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International conference

ON

Emerging Trends and Innovations in Social Sciences, Engineering, Management, Agriculture & Medical Sciences

(SEMAM – 2K19)

Organized by

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Jointly with

Globally Multidisciplinary Research and Education Association (GMREA)

26th April, 2019

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*E*minent academicians and educationalists providing fine education and an illustrious evolution with the changing times are the two pillars on which Universal Group of Instituions stand upon since being established in 2009. In this ever changing world, dynamicity of minds holds the most importance to habituate oneself. The Joint International Conference on **Emerging Trends and Innovation** with Globally Multidisciplinary Research and Education Association (GMREA) is a fine opportunity. The conference will not only succour the Researchers but all who strive to make a change be it experts of various fields, policy makers, stakeholders or students. To redesign, we need determination and zeal to learn and listen to fresh point of views, to grasp and to achieve. To give you an opportunity to hark to new ideas and trends is what we aim to achieve through this conference being held on an international level providing exposure to varied ideas that exist in the world. To embark upon it and understand distinguished techniques lies in your hand. With an interactive interface, we allow you to learn from different countries, universities on your own terms. We open the gates to a new culture, the one which is cohernt to ideas never heard of, theories never read of and allow you to seize the day by presenting your own work, getting feedback and take you one step forward towards your goal for this conference will help you in beind part of the circle, be known and explored. We all have experiences, we all have views. All we need is a pull from our bubble, a platform to project what we think and this conference stands as a pedestal to showcase your research. The Universal Group of Instituituons aims to share knowledge, illustrate the field of Multidisciplinary Research directed for academicians, researchers and scholars working in any aspect and adduce them to a world unexplored. These proceedings, I trust, will be an impetus to stimulate further study and research in all these arias.

We thank authors and participants for their contributions.

Your's Sincerely

Dr. Gurpreet Singh
Chairman
UGI

Dr. Virender Kaur
Director Academics

It’s with deep satisfaction i write this foreword to the proceedings of International Conference on Emerging Trends and Innovations in Social Sciences, Enginnering, Management, and Agriculture & Medical Sciences held on 26-4-19 in Universal Group of Institutions in collaboration with Globally Multidisciplinary Research and Education Association (GMREA).The dedicated preparation led to a successful conference with broad participation. The papers contained in these Proceedings cover a wide range of topics. The authors have provided state-of-the-art contributions, and this volume could not be produced without their commitment to explore the emerging trends and innovations in higher studies. It also aims to encourage the advancement and exchange of knowledge and experience in the areas of various disciplines among academics, professionals and students.

We thank the key-note speakers of the penalaries, members of editorial board and committees for their cooperation in this conference in different ways.

Dr. Virender Kaur
Director Academics
Universal Group of Institutions

Dr. Kompal Wadhawan
Principal
Universal College of Education

*L*earning is not attained by chance; it must be sought for with ardour and attended to with diligence. To learn one must be determined to step out in the world full of unexplored fields and unchartered territories. It's only then one witness's augmentation widening their horizon. International Conference on Emerging Trends and Innovations in Social Sciences, Engineering, Management, Agriculture and Medical Sciences (SEMAM2K19) held in Universal Group of Institutions on 26th April 2019is a stride in the direction of development and advancement. We are very pleased to introduce the proceedings of the International conference with a hope that these proceedings will provide you with an extensive documentation of the original articles of archival value covering research and development topics, which span all areas of Emerging and Innovative Trends in higher education. In addition to new advances in traditional and more established areas of Teacher Education, we seek to include unfathomed findings on emerging and interdisciplinary issues giving all achievers amongst us an opportunity to master their grasp on everything that the world allows us to learn. The Journal is designed to ameliorate the emerging trends of area of study and pave a road for innovative methods and ideologies fabricating the Teacher's Education in a unique demeanour encouraging researchers and authors to submit fundamental and practical aspects together. Through a careful selection of manuscripts, our utmost goal is to adduce and acquaint everyone with all the issues related to theme, sub-themes and contemporary issues under one blanket in the finest way possible.

A venture can never be successful without guidance, persistence, expertise and cognition. Similarly, a proceeding cannot transcend to the top without having an outstanding and enlightening group of Associate Editors and Advisory Board members. I would like to take this opportunity to thank Dr Gurpreet Singh, Chairman, Universal Group of institutions, Dr. Verinder Kaur, Director Academics, UGI and Dr. Manju Dhingra President, GMREA. I am forever indebted to the whole organising committee for their devoted, zealous and professional work of countless hours. They form a truly remarkable group of colleagues, the best in their fields as prolific writers and exemplary teachers. I feel honoured to be a part of this journey which is a joint effort of all eminent teacher educators, authors and researchers for no one can whistle a symphony, it takes a whole orchestra to play it.

Dr. Kompal Wadhawan
Principal
Universal College of Education

PROMOTING RESEARCH FOR SOCIETY

Dr. Manju Dhingra
President, GMREA

Being the **President** of **GLOBALLY MULTIDISCIPLINARY RESEARCH AND EDUCATION ASSOCIATION (GMREA)**. I would like to thank **Dr. Gurpreet Singh**, Chairman, Universal Group of Institutions, **Dr. Verinder Kaur**, Director Academics, UGI, **Dr.Kompal Wadhawan**, Principal, Universal College of Education, the members of organizing committee and editorial board for their constant support. I feel honored and privileged to serve the best recent developments in the areas of multidisciplinary research through this exciting program.

International conference on **Emerging Trends and Innovation in Social Sciences Engineering, Management, Agriculture and Medical Sciences (SEMAM 2k19)** organized by Universal Group of Institutions jointly with Globally Multidisciplinary Research and Education Association (GMREA) is an excellent and inspiring platform for the Researchers and Academicians to explore their research and then to bring together their ideas collectively in the form of the proceedings.

The conference represents the efforts of many people. We further thank the invited key-note speakers for sharing their insights with us. Finally the conference wouldn't be without the excellent papers contributed by authors. We thank all the authors for their contribution and participation in SEMAM 2K19.We hope this program will further stimulate the research and GMREA will always strive for opening the best of publishing opportunities.

Dr.Manju Dhingra
President
Globally Multidisciplinary Research and Education Association (GMREA)
www.gmrea.co.in

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Research Papers

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ETHNOGRAPHY RESEARCH: AN OVERVIEW

Prof. Hemant Lata Sharma[1] and Chiranjit Sarkar[2]
Professor[1] and Research Scholar[2], Department of Education, Maharshi Dayanand University, Rohtak

ABSTRACT

The one of the major approaches of the Qualitative Research is Ethnography, sometimes known as Cultural Anthropology or sometimes called as Naturalistic Enquiry. Its disciplinary origin is Anthropology. Ethnography deals with the discovery and description of culture of a group or group of individual. As the concept of culture is the central theme of Ethnography Research; that's why the question raised from this point of view is that what the Cultural characteristics of a group of individuals are? Here Culture means the system of norms and standards that a society develops over the courses of many generations. Ethnography research helps to search very complicated or complex deign challenges. A tremendous and effective researcher is needed when he or she is viewing or observing or interacting with target population in their real-life situation. Ethnography Research is a one of the most important qualitative research where researcher observe or interact with the target population and researcher plays an important role to obtain useful cultural information that's why Ethnography research is known as cultural ethnography or cultural anthropology. This kind of research is a part of social science research. We know there are several forms of Ethnography research. As for example, confessional Ethnography research, life history Ethnography research, feminist Ethnography research, realist Ethnography research, critical Ethnography research etc. Out of the several form of Ethnography research, the two most common and popular form of Ethnography research are "Realist Ethnography Research" and "Critical Ethnography Research". The "Realist EthnographyResearch" is sometimes known as traditional Ethnography research whereas the critical Ethnography research is concerned with those group or group of individuals who are marginalized in society. The toughest activity of Ethnography research is the researcher should play as a member of the target population and spent several months even if several years with target population or group. Therefore, Ethnography research not only a qualitative research but also it is a longitudinal research.

INTRODUCTION

The one of the best major approaches of Qualitative Research is Ethnography, sometimes known as Cultural Anthropology or sometimes called as Naturalistic Enquiry. Its disciplinary origin is Anthropology. Ethnography deals with the discovery and description of culture of a group. As the concept of culture is the central theme of Ethnography Research. That's why the question raised from this point of view is that what the Cultural characteristics of a group of individuals are? Here, Culture means the system of norms and standards that a society develops over the courses of many generations. Culture is as people do, a combination of various types of knowledge, believe, custom, art, moral ,laws, habit, attitude of mind, the pattern of human activity, literature, language, religion, religious activity, transmitted from person to person, transmitted from generation to generation, consist of everything we think, consist of all efforts and adjustment, gratifying quality, continuous process, accumulative, inter connected with each other, changing and dynamic, vary from one society to other society etc. That's why culture and society are one and same. Ethnography research helps to search very complicated or complex deign challenges. A tremendous and effective researcher is needed when he or she is viewing or observing or interacting with target population in their real-life situation. Ethnography Research is a one of the most important qualitative research where researcher observe or interact with the target population and researcher plays an important role to obtain useful cultural information that's why Ethnography research is known as cultural ethnography or cultural anthropology. This kind of research is a part of social science research. We know there are several forms of Ethnography research. As for example confessional Ethnography research, life history Ethnography research, feminist Ethnography research, realist Ethnography research, critical Ethnography research etc. Out of the several form of Ethnography research, the two most common and popular form of Ethnography research are "Realist Ethnography Research" and "Critical Ethnography Research". The "Realist Ethnography Research" is sometimes known as traditional Ethnography research whereas the "Critical Ethnography Research" is concerned with those group or group of individuals who are marginalized in society. The toughest activity of Ethnography research is the researcher should play as a member of the target population and spent several months' even if several years with target population or group. Therefore, Ethnography research not only a qualitative research but also it is a longitudinal research. Ethnography research is usually a systematic research or study of the group and their culture. The characteristics of Ethnography research are to explain the "cultural phenomena" where the ethnographic researcher accurately observes the society from the viewpoint of the subject. Its aim is to observe a situation which is unique, which is original, and which is natural. The names of some eminent contributor of Ethnography research are E. B. Tylor, Lewis H. Morgan, Franz Boas, Bronislaw Malinowski, Ruth Benedict and Margaret Mead etc.

FORMS OF THE ETHNOGRAPHY RESEARCH

There are several forms of Ethnography research. As for example confessional Ethnography research, life history Ethnography research, feminist Ethnography research, realist Ethnography research, critical Ethnography research and so one. Out of the several forms of Ethnography research, the two most common and popular form of Ethnography research are-

I. Realist Ethnography Research

II. Critical Ethnography Research.

I. The Realist Ethnography research is sometimes known as traditional Ethnography research. It is used by cultural anthropologist. It is designed by Van Maamen. The main consideration of this type of research is individual out of the group that’s why this kind of research is known as objective cum traditional cultural Ethnography study.

II. Whereas the Critical Ethnography research is concerned with those group or group of individuals who are marginalized in society. On the other side critical Ethnography researcher is critical cum political because he takes a stand of opposition to disadvantage section of our society with special reference to schedule cast and schedule tribe. We know very well that according to national policy on education 1986 the schedule cast and schedule tribe section are considered as one of the chief disadvantage section in India. As the name suggests critical Ethnography research the researcher faces lots of critical situation when researcher interacts with tribe and tribal community and obtained useful information. Here researcher should have versatility of intellect to formulate inductive hypothesis. It means inductive hypothesis is considering making a relationship between observed situation and real situation. During the research the researcher can modify or alter inductive hypothesis according to the situation or according to the researcher’s opinion. The toughest activity of Ethnography research is the researcher should play as a member of the target population and spent several months even if several years with target population or group. Therefore, Ethnography research is not only a qualitative research but also it is a longitudinal research.

CHARACTERISTICS OF THE ETHNOGRAPHY RESEARCH

There are several characteristics of the Ethnography Research out of which some important characteristics are described below-

I. Ethnography researcher or ethnographer generally spent year or more in order to study about cultural aspect of a group or a society.

II. The Ethnography research is considered as popular because it is a “fully immersive live and work approach”.

III. We often argue that if “immersive live and work” Ethnography research is held on require within the field of “User-Centered Design” (UCD) or “User Driven Development” (UDD) in which researcher is given “intensive attention” at each stage of the design process.

IV. Short Ethnography research may be helpful for ‘user centered design project’.

V. Ethnography research involves with individual method which are descriptive survey, interview, interaction, observation specially participant observation.

VI. It relates intensive and extensive data collection technique on many observable variables over a long period of time in a Naturalistic situation. The observable variables are naturally occurs and studied where they naturally occur and as they occur without any control of the Researcher on the environmental and experimental conditions.

VII. Ethnography study uses Participant Observation as the **Primary Data** collection technique along with the Interviews with the members of Group or community. Here Participant Observation may extend form one month to a year depending upon the nature of problem.

VIII. **The Emic perspective-** The Emic perspective means that Ethnography Researchers focuses how the members of the culture under study perceive their culture.

