | 220        |
| <i>Mrs. Suman Ananthanarayan</i>   |            |
| Build a 21st century classroom- Where the 3R's meet the 4C's.....  | 225        |
| <i>Dr. Frances Vaidya</i>  |            |

  
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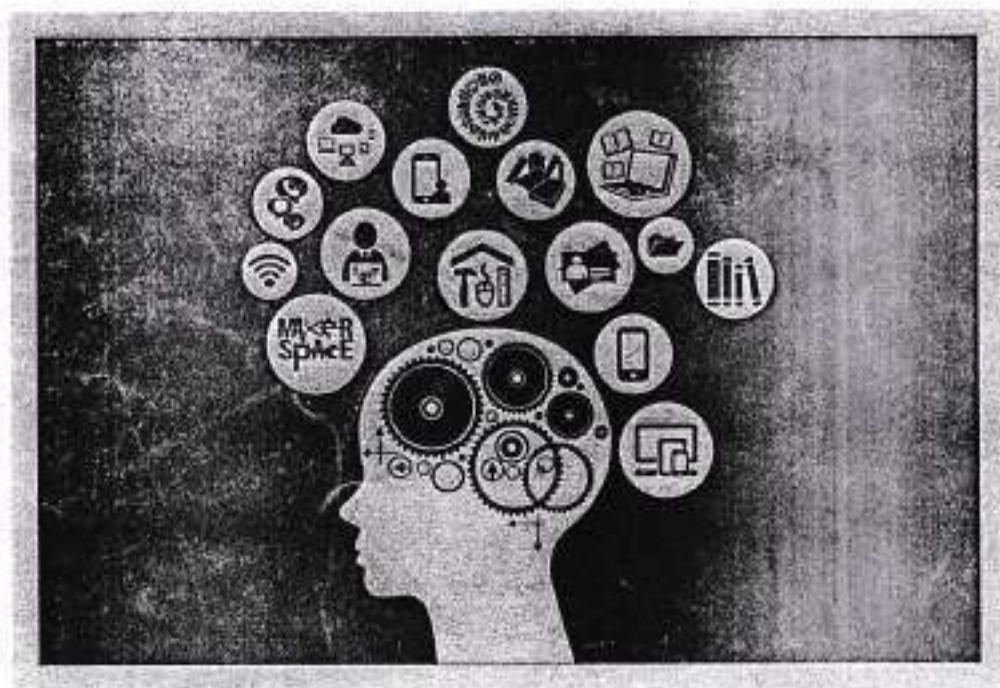




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## INTEGRATING LIBRARY SYSTEM AND SERVICES FOR QUALITY EDUCATION

### PCERP SEMINAR PROCEEDINGS



**13<sup>th</sup> April, 2018**

  
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## CONTENTS

|  |      |
|--|------|
| PREFACE  | Viii |
| Redefining Library System & Services   | 1    |
| <i>Dr. Satish Kanamadi</i>   |      |
| Knowledge Gateway: Open and Educational Resources  | 7    |
| <i>Dr. Satish S. Munnoli</i>   |      |
| Revamping the Libraries, with Re-designing of User-centered Services in the ICT Era                      | 9    |
| <i>Mr. Chetan Sudhakar Sonawane</i>  |      |
| Digital Information Tools Needed for Research Scholars in Social Sciences in India                       | 15   |
| <i>Dr. NCH. Varadaraju</i>   |      |
| Need of Fostering Digital Literacy in Higher Education   | 33   |
| <i>Dr. Sanjay B. Munavalli</i>   |      |
| Knowledge Management and School libraries  | 40   |
| <i>Ms. Neha Ramakant Naik &amp; Mr. Joseph Anthony</i>   |      |
| <b>A Study of Awareness and Attitudes of Teachers of Higher Education towards Open Access Resources.</b> | 46   |
| <i>Dr. Bhavna Dave &amp; Ms. Abhiyanka Iyer</i>  |      |
| Peer Review: Towards the Excellence of Scholarly Communication.  | 56   |
| <i>Dr. Pratima Pradhan</i>   |      |
| Open Access Resources – An Insight   | 64   |
| <i>Ms. Deepa Vinod &amp; Ms. Navneet Sandhu</i>  |      |
| WordPress As A User-Friendly Content Management System   | 72   |
| <i>Dr. Latha Venkataraman</i>  |      |
| Glimpses of Seminar  | 81   |