IX. **The Etic perspective-** The Etic perspective means that the Ethnographer approaches some outsides so as to know how they perceive, and analysis various behaviors or phenomena related with the culture under study.

X. **The symbols-** The Symbols refer to any material such as Art, Architecture,Technology, Clothing etc. the Ethnography Researcher uses these symbols in understanding Cultural behavior.

XI. **Tacit knowledge-** It is connected with the deep and hidden information about Cultural benefits and assumptions. But this knowledge is never formally and informally discussed with the informants; the Researcher infers this information and uses it individually.

XII. **The Hypothesis-** Hypothesis in Ethnography Research emerge from qualitative data in the hands of the Researcher. They are not formulated before. If the Hypothesis emerges during the data collection, they are dropped at any stage of the study and new hypotheses are framed.

XIII. **Action and Interaction within the Organization-** In Ethnography studies the researcher uses nature, action and interactions of the member of origination in the collection and analysis of the data based on observations.

STEPS OF THE ETHNOGRAPHY RESEARCH

I. The review of related literature helps the researcher to define the problem because selection or identification of a problem is the first step of a research.

II. After reviewing the related literature Researcher has chosen a broad field which he will conduct the study. For example, Art and Culture of “Santhal” Tribes in the State of West Bengal.

III. After selecting the broad area the researcher should narrow it down to a highly specific research problem. For example, the researcher should select a specific district like Bankura District in West Bengal.

IV. Formulation of a hypothesis on the basis of the objective of the research is another crucial step to conduct Ethnography research. It may be noted that Ethnography research is a purely qualitative research that’s why the researcher constitute “inductive” hypothesis which may vary or modify according to the circumstances or need for environment/situation.

V. After that one of the important step is to select population. Population refers to any collection of specified groups. It is always properly defined. Here researcher’s population is a block of the district of the West Bengal.

I. After selecting a population and listing all the units the researcher makes a sample frame out of the population and properties of the population. Here sample frame will be the specific Block of Bankura District of the state of west Bengal.

II. Now the researcher observes and interacts with the sample from the sampling frame. Here sample will be the “Santhal Tribal Members” of the Specific Block of Bankura District of the State of West Bengal.

III. Here researcher uses generally participant observation to collect unique data (cultural aspects of the “Santhal” Tribe) from the sample frame.

IV. Here the researcher uses unique tools and techniques for conducting Ethnography Research. For example, Interview, Open Ended Questionnaire, Opinionnaire, Audio tape, Video tape, Schedule, Rating Scale etc.

V. After that the researcher wants to analyze data.

VI. Interpretation and generalization.

VII. Conclusion and findings.

METHOD & PROCEDURE OF THE ETHNOGRAPHY RESEARCH

Observation by the researcher is to the target audiences in their real-life environment. The data (mainly descriptive in nature or verbal or symbolic materials) obtained through intensive observation or open- ended interaction or unstructured interview or questionnaires or opinionnaires. Generally, Ethnography research involves with qualitative data which are detailed, dense descriptions, inquires in depth etc. such data are based on inductive approach. Intensive observation helps to get ‘first-hand information’ to the Ethnography researcher about some cultural events in-depth and detailed manner. Data obtained through intensive and participant observation generally include-

I. Detailed and immersive description.

II. Develop empathic understanding.

III. Open and flexible.

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IV. it refers to the extensive field work where gathering of data is obtain through open ended interaction, direct interview, symbols and coadding, participant observation etc.

After that the Ethnography researcher assumes that all cases like people of the community or group of individuals under study are special and unique character and research uses Purposeful Sampling method in which all samples are selected purposefully. This type of research is mainly information rich and illuminative.

Next step will be Data analysis procedures which involve cultural aspect, cultural behaviour and meaning of human activity. This research mainly confined to verbal expression but its required then statistical test and numerical aptitude play a secondary role. Data gathering, data analysis and data interpretation play an important role in the study of Ethnography research. Ethnography research locates to describing the culture of a group or group of individuals in very intensive detailed and complex manner. The Ethnography researcher observes mental activities, knowledge, reading, custom, marriage, clothing, fooding and other cultural activities. These cultural aspects are express to the researcher in their real-life situation. In Ethnography research the researcher wants to gather available information, normal and abnormal information, what they say and how they work. Cultural ethnographer or ethnographer today gets a high value on doing Ethnography study.

NATURE OF DATA INVOLVE AND TOOLS & TECHNIQUES USED IN ETHNOGRAPHY

The data analysis approach used in an Ethnography study aims at Holistic Description of the Cultural characteristics of a group of people. Observation is the main technique used to gather information in respect of Cultural features such as Language, Marriage, Family life, Child Rearing Practice, Social Relation, Rule of Conduct, Religious Beliefs and practices in these studies. Ethnography research generally deals with empirical data on a group of individual and their culture. It is an important branch of social science as well as humanities. This kind of research generally require a ‘long term commitment’ that is the researcher eagers to interact with people over an extended period of time. The extended period of time may vary from several week through a year or more. “Multiple methods of data collection” may be involve to give a healthy relationship which allow more personal and intensive information about the group or community. Ethnography research can include observation specially participant observation, field description, open ended questionnaire, interview and descriptive survey. Kinship chart are commonly used to “discover logical pattern and social structure in non-western society.” Ethnography research rely on bottom up approach or top down approach, researcher’s experience, participation and interaction with the process to investigate the cultural phenomena.

SOME TOPICS IN EDUCATIONAL RESEARCH ASSOCIATED TO ETHNOGRAPHY RESEARCH

Ethnography research is not only comprehensive today but also in the early stages it may be known as “user centered design project”. This is because Ethnography research highly focuses to develop and understanding of the (“design process”). Therefore, this type of research deals with cultural studies at the staring of a project in order to support “future design decision”. For example: In the educational contexts, Ethnography studies have been used in the USA to investigate such problems as: student leadership roles in urban racial dominated high school, pupil-teacher relationships in suburban high school, social relationships in a class of emotionally disturbed children, etc. students on the changes in attitudes and behavior in drug abuse rehabilitation centers; social class structure in inclusive schools; staff-parent interactions in non-formal education center; differences in physical processes of adolescent growth between tribal and non-tribal girls; student culture in an IIT; bilingual programmed in a CBSE school, etc. using Ethnography methodology could be undertaken in the Indian context.

MERITS OF THE ETHNOGRAPHY RESEARCH

The merits of the Ethnography research are as below-

I. One of the chief advantages involve with Ethnography Research is that it can help ***to identify*** and ***analyze*** unexpected issues.

II. An Ethnography Researcher must have mental dispositions to develop a theoretical and coding study at a high risk.

III. Detailed and thic description, naturalistic inquiry, primary data collection technique, external and internal criticism, in depth data collection technique, objective pole on intentionality, subjective pole on intentionality, participant observation, theory development rather than theory testing, describe cultural phenomena in a naturalistic inquiry etc involve and inter related as well as interdependent to the study of Ethnography research.

IV. According to Best and khan (2002, pp197) the strength of Ethnography Research lies in the observation of Natural behavior in a Real- life settings, free from the constrains of more conventional Research procedure.

V. Ethnography research depends upon researcher experience as compared to the other research can do so.

VI. Thinking, feeling, sensation, perception and intuition, understanding, analysis, organization, comparison, classification, verification and generalization involves with Ethnography research.

VII. The subject matter of ethnography especially critical Ethnography research is the tribal community and primitive tribe who are marginalized from our elite social civilization.

Demerits of Ethnography Research

The demerits or limitations of the Ethnography Research are as below-

I. One of the main limitations or criticisms leveled at Ethnography research istime taking.

II. Ethnography research is highly subjective.

III. Deep, scholar and expert researcher is needed to conduct the Ethnography study.

IV. Sensitivity that is sense of the researcher is required to explore the Ethnography research.

V. Long time field investment is required for Ethnography research. Sometimes it may not be possible.

VI. Not only the Ethnography research is time consuming but also it involves high cost.

VII. As this type of research is highly subjective that's why subjective biasness may be involve in conductive Ethnography research.

VIII. It involves descriptive approach it means it rely on "story telling" and critical incident.

IX. Less involve with cause and effect relationship.

X. Less involves with formulation and testing hypothesis.

CONCLUSION

From the above analysis and description Ethnography research is a qualitative research. It involves high quality research design. Its main objective is to describe cultural phenomena at the accurate and standard procedure. Its central theme is to group or tribal group or community and their culture. But on the other hand, Ethnography research may be less reliable because it is very tough to generalize the fact. It is less replicable and its design is not only complex but also critical.

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BENEFITS OF LIFE SKILL EDUCATION FOR ADOLESCENTS AT SENIOR SECONDARY SCHOOL LEVEL

Dr. Shalini Devi
Assistant Professor, Dr. Ganesh Dass, D. A. V College of Education for Women, Karnal

ABSTRACT

Adolescence is a period when the intellectual, physical, social, emotional and all the capabilities are high, but most of the adolescents are unable to utilize their potential to maximum due to various reasons. They face many problems like global warming, famines, poverty, population explosion as well as other issues like alcoholism, drug abuse, sexual abuse, smoking, juvenile delinquency, anti-social acts, etc. that have ill effect on them. Life-skills Education and its influence on the lives of students is the most concerned areas of education today. CBSE has included Life Skills as one of the assessment areas in its new CCE system also. This area of Life Skill is becoming very popular in the field of social, psychological and educational researches also. The new challenge requires immediate and effective responses from a socially responsible system of education. 'Education' is important, but education to support and live life better is more important. It has been felt that life skills education bridges the gap between basic functioning and capabilities. It strengthens the ability of an individual to meet the needs and demands of the present society and helps in dealing with the above issues in a manner to get desired behavior. Imparting life skill training through inculcating life skill education will help youth to overcome such difficulties in life. The present paper focuses on the importance of life skills education and the benefits of imparting life skill education.

Keywords: Life Skills Education; Adolescent; Challenges

Life Skills are psychosocial abilities that enable individuals to translate knowledge, attitudes and values regarding their concerns into well informed and healthy behaviors. Empowered with such skills, young people are able to take decisions based on a logical process of "what to do, how to do, why to do and when to do". The term 'Life Skills' refers to the skills usually associated with managing and living a better quality of life, they help us to achieve our ambitions and live to our full potential. There is no definite list of Life Skills; certain skills may be more or less relevant to you depending on your life circumstances, your culture, beliefs, age, geographic location etc. Perhaps the most important Life Skill is the ability to learn. By learning Life Skills, students got benefitted to know about the world around them. Life skills are not always taught directly but often learned indirectly through experiences and practices.

UNICEF and WHO agree that life skills are generally applied in various aspects of our life. Such as in the social and health events like human relationships, learning about social influences on behavior and learning about rights and responsibilities, as well as being taught in the context of health problems. Life skills enable persons to transform attitudes, acquaintance and principles into actual capability i.e. how to do and what to do it. Life skills are abilities that enable individuals to behave in a healthy way, given the motivation to do so.

The International Bureau of Education (IBE) derives its understanding from the Delor's four pillars of learning – learning to do, learning to know, learning to be and learning to live together and defines Life Skills as personal management and social skills which are necessary for adequate functioning on an independent basis.

World Health Organisation defines Life Skills as "the abilities for adaptive and positive behavior that enable the individuals to deal effectively with the demands and challenges of everyday life".

Here 'adaptive' means that a person is flexible in approach and is able to adjust in different circumstances and 'positive behavior' implies that a person is forward looking and even in challenging situations, can find a ray of hope.

UNICFF has defined life skills as psychosocial and interpersonal skills and generally considered important. The choice of, and emphasis on different skills will vary according to the topic, for example decision making may feature strongly in HIV/AIDS prevention whereas conflict management may be more prominent in a peace education program.

According to **UNICEF,** it is ultimately the interrelations between the skills that produce powerful behavioral outcomes, especially where this approach is supported by other strategies such as media, policies and health services.

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Described in this way skills that can be said to be life skills are uncountable and the nature and definitions of the life skills are likely to differ across culture and settings. However analysis of the life skills field suggests that there is a core set of skills based initiatives for the promotion of the health and well-being of children and adolescents. UNICEF advances the understanding that the life abilities approach can be effective, if the accompanying is attempted together:

THE SKILLS

These include gathering of psychosocial and interpersonal abilities which are interlinked with each other. For instance, leadership is probably going to include good communication and effectiveness of talk to impress others.

CONTENT

To adequately impact conduct, aptitudes must be used in a specific substance region. What are we settling on choices about? Finding out about basic leadership will be more significant if the substance is pertinent and stays steady. Such substance territories as depicted could be medication utilize, HIV/AIDS anticipation, suicide avoidance or whatever the substance territory, an adjustment of three components should be considered: learning, mentalities and abilities.

METHODS

Aptitudes based instruction can't happen when there is no communication among members. It depends on gatherings of individuals to be compelling. Interpersonal and psychosocial aptitudes can't be gained from single person or a book. On the off chance that this approach is to be effective, every one of the three segments, Life Skills, substance and technique ought to be set up. This implies that Life Skills can be learnt using certain techniques and devices.

PROMOTING THE TEACHING OF LIFE SKILLS

In promoting the teaching of Life Skills, the WHO is promoting the teaching of abilities that are often taken for granted. However, there is growing recognition that with changes in lifestyles, many adolescents are not sufficiently equipped with Life Skills to help them deal with the increased demands and stresses they experience. They seem to lack the support required to acquire and reinforce life skills. It may be that traditional mechanisms for passing on Life Skills (e.g. family and cultural factors) are no longer adequate considering the influences that shape young people's development. These include media influence and the effects of growing up in situations of cultural and ethnic diversity. Also the rapid rate of social change, witnessed in many countries, makes the lives of young people, their expectations, values, and opportunities very different from that of their parents.

Life Skills for psychosocial competence need to be distinguished from other important skills that we hope young people will acquire as they grow up, such as numeracy, reading, technical and practical "livelihood" skills. These and other skills are usually recognized as abilities that young people should learn, either in schools, at home or in their communities. Life Skills are being promoted so that they can gain recognition as essential skills that should be included in the education of young people.

LIFE SKILLS EDUCATION

Adolescence is a period of experimenting, experiencing and expanding. Adolescents need help and guidance in decision-making, problem solving, critical thinking, developing interpersonal skills, self-awareness, empathy, coping with stress and managing emotions. The disobedience and dislike for parental interruption usually keeps parents at cry because teenagers do not like the idea of help and guidance from parents. However, this may not always be so. Beneath frequent violent outbursts, sudden mood swings and related interpersonal problems of an adolescent, there may be a person crying out for professional help. All adolescents need support and guidance. When parents find it difficult to handle signs of trouble, professional help should be sought at the earliest.

For health promotion, Life Skills education is based on the teaching of generic Life Skills and includes the practice of skills in relation to major health and social problems. Life Skills lessons should be integrated with health information and may also be integrated with other approaches, such as programmed designed to effect changes in social and environmental factors which influence the health and development of young people.

In Life Skills education, children are actively involved in a dynamic teaching and learning process. The methods used to facilitate this active involvement include working in small groups and pairs, role playing, gaming, brainstorming and debates. A Life Skills lesson may start with a teacher exploring with the students what their ideas or knowledge is about a particular situation in which a particular Life Skill can be used. The children may be asked to discuss the issues raised in more detail in small groups or with a partner. They may then engage in short role play scenarios and take part in activities that allow them to practice the skills in different situations. Actual practice of skills is a vital component of Life Skills education.

Finally, the teacher will assign homework to encourage the children to further discuss and practice the skills with their families and friends. Life Skills have already been taught in many schools around the world. Some initiatives are in use in just a few schools, whilst in other countries, Life Skills programs have been introduced in a large proportion of schools and for different age groups. In some countries, there are several important Life Skills initiatives, originating in different groups in the country e.g. Non-governmental organizations, education authorities, and religious groups in the society.

The school is an appropriate place for the introduction of Life Skills education because of the following reasons:-

• The important role of schools in the socialization of adolescents;

• Access to children and adolescents on a large scale;

• Economic efficiencies (uses existing infrastructure);

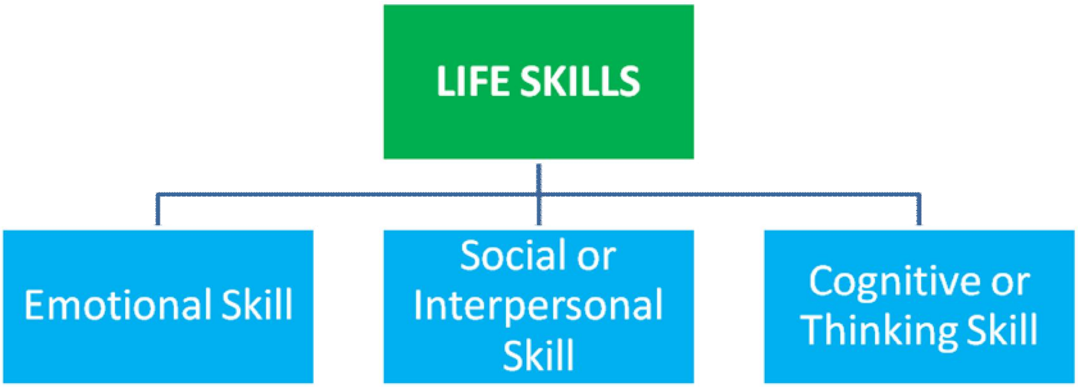
• Experienced teachers already in place;

• High credibility with parents and community members;

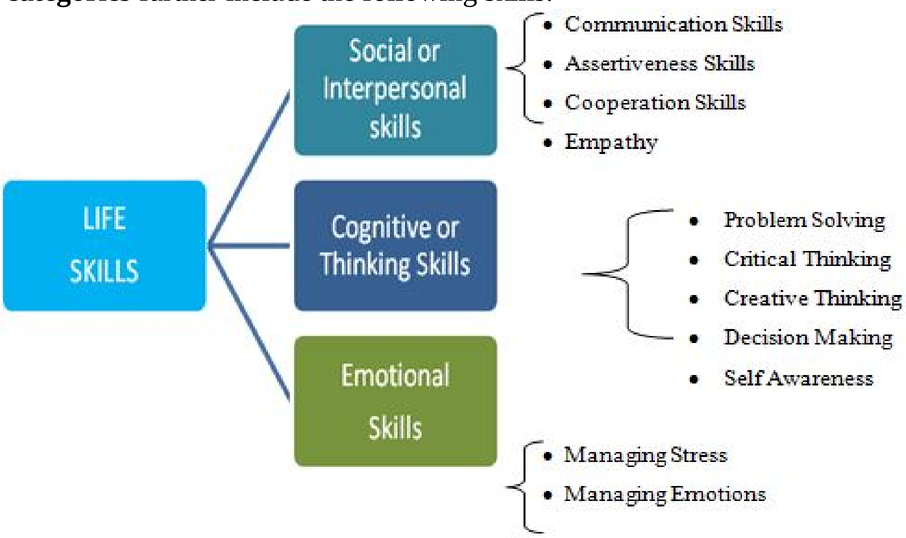
• Possibilities for formative and summative evaluation.

Even in countries where a significant proportion of children do not complete schooling, the introduction of Life Skills education in schools should be a priority. Life Skills education is highly required for the daily needs of adolescents. When it is part of the school curriculum, the indications are that it helps to prevent school drop-out. Furthermore, once experience has been gained in the development and implementation of a Life Skills programs for schools, this may help with the creation and administration of programs for other settings.

Life skills are grouped into three broad categories of skills- Emotional skills for managing stress, emotions & resisting peer pressure, Inter-personal skills for communicating and interacting effectively with others and Cognitive skills for analyzing and using information.



These three **basic categories** further include the following skills.



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WHO has identified ten core Life Skills and they are as follows:

The following Life Skills are considered in the present study:-

- Decision Making
- Problem Solving
- Empathy
- Self Awareness
- Communication Skill
- Interpersonal Relationship
- Coping With Emotions
- Coping With Stress
- Creative Thinking
- Critical Thinking

Decision Making helps us to bargain productively with choices about our lives. This can have results for wellbeing. It can show individuals how to effectively settle on choices are probably going to have. Critical thinking empowers us to bargain usefully with issues in our lives. Noteworthy issues that are left uncertain can bring about mental anxiety and offer ascent to going with physical anxiety.

Empathy to have an effective association with our friends and family and society everywhere, we have to comprehend and center about other individuals needs, goals, and sentiments. Compassion is the capacity to envision what life resembles for someone else. Without compassion, our correspondence with others will add up to one - way activity. Most exceedingly awful we will act and carrying on as indicated by our self – intrigue and will undoubtedly keep running into issues. We experience childhood involved with many individuals – guardians, siblings and sisters, cousins, uncles and close relatives, cohorts, companions and neighbors. When we comprehend ourselves and also others, we are better arranged to impart our requirements and cravings. We will be more prepared to state what we need individuals to know, introduce our considerations and thoughts and handle sensitive issues without culpable other individuals. In the meantime, we will have the capacity to inspire bolster from others, and win their comprehension.

Self – Awareness incorporates our acknowledgment of ourselves, of our character, of our quality and shortcomings, wishes and aversions. Creating mindfulness can help us to perceive when we are pushed or feel under weight. It is additionally an essential for compelling correspondence and interpersonal relations, and additionally to develop compassion for other individuals.

Effective Communication implies that we can convey what needs be, both verbally and non-verbally, in ways that are suitable our societies and circumstances. This implies having the capacity to express conclusions and wants, furthermore needs and fears, and it might mean having the capacity to request guidance and help in a desperate hour.

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Interpersonal Relationship abilities help us to relate in constructive routes with the general population we associate with. This may have the capacity to make and keep inviting connections, which can be of extraordinary significance our mental and social prosperity. It might mean keeping great relations with relatives, which are a critical wellspring of social support. It might likewise mean having the capacity to end connections productively.

Coping with Emotions implies including perceiving feelings inside us and others, monitoring how feelings impact conduct and having the capacity to react to feelings suitably. Extreme feelings like outrage or bitterness can affect sly affect our wellbeing on the off chance that we don't react properly.

Coping with Stress Implies perceiving the wellsprings of worry in our lives, perceiving how this affects us and acting in ways that help us to control our levels of worry, by changing our surroundings the ways of life and figuring out how to unwind.

Critical Thinking is a capacity to dissect data and encounters in a goal way. Basic deduction can add to wellbeing by helping us to perceive and evaluate the elements that impact states of mind and conduct, for example, values, peer weight and media.

Creative Thinking is a novel method for seeing or doing things that is qualities of four parts – familiarity (producing new thoughts) adaptability (moving point of view effortlessly), creativity (thinking about something new), and elaboration (expanding on different thoughts). Every one of these aptitudes is interrelated and strengthens each other. Together, they are in charge of our psychosocial capability; assemble our self-regard and self viability and support comprehensive advancement.

BENEFITS OF LIFE SKILLS EDUCATION

The World Health Organization suggests the following benefits of Life Skill Education:

HEALTH BENEFITS

(i) Life skills education addresses the combination of psychological and social (i.e. psychosocial) factors that contribute to healthy behaviour.

(ii) The implementation of life skills education in schools addresses the needs of all children.

(iii) The promotion of personal and social skills is important aspects of health promotion interventions that aim to empower the individual to promote his/her own health as well as the health of others and of the community.

EDUCATIONAL BENEFITS

(i) Life skills education introduces learner-centered and interactive teaching methods which can have a positive impact on:

- Relationships between teachers and students
- Young people’s enjoyment of learning
- Teacher’s job satisfaction
- Lowering the rates of drop out and absenteeism from school.

(ii) Life skills have an impact on the teaching of academic subjects, e.g. because of the introduction of new methods with the interaction of students.

(iii) There are indications that life skills education can have a positive impact on academic performance. Once the students feel that they are involved in issues of favorable to their own lives, they participate more and learn more.

SOCIAL BENEFITS

Life skills education can promote more pro-social behaviour and so result in less delinquency among adolescents.

CULTURAL BENEFITS

(i) Life skills education helps to clarify the needs of adolescents growing up in modern societies.

(ii) Life skills education is of particular value to adolescents growing up in multicultural societies.

ECONOMIC BENEFITS

(i) Life skills education, and the skills promoted, appears to be amongst the ones most highly valued by the future employers of young people.

(ii) Early prevention can be expected to attain maximum rewards in regard to a healthy society, especially since the health and social problems prevalent today have at their root a component of human behaviour.

POLITICAL BENEFITS

Life skills education also helps the students regarding political issues

CONCLUSIONS

Life skill education plays an important role in the life of students. It aims to help children reach their full personal potential and to prepare them for the challenges of everyday life. The subject varies greatly depending on social norms and community expectations but skills that function for wellbeing of individuals to develop into active and productive members of the community are the life skills. Life skill education is now recognized as a methodology to address a variety of issues of child and youth. So Life Skills are needed for the betterment of life of adolscents.

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PROBABILITY AND MATHEMATICS

Mallika
Student (M.Sc Mathematics), DAV College, Chandigarh

ABSTRACT
Mathematics is an important branch of study as well as life also. There are several concepts and sub-branches of Mathematics out of which Probability is one of important term. The mathematical theory of Probability is the study of laws that govern random variation. It was originated within the seventeenth century. Later it came into force as an active branch of recent arithmetic because of the foundation of applied mathematics illation. Moreover, it is reworked as science and used in maximum modern tools and techniques of current developed technology. It is exercised as an important influenced method in ethics and politics. Thousands of scientists, engineers, economists, and different professionals are use the strategies of Probability and statistics in their work, power-assisted by pronto out there laptop package packages. However, there is no robust accord on the character of probability within the universe, nor on the most effective thanks to build inferences from Probability, *This research article will focus on the mathematics and Probability. It will explain the meaning of probability, outcomes possibility of Probability, calculation of Probability etc.*

Keywords: Mathematics, Probability, techniques, Science, possible option, outcomes, etc.