  
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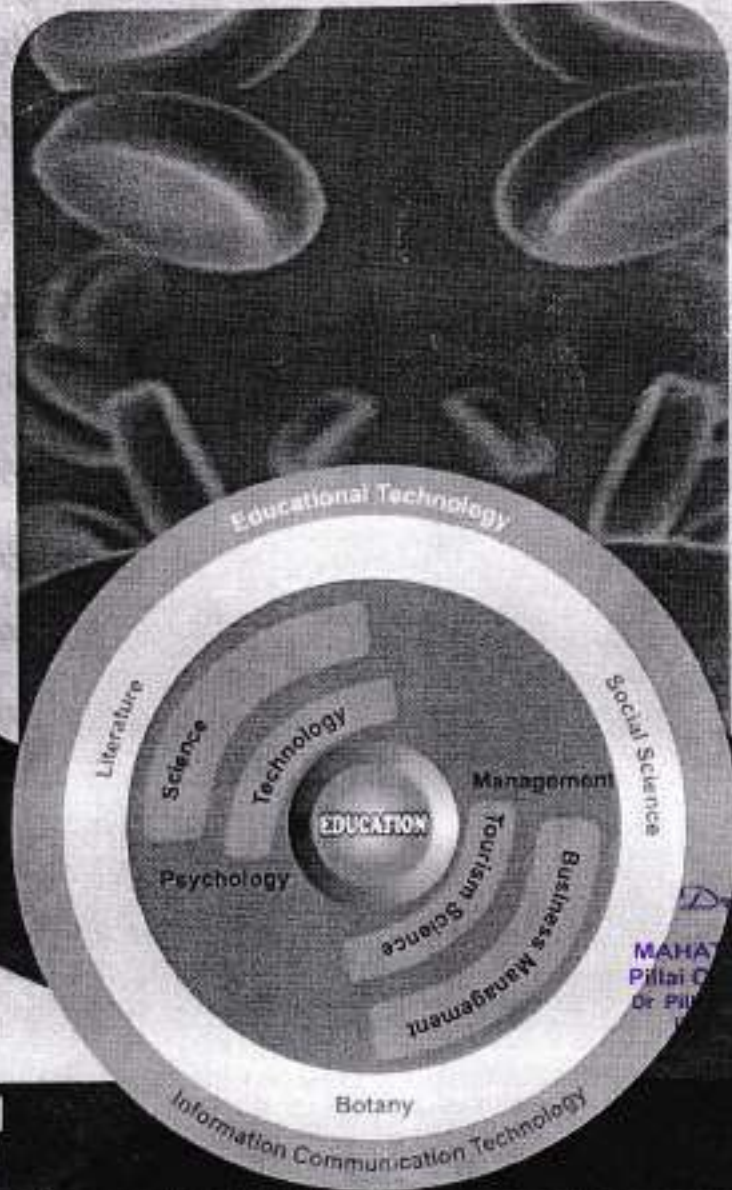
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EDITOR IN CHIEF : YASHPAL D. NETRAGAONKAR, Ph.D.

|    |   |                |
|----|---|----------------|
| 53 | EFFECT ON GROWTH OF PLANTS UNDER "PHYTORID TECHNOLOGY BASED" TREATED WATER AT EDUCATION INSTITUTE: R.D. NATIONAL COLLEGE<br><i>Dr. Mona Kejariwal, Abhishek Tiwari, Sumil Sahani, Abrar Momaya, Kushbu Chouhan &amp; Hetavi Modha</i> | 316-327        |
| 54 | A COMPARATIVE STUDY TO INVESTIGATE THE LIFE SKILLS AMONG THE SECONDARY STUDENTS' OF URBAN SCHOOLS AND RURAL SCHOOLS<br><i>Asst.Prof. Ms. Sheetal Kadam</i>  | 328-335        |
| 55 | A STUDY OF CONFLICT RESOLUTION ABILITY OF DEGREE COLLEGE STUDENTS<br><i>Dr. Pratima Pradhan</i>   | 336-341        |
| 56 | <b>CORRELATIONAL STUDY OF ECOLOGICAL FOOTPRINT OF STUDENT TEACHERS WITH THEIR EMOTIONAL QUOTIENT</b><br><i>Ms. Geeta S. Thakur</i>  | <b>342-346</b> |
| 57 | 'THE META-STUDIO' -A META-MODELLING APPROACH TO DEVELOP METACOGNITION<br><i>Dr. Mary George Varghese</i>  | 347-350        |
| 58 | REVISITING TEACHING LEARNING IN CLASSROOMS: PATHWAYS TO DEVELOPING REFLECTIVE THINKING<br><i>Ms Vinita Desai &amp; Dr. Karuna Gupta</i>   | 351-357        |
| 59 | TEACHER EDUCATION FOR PEACE -A case Study<br><i>Dr. Judy Grace Andrews</i>  | 358-364        |
| 60 | CHANGING CONTEXTS IN TEACHER EDUCATION: ICT AS A PEDAGOGICAL TOOL FOR PROFESSIONAL DEVELOPMENT AND ACADEMIC SUPPORT OF PRE-SERVICE AND IN-SERVICE TEACHERS<br><i>Dr. Vidhya Satish</i>  | 365-371        |
| 61 | STATE OF MINDFULNESS OF UNDERGRADUATE ENGINEERING STUDENTS- A PERSPECTIVE STUDY<br><i>Dr. Sheela Philip</i>   | 372-384        |
| 62 | OVERUSE OF SMART PHONES BY ADOLESCENTS - AN ACTION RESEARCH<br><i>Dr. Mary Devakumar</i>  | 385-395        |
| 63 | A STUDY OF PROBLEM OF DISABLED STUDENTS IN INCLUSIVE EDUCATION USING INFORMATION TECHNOLOGY AT SECONDARY LEVEL IN PUNE DISTRICT<br><i>Mr. Ilhe Tushar Damodhar &amp; Dr. Vaibhav Jadhav</i>   | 396-400        |
| 64 | SOCIAL SKILLS ASSESSMENT FOR F.Y.B.A. STUDENTS<br><i>Prof. Hasina Shaikh &amp; Dr. Gargee Mitra</i>   | 401-406        |