INTRODUCTION

There are various method and techniques in Mathematics. Even in Probability, there are different techniques and different heories. Each theory shares different sets. It is possible to direct the concepts of probability without new mathematics techniques. But the concept of probability are very deep. Even, the result are always Counterintuitive. Probability requires determined thinking. Only elementary mathematics are used to present the basic concepts in brief.

Concept of Probability: There are several definition by different scholars based on the approaches and methods of using probability concepts. Few of them are given below:

a. Probability can be defined as a chance which could have a range that reflects the possibility or probability that a specific event can occur.

It is a chance of zero indicates that there's no likelihood that a specific event can occur, whereas a chance of one indicates that an occasion is for certain to occur.

b. Probability could be a live of the probability that an occasion can happen.

c. Classical Definition of Probability: If there is a finite range of doable outcomes which are associated with the degree experiment, all equally seemingly and reciprocally exclusive, then the chance of an occasion is that the range of outcomes favourable to the event, divided by the overall range of doable outcomes then it can be called the part of Probability.

d. Statistical Definition of Probability: The chance of an incident which denotes to the frequency of occurrence of that event within the end of the day, such incidents have statistical data, hence it can be a part of Probability based on statistical data.

e. The Axiomatic Definition of Probability: The probability which is of an occurrence A, denoted P(A), may be a variety that satisfies the subsequent of three axioms:

Stating the axioms in words, the probability of any event 'A' within the sample area 'S' may be a variety stands between zero and one, and also the probability of the complete sample area is one (because by definition S contains all events). These axioms are comfortable for a theory of finite sample areas. Even, in Axiom three will be generalization of the communally limited events. Treatment of infinite sample areas needs additional to the advanced mathematics.

Examples of Probability

The probability of a happening A is written as P (A), p (A), or }(A)} }(A). This mathematical definition of probability will touch infinite sample areas, and even uncountable sample areas, mistreatment towards the thought of a live.

The opposite or complement of a happening A is that the event [not A] (that is, the event of A not occurring), typically denoted as },A^,\neg A} },A^,\neg A}, or A} A}; its probability is given by P(not A) = one − P(A). As associate example, the prospect of not rolling a six on a six-sided die is one – (chance of rolling a six) =1-}=}. If two events A associated B occur on one performance of an experiment, this can be referred to as the intersection or probability of A and B, denoted as P (A\cap B).

Formula of Probability: The formula of Probability is a ratio of number in a favourable outcomes to the total number of possible outcomes. Calculating the probability of an event in the following way: - If P(A) > P(B) then event A is more likely to occur than event B. - If P(A) = P(B) then events A and B are equally likely to occur. The formula of calculating Probability is as:

Probability = Possible Choices/ Total Number of Options

Calculation of Probability: To calculate the probability, one must know the possible options and outcomes of that all options.

-For examples: First, we all know that a die includes a total of 06 as doable outcomes. You'll roll a one, 2, 3, 4, 5, or 6. Next, we want to understand what number selections we've.

Whenever you roll, you may get one in all the numbers. You cannot roll and acquire two totally different numbers with one die. So, our variety of selections is one. The formula for probability, we have a tendency to get a probability is

1/6.

Probability here of rolling any of the numbers is 1/6. The likelihood of rolling a pair

We additionally got to understand the overall variety of fruits within the bag, for this offers United States the overall variety of selections we've, or the overall variety of choices within the bottom a part of the calculation. The person with the grab bag tells United States there square measure ten apples and twenty oranges within the bag. So, what's our likelihood of choosing associate degree apple? We've ten apples, one in all that we wish, and a complete of thirty fruits to choose from.

Approaches of Using Probability: Based on above mentioned various definitions, there are different types of approaches used for probability. Few of them are as:

a. **The Theoretical Model Approach of Probability:** The example of probability we can take of the birth of infant- a new born baby which could be a boy baby. One approach here we can use that is the theoretical model which will explain in line with Mendelian biology. According to this model the sex is decided by whether or not the sperm cell carries the father's X or Y chromosome; the egg has one amongst the mother's 2 X chromosomes. In an exceedingly biological process which referred to as meiosis the twenty-three pairs of human chromosomes segregate to make 2 haploid (unpaired complement) cells referred to as gametes. Each of these containing twenty-two autosomes and one chromosome. In fertilization the male germ cell fuses with a feminine germ cell (ovum) to make a cell, a diploid (double complement) cell with one set of chromosomes from every parent, its sex determined by the daddy with the assumption that the four attainable outcomes are equally possible, 2 of them being XY, the probability here is that the kid is male, written as probability (male), are often outlined as 2/4 = 1/2 = .5.

b. **Empirical Study Model Approach of Probability:** This is the of approach probability study which would inspect the determined ratio of boys among the new-born with experimental and survey method. For example suppose with the twenty years period from 1980 to 2000 there have been close to 39,761,000 registered births. Out of which of those 20,348,000 were boys, with a ratio of .5118. The annual proportions ranged between .5113 and .5123. One might say that the probability of an infant being male baby boy is .5118, or close to .51. Here the most of the people would agree that the empirical result, supported such an oversized sample, needs to override the model. In fact, the surplus of boys among new-borns has been determined on the Earth for hundreds of years. The theoretical model is so not a completely correct illustration of such realities.

In such case there may be experiment support is taken from actual hospital records. The study has shown this probability result with the proportion of boys in twenty sequences every of 10, 50, and 250 consecutive births. Specific and notable point of that study is that there is nice variation within the sequences of ten, less for fifty, and by 250 the proportions settle simply on top of .5. Anyone study yields exclusively with one special purpose. Moreover,

The result from a little sample can be manner off. As an example, a research worker seeking to ascertain the proportion of boys among the new-born from a sequence of ten might come back up with a results of 0.2 or 0.9.

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During this example the approximate answer is already celebrated, however generally this is often not the case. The utilization of sample sizes too tiny to yield significant results could be a significant issue in sensible applications, as is that the employment of inadequate theoretical models.

c. **A Mathematically Approach:** A mathematically precise approach is provided by another definition. The questionable axiomatic definition of Probability, which includes the opposite to and is that the foundation of the trendy theory of Probability. It begins with some abstract terms with the definition of some basic axioms. On the basis of it an elaborate logical structures are often engineered and mistreatment the mathematical theories of sets and live. Probability could be a range between zero and one. However, there is nothing mere which concerns a way to assign it. Assignment could also be supported as a model or on experimental information. Developments are valid if they follow from the axioms, as in alternative branches of mathematics which individually can be of any correspondence to phenomena of the physical world.

THEORIES MATHEMATICAL TREATMENT

There are varieties of results based on various experiments, researches completed by scholars. Collection of these all results is termed as the sample house of the experiment which may be used as supportive date to any research work. The facility set of the sample house is created by considering all completely different collections of achievable results. For instance, rolling a dice will manufacture six doable results. One assortment of doable results provides associate odd range on the dice. Thus, the set is a part of the facility set of the sample house of dice rolls. These collections are referred as an "events". During study cases, it is the event that the dice falls on some odd range. If the results that truly occur fall in an exceedingly given event, the event is alleged to possess occurred.

A probability may be a method of distribution of such event into a worth between zero and one. With the need that the event created from all doable results (in our example, the event) is allotted a worth of 1. To qualify as a probability, the assignment of values should satisfy the need that if you consider a group of commonly special selective events (events with no common results, e.g., the events and all are commonly special. Furthermore, the probability which has a minimum of one in every of the events can occur is given by the addition of the chances of all the individual events.

TWO BASIC PRINCIPLES OF APPLIED MATHEMATICS

The most elementary side of mathematical is a chance to discover the result of experiments by trial and error as a reality of nature, and additionally tested with consistency. This development is expressed within the kind of two principles. They're given here in their simplest versions, to convey the essential result:

a. **Law of Massive Numbers:** The law of large number hold that within the long drag, the ratio of prevalence an occurrence approaches and its chance. It can illustrated by the empirical results in a proper way because the variety of observations will increase and the ratio of an occurrence is at intervals Associate in the Treatment of every parameters or each observation. The law of enormous numbers connects discovered ratio with the mathematical conception of chance, and has been tested with progressively refined bounds on verity chance. An additional general formulation pertains to the sample mean approaching verities of mean, or mean value. If the prevalence of an occurrence is denoted by one and its absence by zero, then the ratio is that the mean of the observations that approaches the mean value p.

b. **Central Limit Theorem:** Central Limit Theorem states that, for terribly giant values of n, the sample mean has Associate in the treatment of approximate distribution in general. This theory is tested with nice exactness for a spread of conditions, while not specifying the form of the underlying distribution. However, the traditional approximation is the kind of sensible for the tiny sample size. The central limit theorem could be a powerful tool for assessing the state of nature in a very wide selection of circumstances which measures the uncertainty provided by the traditional distribution.

APPLICATIONS OF PROBABILITY

Probability theory is applied in daily life on the risk of assessment and modelling. The insurance trade and markets use figurer science to work out for the evaluation and to build the commercialism choices. Government apply probabilistic ways in an environmental regulation, claim analysis (Reliability theory of aging and longevity), and money regulation.

A good example of the utilization of applied mathematics in equity commercialism is that the result of the perceived probability of any widespread geographical area conflict on oil costs, that have ripple effects within the economy as a full. Associate assessment by a goods monger is that a war is a lot of doubtless and it will send that commodity's costs up or down, and signals alternative traders of that opinion. Consequently, the

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possibilities are neither assessed severally nor essentially terribly rationally. The speculation of activity finance emerged to explain the result of such deciding on evaluation, on policy, and on peace and conflict.

Types of Probability: There are major two types of probability i.e. Conditional Probability and Independence.

a. **Conditional Probability:** If P(B) > zero, the probability of a happening A is as long as the happening with B. and B has occurred in the outlined effect as it is the probability of A given B is up to the probability of AB. It is divided by the probability of B. for instance, consider the probability that a baby selected from the sample of one hundred is LBW as long as its mother is smoke-cured. Then P(A|B) = .03/.20 = .15. For non-smoking mothers, drawn by B0, the probability of a LBW kid is Rearranging equation (1), and additionally interchanging the events, presumptuous P(A) > zero which yields the multiplication theorem of probability. These relationships, obtained from the definition of probability, cause the definition of independence.

b. **Independence Probability:** Consider here the two events that A and B area unit aforementioned to be freelance if the incidence of 1 has not resulted into the probability of incidence of the opposite. a lot of exactly, P(A|B)= P(A)and P(B|A)= P(B), if P(A) > zero and P(B) > zero. The events A and B area unit outlined to be freelance if for instance, one would expect a mother's smoking standing to possess no result on the sex of her kid. Therefore choosing a hospital record haphazardly, the probability of getting a baby boy born to a smoker would be the merchandise of the chances, or (.51)(.20) = .10.

These two connected ideas of probability and independence area unit among the foremost necessary in applied math furthermore as its applications. It is typically a nice interesting point to grasp whether the incidence of a happening affects the probability of another event or not.

CONCLUSION

Thus, the ideas mentioned here are the ideas of the mathematical theory of probability. Though it is possible that probability can be without math but not trustworthy. But when probability is studied with the help of mathematics, then it can be called as an approved possibilities studied under the probability study with mathematical tools and techniques. The interested newcomer studying probability need to study with the wide selection of textbooks as guides in more pursuit of the topic. The most criterion of choice ought to be comfort with the extent of abstraction and therefore the form of presentation: neither too laconic nor too wordy. The aim of image in mathematics is that the unambiguous and universal expression of ideas. The utilization of image is an essential, welcome shorthand for those that understand; it ought to never be a hindrance to understanding.

Many moral problems in science and technology need bigger insight on the part of the general public and involve higher education regarding the extent of connected uncertainties. However such kinds of study based on probability and mathematics promote understanding of a deep and complicated notion as probability and its myriad manifestations in everyday life. For the mathematical approach an honest manner is to start out early one should encourage the young to play numbers games, to figure on puzzles exploring the various ways in which things will happen, to confront logical paradoxes, and to savour the thrill of insight—the aha! Expertise. Doing mathematics as a result of it's fun enhances the intuition and develops the habit of important thinking, serving to the kid to grow into a confident adult continuously in search of understanding.

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ROLE OF LIBRARY RESOURCES IN HIGHER EDUCATION

Dr. Archna Saxena
Librarian, Dr. Ganesh Dass DAV College of Education for Women, Karnal

ABSTRACT

There is no other friend as a book to any individual. Library is the place where we can have good scope of getting huge collections of books. The role of library is a vital role from primary school to higher education and even after education also. Ph.D. degree also required the secondary source as the material and collection of books taken from various sources, especially from library. It means no higher degree can be completed with library and books referred from library. In current era, libraries are used as the repositories and access points for several types as print, audio, and visual materials in various formats, as well as maps, prints, documents, microform (microform/microfiche), CDs, cassettes, videotapes, DVDs, videogames, e-books, audio books (microfilm/microfiche), and lots of different electronic resources. Usually, in modern era as a concept of e-library, libraries give facilities to access their electronic resources and also the net. Automated libraries are working as more and more being redefined as the places which induce unrestricted access to data in several formats and from several sources. They are extending services on the far side from the physical walls of a building, by providing material accessible through electronic resource. These electronic resources are providing the help to librarians in navigating and analysing tremendous amounts of data with a range of digital tools. These all indicates that Library play an important role in higher education since ancient are, no matter as it is having printed material of digital resources, it is the soul of education. Hence current work focuses on the role of library resources in higher education.

Keywords: Library, Automation, Printed material, books, journals, digital tools, education, higher education etc.

INTRODUCTION

For the higher education library is mentioned as a bunch to sizable amount of books that are a supply of amusement for U.S.A. Fiction books, which embody numerous genres like comedy, thriller, suspense, horror or drama, hugely common among readers of variable age teams. Libraries is a supply of amusement and education for children similarly to adults. A library is not the source of helping to infuse the habit of reading however inculcates a thirst for information. This makes an individual humble and receptive towards the new concepts throughout his/her life.

There are huge size of amount of books that offers the recommendation concerning numerous topics like business, health, travel, food and careers. These books function as a good supply of recommendation. Many folks build it at some extent to browse and undergo these books before taking vital choices in their life. So libraries are useful for folks that are searching for information concerning with specific subjects. As an example an individual United Nations agency, it is attending the visit to a selected place which would love to examine that destination.

Definitions of Library: There are several definition by several scholars. Few are given below:

a. Library is a group of acquisition documents or record unbroken for reference or Borrowing.

b. Library a deposit house designed to contain books and completely different materials for reading and learning.

c. Library is a group of traditional programmes and subroutines that square measure keep and out there for immediate use.

d. Library is a building that homes a group of books and completely different materials.

OBJECTIVES USING LIBRARY

a. To assemble the required information for needy students and others also who want to read books to gain various kinds of knowledge.

b. To organize information at one places with the availability of various text, books, novels, dramas and all kinds of genres.

c. To preserve all available data of library and valuable record with well manner and cultured which will be passed right down to succeeding generations.

d. To provide and to access the necessary link throughout this communication between the past, present, and future. Whether or not or not the cultural record is contained in books or in electronic formats,

e. To ensure that the record is preserved and created out there for later use.

f. To provide of the books with access to the information that the individual needs to work, play, learn, and govern

Library Resources: Library incorporates a sensible assortment of reference book, dictionaries and maps that supplies an intensive information and references for folks. The encyclopaedias is a source of supplying a huge knowledge concerning with all kinds of the topics underneath the sky. There are collaborative existing of a specialised dictionaries like medical dictionaries, literature dictionaries or business dictionaries, which offer information of specific terms employed in specialised fields. Even there are several libraries who have support to an education system by their efforts to provide adequate teaching resources, data and referral services. An additional active approach has been taken by libraries with providing an instructional categories or matched tutoring programs. Moreover, few libraries have reaching the programs which are designed to fulfil the requirements of specific teams of individuals with restricted instructional skills. Library resource materials area distributed to the institutionalized, as well as those in prisons, hospitals, rehabilitation centres, and cluster homes for the old and disabled.

In addition, some libraries provide programs for teams in danger for education-related issues. Adolescents are targeted as a result of lack of education has been related to different issues as well as crime, pregnancy, state, drug and drug abuse, and college failure. Outside and summer instructional programs have wanted to encourage adolescents to become employable, causative members of the community and usually to lift their shallowness. Methods have enclosed schoolwork facilitate sessions, peer tutoring, and peer-group reading sessions.

Families are targeted as a result of lack of education appears to be passed from one generation to the next: youngsters whose oldsters' area functionally uneducated and wanted to educate can get benefit as possible as their peers to be functionally uneducated. In family instructional programs, stress is on the parent's role because they are the child's 1st teacher. Parents, World Health Organization might are impressed to hunt education coaching by concern for his or her youngsters via instructed interactive language and activities to be used with infants and young youngsters. Some libraries invite entire families to share in reading activities and book talks, with every member borrowing a book to require home. Because they serve such a various vary of individuals, libraries maintain collections that may span the spectrum of human data and opinions. Collections embrace written materials like reference sets, paperback novels, biographies, children's and young adult literature, histories, newspapers, and magazines. They typically additionally contain pictures, maps, art reproductions, sound recordings, and video recordings. Additionally to print and audio-visual materials, pc workstations with software system, CD-ROMs, and connections to data worldwide through the web.

Library as a Modern Technical Tools of Education: The traditional image of the library as a quiet place of study was as a building with printed collections of books, journals, newspapers and so on. It is ever-changing pattern of library. Now this tradition concept is shifted in educational system with automotive library. This is because of the impact of technology, and also because of the diversity of scholars have caused libraries to arrange resources and style services that meet and anticipate the new wants of study and teaching. Libraries organize the collections and supply access and services that incorporate changes in teaching, learning and data technologies. Managing membership, thousands of books, and different resources of the library manually is very hard task today. Library management software system helps you with it and additional. With the help of library software's one should be able to manage the records of members, keep a track on reader's arrival and out time, maintain an information of books effortlessly with the assistance of software system.

With the appearance of recent technologies within the field of computers and tele-communications, revolutionary changes have taken place in the field of Library and data Science. The tradition form of large printed books in the library is replaced with the large amount of digital and e-book services at worldwide sector in new, modern technical and automotive library. The facilities offered by networking haven't left libraries untouched. Smart automotive libraries are exclusively digitized with the providing facility of networked additionally. This has crystal rectifier to the creation of virtual libraries i.e. libraries while not walls through that the user has access to data at anytime, anyplace within the world by exploitation the smart tools of communications, like computers and net facilities. Libraries within the new millennium area unit can be called as leaders in data management. Librarians in universities are innovative in their use of the new data technologies to supply access to a spread of multimedia system sources. Today's libraries teach students the data handling skills to last a life.

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IMPORTANCE OF LIBRARY SCIENCE IN EDUCATION

1. Library Science is the back bone of learning activity.
2. It is very useful for the scholars to study at all levels including research activities.
3. Library helps the scholars to do any analysis, widen their read on the topic, prepare notes and also the list goes on.
4. Libraries permit a student to travel on the far side what's being schooled within the room.
5. Library helps to complete the research work with the restricted time defined by their concern course with providing supportive study material.
6. Library is an Academics gift for information got to students.
7. Libraries provide various study sources which will take the student farther into topics that they notice fascinating and thereby increasing their data.
8. Library creates a habit of learning to love through the reading skill.
9. It helps to creates a life-long love for learning and isn't that what education is all about—learning new things continuously
10. It helps the students to take notes in the teaching-learning process proscribed by any syllabus to the prescribed course of their study.
11. A student will supplement and compliment what's schooled within the room, by consulting the library documents.
12. The entire world of information is open for any students at any level of study within the library.
13. Generations of collective knowledge is open for the seeker within the Library and whole issue is freed from value.
14. There is no exception to Library to any education institution as it is the heart of any institution and faculties don't seem to be.
15. The college is that the place wherever kids can return to grasp regarding material and the way to search out information is the library only.

Software in the Library as Technical Education Resources: There are several software's used now-a-days in library specially at higher educational level few commonly used software's are– SURPASS, Lucidea Integrated Library Systems, Koha ILS, L4U, OPALS, Destiny Library Manager, Handy Library Manager, Insignia Library System, Access-It Library, MODERNLIB, Atrium, LIBRARIAN, Reader ware, etc. That there's variety of library management package available in the market, few of them which are most widely used software's in Library management are:

a. **Admitek DigiLib**: Admitek DigiLib is the most intelligent Library Management software package which is available now in the market. Admitek DigiLib Library Management software package is RFID/Barcode. It is enabled to create and to manage a simple patrons and to trace records of things issued, lost, fine to be collected etc in an easy way. Our Library Management software package is connected to Google Books & Open Library Apis. As it is mechanically fetches the main points of books whenever the ISBN of the book is scanned with employing a barcode reader. With the exception of this, Admitek DigiLib Library Management software provides package including many options such as the web-based cataloguing (OPAC), e-Books in PDF formats, on-line payment of fees via payment entryway, Self-arrival and check-out, reissues and a lot of higher than the traditional Library Management Systems. Now-a-days, it is the most intelligent Library Management Software available in the market. Some people connect their Library Management Software is to Google Books & Open Library APIs so that it automatically fetches the details of books whenever the ISBN of the book is scanned using a barcode reader. Apart from this, Admitek DigiLib Library Management Software includes various good features such as web-based cataloguing (OPAC), eBooks in PDF formats, online payment of fees via payment gateway, Self-Check-in and check-out, reissues and more above the conventional Library Management Systems.

b. **GLIB**: It is one of the most effective library management package available in the market today. There are several options of GLIB such as :

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i. Session Management
ii. User Management
iii. Current Dues
iv. Members Management (Refundable/Non-refundable)
v. Books Management (Issue/Return/Reissue)
vi. Periodicals Management (Issue/Return/Reissue)
vii. Books and Periodicals Expenses
viii. Records & Reports

c. **SOUL:** it is the major software for University Libraries (SOUL) and is Associate in nurturing with progression of integrated library management package, designed and developed. These all is done by the INFLIBNET Centre supported needs of school and university libraries. It is an easy package developed to figure out with client-server atmosphere. The package is compliant to international standards for bibliographical formats, networking and circulation protocols. When a comprehensive study, discussions and deliberations with the senior professionals of the country, the package was designed to automatize all housekeeping operations in library. This package is appropriate not just for the educational libraries, but also useful to any kind and sizes of libraries, even useful to faculty libraries. The primary version of package i.e. SOUL 1.0 was discharged throughout CALIBER 2000.

The latest version of the package i.e. SOUL 2.0 was honoured in January 2009. The information for the brand spanking new version of SOUL 2.0 is meant to up to date versions of MS-SQL and MySQL (or the other widespread RDBMS). SOUL 2.0 is compliant to international standards like brandy twenty one bibliographical format, Unicode primarily based Universal Character Sets for trilingual bibliographical records and NCIP two.0 and SIP two primarily based protocols for surveillance and management.

MAJOR OPTIONS AND FUNCTIONALITIES OF SOUL2.0:

1. The UNICODE of it is primarily based trilingual support for Indian and foreign languages.
2. It Complaints to an International Standards like MARC21, AACR-2, MARCXML.
3. It Compliant to NCIP 2.0 protocol for RFID and different connected applications particularly for surveillance and self-check-out & check-in.
4. The Client-server of it is primarily based on design, it has an easy interface that doesn't need in depth training.
5. It Supports multi-platform for bibliographical info like My SQL, MS-SQL or the other RDBMS.
6. It supports to catalogue the electronic resources like e-journals, e-books, just about any variety of material.
7. It supports to digital library and facilitate link to full-text articles and different digital objects.
8. It supports for on-line copy cataloguing from MARC 21 supported bibliographical database.
9. It provides the default templates for knowledge entry of various variety of documents. User may customise their own knowledge entry templates for various variety of documents.
10. It provides the freedom to users for generating reports of their alternative and format at the side of guide and question parameters.
11. It supports to the ground-level sensible needs of the libraries like stock verification, book bank, vigorous maintenance functions, dealings level increased security, etc.
12. It provides the facility to send reports through e-mail, permits users to avoid wasting the reports in numerous formats like Word, PDF, Excel, MARCXML, etc.
13. It is highly versatile and easy OPAC with easy and advanced search. OPAC users will export their search ends up in to PDF, MS Excel, and MARCXML format.
14. It supports authority files of non-public name, company body, and subject headings and series name.
15. It supports for the knowledge exchange through ISO-2709 standard.

16. It provides an easy budgeting system and single window operation for all major circulation functions.
17. It can work as a strong region-wide support for maintenance through regional coordinators.
18. On-line and offline study support by e-mail, chat and through dedicated phone line throughout workplace hours can be possible by using this software..
19. It is Available at a reasonable value with sturdy institutional support.

Thus, there are several options available in the market as the software's of library management. Out of which, SOUL is widely used software. Especially at higher level education system as it is specially prepared for university.

CONCLUSION

Thus, as mentioned above library resources works as the major supportive tool in Education. As the Education level goes upper side- the importance of using library increases with high quantity. A library is the tool which supplies the crucial information to all kinds of readers. It develops the necessary habit of reading among the scholars. The College libraries facilitate to the students all kinds of data required for higher education as the primary source and sometimes secondary source. It has a great impact on the educational action of the scholars. Students will perform higher education in well manners, with good results throughout the examination by reading numerous books. Libraries cannot be separated from any educational institution. The availability of libraries is crucial and indispensable to education throughout any country. Therefore, the absence of libraries will have negative impact on any education institution and so as individual learners need to be impressed to use the library.