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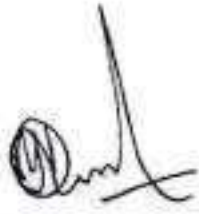
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## ECOLOGICAL FOOTPRINT AND SPIRITUAL INTELLIGENCE: A CORRELATIONAL STUDY

Ms. Geeta S. Thakur

Asst. Prof., MES' Pillai College of Education and Research, New Panvel

### Abstract

*"Ecology and spirituality are fundamentally connected because deep ecological awareness, ultimately, is spiritual awareness." -Fritjof Capra*

*Life is essentially a relationship between living organism and its environment; an environment which provides us with all our needs. It is this underlying principle that exists behind the need to conserve and preserve our natural environment, since the very existence of mankind depends on it. The present study was aimed at establishing relationship of ecological footprint of the student teachers with their emotional quotient. Descriptive correlational research method was used to ascertain this relationship between the variables and the extent to which they were related. The sample for the present study comprised of student teachers pursuing Diploma in elementary education from colleges affiliated to Maharashtra State Council of Examination and Bachelor of Education and Master of Education degree from the colleges affiliated to the University of Mumbai. The sample size for the study was 1465 student teachers. The tool employed the studying the ecological footprint was constructed with the help of inputs from "Personal Eco-Footprint Calculator" given by Tim Turner in his paper 'How big is my Ecological footprint' and Global Footprint Network. Changes were made to suit the requirement of the study. Spiritual quotient was studied using 'The Spiritual Intelligence Self-Report Inventory or the SISRI-24' tool constructed by Dr. David B. King (2008). The data obtained was subjected to statistical analysis and correlation between the two variables was established using the 'Pearson's Product-Moment coefficient of correlation'. A negative linear correlation was found between the ecological footprint of student teachers with their spiritual quotient with respect to gender and location of college.*

**Keywords:** *Spiritual quotient (SQ) and Ecological footprint (EF)*



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### Introduction:

<sup>1</sup>As per the Global Ecological Footprint data, humanity is using resources and producing CO<sub>2</sub> emissions at a rate of 60 percent higher than what nature can regenerate and reabsorb. This gap has resulted in the deterioration of the natural environment on which all the species depend upon for their survival. Nature has a natural capacity to get back to its original form gradually over a period of time, however the vigorous activities of mankind has overpowered and interfered with this natural activity of nature. Natural calamities have

<sup>2</sup>[http://www.footprintnetwork.org/en/index.php/GFN/page/the\\_footprint\\_and\\_biodiversity/](http://www.footprintnetwork.org/en/index.php/GFN/page/the_footprint_and_biodiversity/)