People in many professions use library resources to assist them in their work. of us in addition use library resources to understand information relating to personal interests or to induce recreational materials like films and novels. Students use libraries to supplement and enhance their area experiences, to search out out skills in locating sources of information, and to develop sensible reading and study habits. Public officers use libraries to analysis legislation and public policy issues. one of the foremost valued of all cultural institutions, the library provides information and services that square measure essential to learning and progress.

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INNOVATIONS AND BEST PRACTICES IN TEACHER EDUCATION

Nirupma Kohli
Assistant Professor, Sohan Lal DAV Government aided College of Education

ABSTRACT
The quality of a nation depends upon the quality of its citizens. The quality of the citizens rests, to a large measure, upon the quality of their education. The quality of their education, in turn, revolves round numerous agencies like home, school, community, cinema, radio, television and other mass media etc. But, the most significant and pertinent of all these factors is the competence and quality of school teachers. It is not the brick and mortar of the class room. but the dialogues, rapport and interactions between the pupils and the teachers, all the time developing within its four walls, can make or mar the destiny of those youngsters, and in turn, that of the nation. Innovations and Best Practices play a pivot role in the development of the institution. The developed institution can give better education to the students. It can help the students to develop an enquiring mind, discover new knowledge and develop new attitudes and outlooks. It is seen in this age that some of the students may go beyond the teacher in their competence. So, the teacher should function as a facilitator of learning and innovations.

Keywords: Innovations, Best practices, Quality Education, Teacher Education

INTRODUCTION
Teacher Education Institutions should act as light house for the country and it is their duty to produced best nation builders. It is a true fact that the quality of a nation depends upon the quality of its citizens. The quality of the citizens rests, to a large measure, upon the quality of their education. The quality of their education, in turn, revolves round numerous agencies like home, school, community, cinema, radio, television and other mass media etc. But, the most significant and pertinent of all these factors is the competence and quality of school teachers. It is not the brick and mortar of the class room. but the dialogues, rapport and interactions between the pupils and the teachers, all the time developing within its four walls, can make or mar the destiny of those youngsters, and in turn, that of the nation. The success of all our efforts depends largely on the type of professional education we provide to the teachers.

Prof. B.K. Passi as rightly stated about four pillars strategies which can lead towards best practices especially in school internship and practical work:

1. **Theoretical understanding:** Should I suggest that the teacher trainees, undergoing training through the training programme survey the exiting diverse scenario to the best their work capabilities.
2. **Future Scenario:** the trainees should learn to develop a futuristic scenario with respect to their conditions.
3. **Preordinations of tasks:** The trainees should, themselves decide to develop the required educational competencies in the prioritized tasks.
4. **Developing research/performance competency:** the teachers should develop a thorough understanding and competence about the procedure and organization of individual and group action research.

NCTE has also started various innovative programmes and these courses have been offered in various universities. National Council of Teacher Education has been set up by the Central Government to undertake the task of quality control of teacher education. NCTE has been given statutory powers to carry out its functions. It is an autonomous organization with its headquarters at Delhi. The task of ensuring quality in teacher education is of stupendous nature because of huge amount of variations in organizational patterns of teacher education from State to State and from university to university.

The list is as under:

1. Diploma in Preschool Education (DPSE)
2. Diploma in Elementary Education (D.El.Ed.)
3. Bachelor of Elementary Education (B.El.Ed.) degree
4. Bachelor of Education (B.Ed.) degree
5. Master of Education (M.Ed.) degree
6. Diploma in Physical Education (D.P.Ed.)

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7. Bachelor of Physical Education (B.P.Ed.) degree
8. Master of Physical Education (M.P.Ed.) degree.
9. Diploma in Elementary Education (D.El.Ed.)
10. Bachelor of Education (B.Ed.) degree
11. Diploma in Arts Education (Visual Arts)
12. Diploma in Arts Education (Performing Arts)
13. 4-year Integrated Teacher Education programme(B.A., B.Ed./B.Sc. B.Ed.) degree
14. Bachelor of Education (B.Ed.) degree (Part Time)
15. 3-year Integrated Teacher Education Programme(B.Ed., M.Ed.) degree
16. Integrated Teacher Education Programme (B.A., B.Ed./B.Sc.. B.Ed.) Pre- Primary to Primary.
17. Integrated Teacher Education Programme (B.A., B.Ed./B.Sc.. B.Ed.) Primary to Secondary.

So, NCTE is also taking initiative for quality control as well as for innovation and best practices in teacher education.

Innovations and best practices in any teacher education institutes largely depend upon good governance. Good governance is about the processes for making and implementing decisions. It's not about making 'correct' decisions, but about the **best possible process for making those decisions.**

Our former President of India Smt. Pratibha Patil has also highlighted the importance of Good Governance by saying that **"India is known for its sobriety and wisdom, balanced and sensible thinking. We need strong institutions and we need good governance in the country."**

Good governance leads to innovation and best practices. It can be explain by giving the example of 4 A i.e., Availability, Accessibility, Acceptability and Adaptability.

It can be explained as:

Availability	• The ideal pupil-teacher ratio • Guidelines relating to school building • Minimum number of working days • Instructional hours in an academic year • Minimum number of working hours per week for teachers • Library facility • Guidelines on teaching or play material
Accessibility	• Disallowing capitation fees and screening procedure • Provision for special training • Admission of students belonging to weaker and disadvantaged groups • Balanced representation on the school management committee.
Acceptability	• Development of national curriculum • Prohibition of holding back and expulsion or physical punishment and mental harassment • Duties of teachers
Adaptability	• Admission of students belonging to socially disadvantaged groups • Right of transfer to a school

For providing quality teacher education, there is a need to have a critical look at the making and unmaking of teaching as a profession and teacher education as a discipline. They need not remain sunk in the deluge of empiricism.

Innovation and Best practices required well planned change. Dr. Kohli has rightly stated that there is unbelievable change in our ways of living, ways of thinking and ways of planning. There is explosion of population, explosion of knowledge and explosion of our aspirations. Hence we want to have a drastic change in our system of education, the updating of our curriculum and modification in our ways of evaluation. The change in the system of teacher education, though more crucial, not only due to new pattern of education, but more so

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because of new challenges confronting our nation and society. We are keen to have urgent social change. The crisis of character, the erosion of age-old values and dilution of patriotic feelings are before our eyes. We are victims of national disintegration, communal frenzy, racialism, provincialism and separatism. All these and numerous other considerations weigh heavily for bringing in drastic changes in our style and system of education of teachers.

Moreover, our Training Colleges, fondly known as colleges of Education, have miserable failed to achieve their objectives. The facilities available there are woefully inadequate. The teacher educators are hardly competent and qualified. Their curriculum neither meets the needs of the schools nor prepares them as skilled and groomed teachers. The suppliers of goods (Training Colleges). Teacher Education is isolated from the Schools as well as from the main stream of the University life. Obviously therefore, let us discuss some of the pertinent considerations for change.

1. Education as an instrument of Development

This world is based on Science and Technology. So, it is education that determines the level of prosperity, welfare and security of the people. The quality of students depends upon the success in national reconstruction. It is essential that one should re-evaluate the role of education in the development of our country. We should also identify the modifications required changes needed in the prevailing system of education if it is to play its proper role.

If the pace of national development has to be accelerated, there is need for a well-defined educational strategy and a determined and vigorous action to vitalize and improve education. But education cannot be considered in isolation. It has to be used as an instrument of economic and social change. Moreover, it has to be related to national aspirations and long-term programmes of national development. Some specific problems of national development, for planning for education require Economic growth and employment, Self-sufficiency in food, Social and national integration, Political development as well as International imbalances.

2. Education as an instrument of Social Change

For bringing about social change, we have to simultaneously attack on two fronts i.e. development of human resources as well as physical resources. Change is the order of the day education has been recognized to be the tool to bring it about. The development of human resources can take place through a well defined programme of education. The National Commission on Teachers- II, has rightly stated in this regard:

‘The very word development has acquired a new meaning and dimension, perhaps it would not be wrong to say that in the process, the concept of education itself has been changed. Ti is no more continued to formal structures and institutions. It can reach out in a variety of ways the human resources of the whole community could be used for the purpose. The dynamics of knowledge have let to the concept of life-long learning for the individual and programme of continuing education in institutions. A great deal has been discovered about learning itself, and its highly personal character. The boundaries of the well established disciplines of the past have crumbled and interdisciplinary teaching and research have come into vogue. New technologies have begun to be widely used, both to enrich the quality of education and to enhance its reach.’

Similarly, the National Policy on Education (1986) has also said that education is a unique investment in the present and the future. Education has an acculturating role. It refines sensitivities and perceptions that contribute to national cohesion, a scientific temper and independence of mind and spirit – thus furthering the goals of socialism, secularism and democracy enshrined in our constitution.

The Kothari Commission (1964-66) has stated in this regard as:

‘If this change on a grand scale is to be achieved without violent revolution (and even then it would be still necessary) there is one instrument and one instrument only that can be used: Education. Other agencies may help, and can indeed sometimes have more apparent impact. But the national system of Education is the only instrument that can reach all the people. It is not, however, a magic wand to wave wishes into existence. It is a difficult instrument, whose effective use requires strength of will dedicated work and sacrifice. But it is a sure and tried instrument, which has served other countries well in their struggle for development. It can, given the will and the skill, do so for India.’

Moreover, the development of physical resources will take place through industrialization and modernization. This is possible if we adopt science-based technology and other essential infrastructure of transport, marketing etc.

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3. Education as National Development

If we see the title page of the of Kothari Commission report, it is "Education and National Development". It justifies this contention very clearly. The national goals of economic, social and cultural development require provision of education with special characteristics. Without education they cannot be achieved. It has been agreed by all that through proper education alone, the achievement of economic and social development can be facilitated and expedited. These are some of the reasons that the concept of education as investment in development has been increasingly accepted. The direct link between education, national development and prosperity which we have emphasized and in which we deeply believe, exists only when the national system of education is properly organized, from both qualitative and quantitative points of view. The native belief that all education is necessarily good, both for the individual or for society, and that it will necessarily lead to progress, can be as harmful as it is misplaced. Quantitatively, education can be organized to promote social justice or to retard it. History numerous instances when small social groups and elites have used education as a prerogative of their rule and as a tool for maintaining their hegemony and perpetuating the value upon which it has rested. In fact, our country needs a revolution in education, which in turn would set in motion the social, economic and cultural revolution. The resources needed for development of education can be generated if it is related to productivity. Education and productivity can constitute a rising spiral whose different parts support each other. The link between education and productivity can be forged though the development of the following programmes which should receive the priority in the plans of educational reconstruction:

a) Science as a basic component of education and culture

b) Work experience as an integral part of education

c) Vocationalization of education

d) Improvement of scientific and technological education and research

4. Education and Self-reliance

National Policy on Education (1986) has stated about self-reliance as:

'The country has reached a stage in its economic and technical development when a major effort must be made to derive the maximum benefit from the assets created and to ensure that the fruits of change reach all sections. Education is the highway to that goal.'

So, for achieving thos goal, it is our duty to educate the people about the needs of the country, our heritage, culture and values to promote socialism, national integration and secularism.

5. Teachers and Teaching

The greatest challenge before education is to meet the needs and aspirations of the people, for whom it is provided. But, according to Dr Kohli, it is a fact that our present system of education is largely unrelated to life and there seems to be a wide and deep gulf between the content of education and goals of individual and social development, which will be clear from the following considerations:

1. Today the target of our national planning has been to achieve rapid economic development. If it is to be achieved successfully, education must be suitably linked with productivity. But our present system is too much bookish and theoretical and hardly caters to the growth of national wealth.

2. India is an agriculture based country and our education system does not provide any importance to this aspect of life. Agriculture has been neglected at all the stages of education and does not attract an adequate share of the top talent in the country. The enrolment in the Agricultural Faculties of various universities is very low. Most of the Agricultural Colleges are comparatively weak and under-developed. Even the Agricultural Universities are not performing their functions in the right direction.

3. It is sad commentary to learn that our schools, colleges and universities are largely unconcerned with the national reconstruction and the efforts being made in this direction. The teachers are uncommitted and show their indifferent attitude. They are generally unaware of the developments and do not find opportunities to participate in its programme.

4. The need of the hour is to develop a sense of moral and social responsibility among the young boys and girls. But our pattern of education does not take any note of it and fails to inculcate character formation and hardly makes any effort to cultivate moral and spiritual values, particularly the interests, attitudes and values needed for a democratic and socialistic society.

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5. It is unfortunate to learn that our educational system, instead of promoting social and national integration, has been promoting divisive tendencies. Even caste loyalties are being encouraged in a number of private and denominational institutions. The rich and poor are being segregated in the schools, the former getting the privilege of attending the Residential or Public Schools, while the latter are forced to join, the traditional government or other schools of poor quality.

There was a time when entire system of education revolved round the teacher but now the time has changed and with the age of Google and Wikipedia as well as with the advancement of knowledge, now the methods of teaching, psychology of the child, entire system of education and the concept of teaching is changed. It is the age now where the students learn on their own through various resources and agencies.