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# Contents

1. Ecological Footprint With Emotional Quotient and Spiritual Quotient : A Correlational Study  
*Geeta S. Thakur* 1
2. Extent and Reasons of Out-migration in Assam  
*Jugal Kumar Deka* 8
3. Farm Sector Transformations in the Un-divided Goalpara from 1874 to 1947 and the role of the Agricultural immigrants  
*Mohibul Hoque* 17
4. Transgender in India : Through the Ages, an overview  
*Priyamboda Mishra* 25
5. A Study on Growth of Rice Sector in Assam  
*Sibani Deka* 30
6. Analysis of Environmental Culture in and around the Kaziranga National Park  
*Juri Goswami* 40
7. Removal of Sand From River Bed and Its Impact on Man and Environment With Special Reference to Dudhnoi River (A case study on Shantinagar, Damra Patpara & Matia Garopara village)  
*Samar Medhi* 50
8. Libraries going Green  
*Pallabi Devi* 63
9. Portrayal of Women Characters in Greek Tragedies With Special Reference to Sophocles' ANTIGONE  
*Kakoli Kashyap* 69
10. Cyclic rites Among the Bodo People of Guwahati City  
*Nayanjyoti Goswami* 73
11. Circulation Module of Koha & SOUL2.0 : a comparative study  
*Saurav Jyoti Laskar* 75
12. Linguistic area of North East India  
*Rumi Saikia* 82
13. The impact of Social Environment in Mulk Raj Anand's Selected Novels : A Study  
*Mouchumi Borgohain* 88
14. A case study of education in Darrang district, with reference to inclusive education : Related attributes and the challenges within  
*Dhrupad Kashyap*





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Volume 07

Number 01

January- June 2018

---

**CONTENTS**

---

Page

- |    |  |    |  |
|----|--|----|--|
| 1. | Editorial  |    |  |
| 2. | A Study of the Awareness of National Policy of Empowerment of Women among Undergraduate Students<br><i>Ms. Kanchan Khanna and Dr. Sally Enos</i>   | 01 |  |
| 3. | Impact of the English Reading Programme on English as Second Language Learners (ELLs) Using Virtual Classroom Platform in Government Schools<br><i>Ms. Sonakshi Agarwal and Ms. Purvi Vora</i> | 16 |  |
| 4. | <b>Transformation of Learner Strategies: Then and Now</b><br><i>Mrs. Bindu S. Tambe</i>  | 28 |  |
| 5. | A Study of the Impact of Documentary Videos on the Awareness and Attitude of Secondary School Students towards Geography Subject<br><i>Mrs. Sandeep Kaur Bajwa and Dr. Bhavna Dave</i>         | 42 |  |
| 6. | A Study of the Interpersonal Skills among Std. XI Students of Different Boards<br><i>Ms. Khyati Raja</i>   | 52 |  |
| 7. | Book Review- Evolving with Dr. Subramanian Swamy, a roller coaster ride<br><i>Ms. Jayabala Girish</i>  | 64 |  |



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Sub theme 3: Development of 21st century citizenship

|   |            |
|---|------------|
| Development of Environmental Consciousness.....   | 159        |
| <i>Dr. Kaluram Nathu Bhise</i>  |            |
| 'Social Media': Concurrent Power to Citizens' Voice.....  | 163        |
| <i>Ms. Ajita Deshmukh,</i>  |            |
| Global Perspectives among Higher Secondary School Students .....  | 169        |
| <i>Dr. Pratima Pradhan</i>  |            |
| A Study of Civic Literacy amongst Different Generations in a Semi-Urban<br>Set-up.....  | 180        |
| <i>Dr. Bhavna Dave, Ms. Sanjana Gandhi and Mr. Aldrian Augustine</i>  |            |
| Development of 21 <sup>st</sup> Century Citizenship .....   | 185        |
| <i>Dr. Meera Krishnappa</i>   |            |
| Designing the 21 <sup>st</sup> Century Classroom: Development of<br>Environmental Consciousness .....   | 192        |
| <i>Ms. Ranjana Rai</i>  |            |
| Moving forward from Environmental Awareness to<br>Environmental Consciousness .....   | 198        |
| <i>Ms. Teena Johny</i>  |            |
| शास्त्रेय जीवनात नागरिकशास्त्राचा अभ्यास करतांना वद्यार्थ्यांकडून स्वतःतील व सभोवतालतील<br>बदलांची नोंद घेणे व त्यानुसार जबाबदार नागरिक घडवण्याचा प्रयत्न करणे – एक उपक्रम..... | 204        |
| <i>श्री. गुणेश डोईफोडे</i>  |            |
| Development of Civic Literacy: Thinking beyond I, Me and Mine .....   | 207        |
| <i>Ms. Smitha Kurup</i>   |            |
| <b>A Study of the Environment Consciousness among the Secondary School<br/>Students.....</b>  | <b>212</b> |
| <i>Mrs. Bindu S. Tambe, Ms. Priyanka Sreekumar, Ms. Krishna Acharya</i>   |            |
| International Mindedness: Embracing the 'otherness' to understand 'oneness'....   | 220        |
| <i>Mrs. Suman Ananthanarayan</i>  |            |
| Build a 21st century classroom- Where the 3R's meet the 4C's.....   | 225        |
| <i>Dr. Frances Vaidya</i>   |            |

  
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