CONCLUSION

In this way, it is stated that Innovations and Best Practices play a pivot role in the development of the institution. The developed institution can give better education to the students. It can help the students to develop an enquiring mind, discover new knowledge and develop new attitudes and outlooks. It is seen in this age that some of the students may go beyond the teacher in their competence. So, the teacher should function as a facilitator of learning and innovations.

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APPLICATION OF INNOVATIVE TECHNIQUES IN INCULCATING ACHIEVEMENT ORIENTED BEHAVIOR AMONG STUDENTS

Loveleen[1] and Dr. Sharmila Devi[2]
Research Scholar[1], Department of Education and Community Services, Punjabi University, Patiala
Assistant Professor[2], Department of Distance Education, Punjabi University, Patiala

ABSTRACT
This paper examined various innovative strategies which are used in inculcating achievement oriented behavior in students. Achievement oriented behaviour of an individual is associated with individuals ability in performing task, academic achievement, adjustment, and well-being. Students who are achievement oriented set high standards and they take time to think about how well they have done something and look for new and better ways to improve their skills and performance. They will try to anticipate any difficulties in meeting their goals and will take risks if they need to, to achieve what they want. Mastery approach of achievement orientation is more useful in achieving the aim as compared to performance approach. Different strategies can be used by teacher in the classroom for fostering mastery goals. In this paper, we will discuss about using different strategies in enhancing achievement oriented behavior of students in the classroom by fostering mastery approach.

Keywords: Achievement orientation, Mastery approach, Innovative techniques

INTRODUCTION
In the competitive world, every individual desires for a high standard of achievement. Quality of performance has been regarded as a key for personal development. Motivation is the basic drive for all of our actions. It plays an important role in success or achievement. It acts as the driving force behind each and every action of an individual. The desires and needs of an individual have a strong impact on the direction of their behavior. Motivation depends upon individuals emotions and achievement related approaches. There are distinctive forms of motivation such as extrinsic, intrinsic, and physiological. Hence, motivation process plays an important role in all human endeavors including learning and education.

Research in the area of motivation has grown rapidly in the last two decades with a special attention to the studies of achievement goal orientations. In the area of motivation, achievement goal orientation is definitely the most important area of research, as there has been a recent increase in achievement goal research in social, educational and sport psychology. According to Slavin (2000), motivation plays a crucial role in learning and also functions as an internal process which guides our behavior. This showed that if individuals are to be successful, then they need to be motivated in order to include themselves in high levels of learning. Even though motivation is an extremely individualistic concept and it depends upon personality factors, it is also possible to regard it as a product of the individuals environment. As a result, we can say that if the teacher is incapable in controlling each and every learners personality structures, it is feasible for them to affect the environmental features of the construct in order to influence students motivational levels in a positive way. A great number of studies had been dedicated to prove the importance of motivation within the educational setting. Sungur (2007) also found that students motivation was the main reason for their level of participation and commitment while carrying out the assigned tasks. Moreover, the study demonstrated that more motivated the students were on the tasks, the more likely they were utilizing the right metacognitive skills within the academic setting.

Motivation is typically defined as that which influences the initiation, direction, magnitude, perseverance, continuation, and quality of goal-directed behavior (Dweck & Elliott, 1983; Maehr & Meyer, 1997). The significance of “goals” in such a definition is clear and according to goal orientation theory, goals are essential in providing purpose or meaning to an activity (Kaplan & Maehr, 2007; Maehr & Nicholls, 1980). Achievement goal theory specifies the kinds of goals whether it is mastery or performance but it directs the achievement-related behavior of an individual. Achievement goals function as a framework which enables the individual to interpret and react to events consequently; they comprise reasons for the individuals learning related behavior (Dweck & Leggett, 1988).

CONCEPT OF ACHIEVEMENT ORIENTATION
The concept of achievement orientations is used to express mental processes and activities resulting from the desire to achieve goals which were proposed by Dweck and Leggett in 1988. This concept examines how much individuals are motivated and how they behave towards the goals they set for a certain task (Wagner, 2009).

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Achievement orientation is defined as the planning of cognitive processes with individual cognitive, emotional and kinetic consequences of the individuals, and motivational approaches that individuals will adopt upon to accomplish any task (Gozler et al. 2017; Togluk, 2009). Today, the concept of achievement orientation comes into prominence more in an effective and efficient way in teaching-learning process.

According to Pintrich (2000) achievement goal constructs reflect an organized system, theory, or schema for approaching and evaluating one's performance in an achievement context. It also refers to energization and direction of behaviour, competence - based effect and cognition. In academic settings, achievement goal theory has been one of the most important frameworks to conceptualise students motivation to study, individual interpretations and experiences (Diseth, 2015). According to Elliot, McGregor and Gable (1999) achievement goals represent the purpose or reason the students engage in an academic learning task.

ACHIEVEMENT GOAL ORIENTATION THEORY

Achievement goal orientation refers to the aim, purpose, reason or focus of an individuals achievement behaviour. These goals are dynamic cognitive entities which are representing future-based possibilities that are responding to the changes in the person as well as the situation.

Achievement goal orientation theory was developed from the joint work of Dwek (1986), Nicholls (1984) and Ames (1992). For Ames (1992) achievement goals refers to the purposes that learners have for their achievement related behavior*r, and these can be used to clarify the learners in which way they will respond , move towards, or engage in academic tasks of different natures. It was concluded that goals had the capacity to influence and motivate students achievement behaviors. In another definition which was put forward by Pintrich and Schunk (1996), achievement goals were defined as integrated patterns of learners beliefs regarding their reasons for engaging themselves in a learning task. According to Elliot (1999), goals were creating a framework for learners experiences and interpretations in an achievement setting. Elliot and McGregor (2001) designed a four-factor conceptualization of achievement goals orientations that included a mastery-performance dimension with an approach-avoidance dimension. The four goal orientations, as described by Elliott and McGregor (2001), are:

- Mastery Approach Orientation - trying to attain competence relative to the task or personal standards (students are motivated to learn or develop skills).
- Mastery Avoidance Orientation - trying to avoid incompetence relative to the task or personal standards (students are motivated to avoid failures or become de-skilled).
- Performance Approach Orientation - trying to attain competence relative to one's peers (students are motivated to outdo others or to be considered talented).
- Performance Avoidance Orientation - trying to avoid incompetence relative to one's peers (students are motivated to avoid doing worse than others or to be considered less talented).

Achievement-oriented behavior of an individual is undertaken with an expectation that his performance will be evaluated in terms of some standard of excellence. It is concluded that any situation which presents a challenge to achieve, by arousing an expectancy that action will lead to success, must also posses the threat of failure by arousing an expectancy that action may lead to failure also. Thus achievement-oriented behavior of an individual is always influenced by the result of a conflict between two opposed tendencies, the tendency to achieve success and the tendency to avoid failure. Achievement-oriented behavior of an individual is mostly influenced by extrinsic motivational tendencies like any kind of motive and incentive.

TYPE OF APPROACHES TO BE USED IN THE CLASSROOM FOR ACHIEVEMENT ORIENTED BEHAVIOR

According to Bloom (2009), "mastery approach may be optimal for academic engagement". Student self-efficacy is increased with mastery goals. Students become more self-motivated; they try harder and work longer to accomplish their achievement. They also seek challenges when a mastery approach focus is used. Mastery approach seems to be the better choice as a main focus for achievement oriented behavior of an individual in the classroom. However, performance approach also has their place in the classroom when used as a supplement to mastery approach. Mastery approach should be the main focus, and performance approach could possibly be used as steps or check points along the way. It is important to make sure that the performance approach do not become fail-avoidance focused, nor should they be used to compare different students accomplishments. Performance approach should be used to help check that specific steps are being met along the learning journey toward a mastery approach. When beginning to incorporate the use of mastery approach in

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developing the achievement oriented behavior of an individual in the classroom, the following structure and instructional strategies, created by Ames (1992) may be useful as a guide.

<table>
<tr><th>Structure</th><th>Instructional Strategies</th><th>Motivational Patterns</th></tr>
<tr><td>Task</td><td>• Focus on the meaningful aspects of learning activities
• Design tasks for novelty, variety, diversity, and student interest
• Design tasks that offer reasonable challenge to students
• Help students establish short-term, self-referenced goals
• Support the development and use of effective learning strategies</td><td rowspan="3">• Focus on effort and learning
• High intrinsic interest in activity
• Attributions to effort
• Attributions to effort-based strategies
• Use of effective learning and other self-regulatory strategies
• Active engagement
• Positive affect on high effort tasks
• Feeling of belongingness
• "Failure-tolerance"</td></tr>
<tr><td>Authority</td><td>• Focus on helping students participate in the decision making
• Provide "real" choices where decisions are based on effort, not ability evaluations
• Give opportunities to develop responsibility and independence
• Support development and use of self-management and monitoring skill</td></tr>
<tr><td>Evaluation/Recognition</td><td>• Focus on individual improvement, progress, and mastery
• Make evaluation private, not public
• Recognize students effort
• Provide opportunities for improvement
• Encourage view of mistakes as part of learning</td></tr>
</table>

In addition to know what type of approach students should focus on, it is also important to review progress of set achievement aims. If students simply set aims and then never rethink about them, they are virtually useless. Students need to think about whether or not they are accomplishing their aims. Strategies need to be devised to help ensure student success. Sometimes achievement aims are set too low or too high. According to Bloom (2009), it can be a positive process for both the student and teacher when they both come together to review student aims. Students can refocus on their efforts, and teachers can redirect and build their confidence. In addition, meeting with students about achievement aims can give insight to teachers about what their students have learned, still need to learn, and discover areas of teaching and learning to be revisited and improved upon.

Innovative strategies to be used in the class to foster Mastery Achievement oriented behavior

- **Giving choices to the students-** According to Self-determination theory by Deci & Ryan (1985), when individuals feel autonomous, they are more motivated. Giving choices help students to adopt a mastery approach orientation which allows them to have some choice and control over their own fate.

- **Teacher himself act as a model with mastery approach-** According to Social learning theory by Bandura (1985) which focuses on the tendency that we have to model our behavior on those around us. When the teacher models a mastery orientation in the class, students are more likely to adopt it. Teacher need to show that when we make mistakes, we handle them in a way that causes us to learn from them rather than trying to hide or avoid them. Students need to see those strategies that involve successfully coping with failure so that they can have a way to cope with their own failures. Once they know how to handle failure successfully, they are less likely to fear it.

- **Emphasizes on learning from mistakes-** In the classroom, teacher should provide opportunities to the students to correct and to learn from their mistakes. In general, once a grade is given to a student, there is little that a student can do about it; students therefore do not have much motivation to learn from the experience. Teacher can change students behavior by providing the opportunity to score more marks they have lost by examining their mistakes and also learning from them.

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- **Giving positive and diagnostic feedback that focuses on personal improvement-** Teachers feedback directs student attention toward their achievement. Therefore, in providing feedback, teacher should not just say that there is something wrong, but rather teacher should tell the student how to make it better. Even when giving positive feedback, a teacher can compare a students current level of progress to previous performance and emphasize on those areas that have shown improvement.

- **Minimize comparisons of students with other students and emphasizes on comparison with previous performances -** Goal orientation theory holds that performance orientation is a manifestation of normative performance, i.e., how one's performance can compares to others (Elliott & Murayama, 2006). The spreading of information that discloses the details about an individuals performance is a violation of federal privacy laws. Thus, the use of computer classroom management systems allow online feedback to an individual which have made this task much easier.

- **Foster a community within the classroom-** Making the classroom a safe place is helped if students perceive others in the class as resources and supporters rather than competitors. It is also helped when they perceive the teacher as their partner in learning, not just their evaluator. There are many ways of fostering classroom community (Bransford, Brown, & Cocking, 1999), but a few stand out as easily to implement. For example, having students work together in groups encourages them to get to know other students in the class and seek their help when it's needed. The teacher can even help this process along by allowing groups to consult with other groups as they work through a problem. The teacher should also make an effort to learn student names and something about them so that each can view the other as a person not just a role. The teacher can build a shared history for a class by referring to their unique experiences as a group and creating new ones that they share. Most important, the teacher should encourage all individuals in a class to treat everyone with respect.

CONCLUSION

Achievement oriented behavior of an individual plays a crucial role in determining and explaining the academic performance of an individual. With the help of different strategies, the teachers can focus on what type of aproach student adopt most and also focus on the strategies to involve students in academic activities for improving their overall performance and also the teacher can make clear to students about the aims they should set and adopt for themselves and should make the students focus on mastery and performance skills. There are undoubtedly many more strategies that teacher can use to help students and classroom is a safe place, where the aim is learning, not just performing. Techniques used in inculcating achievement oriented behavior in students also helps them to discover and create new class structures that make students feel safe so that they are free to become mastery oriented. Moreover, teacher also feels safer and enjoys teaching, try new things, and also adopt a mastery orientation toward teaching itself.

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CONSTRUCTION AND VALIDATION OF SCALE OF STUDY HABITS

Dr. Sunita Sagar Bhatla
Principal, Shree Ram Mulkh College of Education

ABSTRACT

This paper describes the development and standardization of a measure of perceived Study habits. The need to develop the study habits scale was felt owing to the fact that study habits of students have drastically changed over the period of time due to the impact of digital media and ever-changing socio-economic behaviour pattern. The eight indices of Study habit are based on concentration, time management, planning, Study environment, note taking, test preparing& exam technique,motivation, reading and its comprehension as suggested by Yadav, 1957, Bradon, 1996, Glenn, 2003, Liu 2005, Mukhopadyay&Sansanwal, 2005, Crede&Kuneel, 2008, Eliot et al., 2008).The items were constructed on study habits of class X students of Panchkula.Hence, the tool will be largely suitable for scaling the study habits among secondary school students. The tool has good content validity and test-retest reliability.

Keywords: concentration, motivation, time management, validity, digitalisation

In the field of education, a burning problem is the ever increasing number of failure of students at the school level. Though failure rate in various examinations has different reasons but one of the main reasons is poor or ineffective study habits. The present day student is haphazard and desultory in his study habits as he often avoid self-efforts, selects the path of least resistance and resorts to cheap bazaar notes to get through the examination and neglects the important and huge source of knowledge offered by the library facilities. One of the prime reasons of this may be that ourpresent educational system has neglected the cultivation of good study habits. Poor study habits often result in poor academic performance even among the students who are naturallybright or have good I.Q. levels.Ramamurti (1993) rightly emphasized that despite possessing good intelligence and personality, the absence of good study habits adversely affects the academic achievement.Bradon (1996) noted that unless theirstudy skills are not improved, students will continueto perform poorly in academics and may not be able to realize their full potential. Students should concentrate on inculcating good study habits like note-taking, time management, organizing for a test, recording regular assignments in a notebook, having regular time for study,avoiding distractions from television, mobiles or phone calls at home.Asagwara (2001) confirms that acquiring good study attitude comes by means of regularly practising good study habits. Students who develop the habit of performing their homework and assignments properly and on time are likely to perform better than those who avoid doing the same.Shinde (2001) observed that imparting study skill training may enhance the scholastic achievement of students.According to Simmons (2002), study habits help the students to attain high level of analytical skills, capability to perform critical reasoning, self-reflection and conceptual grasp and ability to learn automatically and exercise good flexibility of mind. Rao and Rao (2004) state that teachers should guide and help the students in developing good study habits. The parents should provide the requisite facilities and ambience to the students in their studies. The students should also develop right study habits to achieve academic achievement.Fielde (2004) states that good study habits assist the students in critical reflection in skills outcome such as selecting, analysing, criticising and synthesizing of information.Liu (2005) points that over the period of time, study habits are actually improving because of the advent and wide use of the internet and multimedia resources.Karim and Hassan (2006) reported that the exponential growth of digital information has changed the way student perceive studiesand the printed materials that are to be used in facilitating study.According to Menzel, cited by Rana and Kausar (2011), many students fail not because they lack the academic capability but because they do not have adequate study habits. Students who face difficulty in college often do not have adequate study habits which affect their academic achievement. One of the critical deficiencies observed was that many of these students had not learned how to take effective notes and manage their time properly for studying (cited by Mutsotso S.N. &Abenga E.S., 2011).

Development of study habits consists of a regular allocation of time and resources to the work at hand. Study habits are often established gradually over a period of time. The learner would have a greater probability of achieving better in his studies if he develops study habits. Grace Fleming has given the below tips of formulating good study habits;

- Write down every assignment.
- Remember to bring your homework to school.
- Communicate well with your teacher

- Organise with colours.
- Establish a proper study zone at home.
- Prepare yourself for test days.
- Know your dominant learning study.
- Take fabulous notes.
- Take care of yourself.

CONSTRUCT OF STUDY HABITS

After reviewing the literature in this field (following eight indices of study habits were finally selected for inclusion in the present scale.

(i) **Concentration:**It means for how long a student can focus on study. Some students can study for longer hours whereas some students get tired after a short session of study. While still some others who find it difficult to concentrate at all.

(ii) **Time Management:** It means ability to manage time or effective use of time by getting clear on the goals. It also means reaching objective without losing time. There are many students who can do more work in less time as they allot proper time to each subject. There are still others who are not able to finish their tasks due to poor time management.

(iii) **Planning:** It means planning of work associated with one's study.

(iv) **Study Environment:** It refers to the area or the place one chooses to study. Creating a good study environment allows one to maximise the learning efficiency. There are many different study environments as there are students.Some students cannot study when it is really quiet,others need the quiet environment.

(v) **Note Taking:** It means taking notes of the lessons effectively, reviewing the notes properly.Good note-taking also depends upon a student's ability to convert information from the classroom lecture or textbook into a meaningful written message. It also means the ability of the students to pick out important information from class lectures and textbooks.

(vi) **Test Preparing & exam technique:** Proper studying and test taking strategies are a vital part of improving grade on exams and academic success.

(vii) **Motivation:**It means desire to do well for one's own pleasure.Constant encouragement allows the child to continue to improve and grow in confidence as they develop better and better studying skills.

(viii) **Reading & its Comprehension:** It refers to understanding the meaning of a written or printed word or the act of obtaining knowledge or information through books, magazines, journals etc.

SCALE OF STUDY HABITS

This scale is used for measuring perceived study habits of secondary school students. The draft scale has been developed as suggested by Yadav, 1957, Bradon, 1996, Glenn, 2003, Liu 2005, Mukhopadyay&Sansanwal, 2005, Crede&Kuneel, 2008, Eliot et al., 2008).

PARTICIPANTS

Data from 600 secondary school students from Panchkula district from the state of Haryana were collected and used to develop and standardize the scale of study habits. The participants are coming under adolescent group. Among the subjects 300 were girls and 300 were boys.

METHODOLOGY FOR SCALE CONSTRUCTION

In developing the present Study Habits Scale the following steps were followed:

(1) Preparation Phase :

(a) **Preparation of Item pool:** One of the important steps in the development of the scale is the constitution of an item pool. After consulting the available literature on effective study habits and consulting teachers, colleagues and students, initially 74 items were prepared related to eight dimensions of study habits namely: Concentration, Time Management, Planning, Study Environment, Note Taking, Test Preparing & Exam technique, Motivation and Reading & Comprehension. The statements were discussed with supervisor and modifications were made wherever required. The nature of the items along with their dimensions is given in the table below:

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Table–1.1: Distribution of items in first draft of eight dimensions of Study habits

Sl.No.	Dimensions of Study Habits	Nature of Item		Total
		Positive	Negative	
A	Concentration	24,38,61	13,23,33,52,57,71	9
B	Time Management	2,5,19,41,56,69,70,74	15,34,62,68	12
C	Planning	1,8,30,40,42,51,65	--	7
D	Study Environment	14,46,50,58	47,65	6
E	Note–making	4,12,22,31,48	9,29,32	8
F	Test Preparing& Exam technique	28,49,73	6,18,25,26,39,45,64	10
G	Motivation	3,11,20,27,44,53,55	7,16,54,59,60,67	12
H	Reading& Comprehension	35,43	10,17,21,36,37, 66,72	9
Total		39	35	74

Item Construction Criterion was followed as proposed by various authors (Garret, 1981). All the statements were carefully worded for use by the students.

(b) **Editing of the items:**This first draft of 74 items was then shown to experts to check the grammatical correctness, repetitiveness and ambiguity of the items. These experts were requested to go in for critical reflection over each and every statement. Keeping in view their judgements and comments, 15 items were dropped and some were modified and 59 statements were finalised for the provisional draft of scale.

Table –1.2: Distribution of items in Second draft of eight dimensions of Study habits

Sl. No.	Dimensions of Study Habits	Nature of Item		Total
		Positive	Negative	
A	Concentration	24,38,53	13,23,33,50,58	8
B	Time Management	2,5,19,41,52	15,34,54,57	9
C	Planning	1,8,30,40,42		5
D	Study Environment	14,49	46	3
E	Note –taking	4,12,22,31,47	9,29,32	8
F	Test Preparing& Exam technique	28,48	6,18,25,26,39,45,55	9
G	Motivation	3,11,20,27,44,51	7,16	8
H	Reading& Comprehension	35,43	10,17,21,36,37,56,59	9
Total		30	29	59

(c) **Writing Instructions for respondents:** Following instructions were written for the respondents in the beginning of study habits Scale:

1. Read the instructions carefully.
2. Fill in the information regarding your name,class,age,sex and name of the school.
3. Terms of occurrence,you can indicate your position simply by ticking cross in any one of the cells-Always, Sometimes, Never-given against the statements.
4. Do not leave any statement unanswered.
5. Information given by you will be kept confidential.
6. Give honest replies.

(d) **Try out of Second Draft of the scale:** After making some modifications in the language structure of some items that were found to be ambiguous and unacceptable to the students, the questionnaire was prepared for the try-out of second draft of the scale.The test was administered on 600 students, 300 girls and 300 boys taken randomly from students of class X of 20 Government Schools belonging to district Panchkula. A structured instruction was written on the test.The items were scored on the basis of responses given by students in the form of Always, Sometimes, and Never which were given weightage of 3,2,1 respectively for the positive items and vice versa.Frequency of responses for each item was noted down for the purpose of item analysis.

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Table –1.3: Scoring Pattern of Study Habits Scale (Second Draft)

Nature of Item	Item Number	Always	Some-times	Never
Positive	1,2,3,4,5,8,11,12,14,19,20,22,24,27,28,30,31, 35,38,40,41,42,43,44,47,48,49,51,52, 53,59	3	2	1
Negative	6,7,9,10,13,15,16,17,18,21,23,25,26,29,32, 33,34,36,37,39,45,46,50,54,55,56,57,58	1	2	3

(e) Item Analysis: In order to make selection of items objective and scientific, item analysis was done. Scores of two extreme groups i.e. 27% highest and 27% lowest were considered for the purpose of item analysis. 't' ratio was computed for each item of two extreme groups. The middle group being the normal group was kept out for the purpose.

Items significant at 0.05 level were considered for the final form of the inventory. 9 items were dropped and the final form of the inventory consisted of 50 items.

Table–1.4: t-ratio values of items

Item Number	t-ratio	Item Number	t-ratio
1	3.12**	31	3.42**
2	3.42**	32	3.13**
3	2.26*	33	4.02**
4	3.42**	34	3.38**
5	3.03**	35	3.00**
6	1.41	36	2.58*
7	3.12**	37	4.25**
8	2.38*	38	3.42**
9	2.65*	39	3.42**
10	3.13**	40	3.03**
11	3.12**	41	3.42**
12	3.12**	42	2.39*
13	3.33**	43	3.00**
14	3.00**	44	0.40
15	3.33**	45	3.86**
16	3.13**	46	3.33**
17	3.33**	47	3.13**
18	3.00**	48	2.38*
19	3.35**	49	3.00**
20	3.00**	50	3.74**
21	-0.34	51	1.43
22	3.10**	52	0.78
23	3.12**	53	3.03**
24	2.39*	54	1.26
25	3.13**	55	3.74**
26	3.03*	56	3.42**
27	2.58*	57	0.78
28	3.12**	58	3.74**
29	3.42**	59	1.03
30	1.41		

* signifies items significant at 0.05 level

** signifies items significant at 0.01 level

Table–1.5: Number of items that were accepted and rejected from Second Draft of study habits scaleafter item analysis.

Items Rejected	Items Accepted
6,21,30,44,51,52,54,57,59	1,2,3,4,5,7,8,9,10,11,12,13,14,15,16,17,18,19,20,22,23,24,25,26 ,27,28,29,31,32,33,34,35,36,37,38,39,40,41,4243,45,46,47,48,4 9,50,53,55,56,58

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Table–1.6: Distribution of items in final draft of eight dimensions of Study habits Scale

Sl. No.	Dimensions of Study Habits	Nature of Item		Total
		Positive	Negative	
A	Concentration	22,47	12,21,30,46,50	7
B	Time Management	2,5,18,38	14,31	6
C	Planning	1,7,37,39		4
D	Study Environment	13,45	42	3
E	Note –taking	4,11,20,28,43	8,17,27,29	9
F	Test Preparing& Exam technique	26,44	23,24,36,41,48	7
G	Motivation	3,10,19,25,15	6	6
H	Reading& Comprehension	32,35,40	9,16,33,34,49	8
Total		26	24	50

Table –1.7: Scoring Pattern of Study Habits Scale (Final draft)

Nature of Item	Item Number	Always	Sometimes	Never
Positive	1,2,3,4,5,7,10,11,13,15,18,19,20, 22,25,26,28,32,35,37,38,39, 40,43,44,45,47	3	2	1
Negative	6,8,9,12,14,16,17,21,23, 24,27,29,30,31,33,34,36,41, 42,46,48,49,50	1	2	3

(2) Standardisation Phase

(a) Determination of the Reliability of scale: For establishing the reliability of scale, test-retest reliability criteria were used. For this, the scale was administered to 30 students of class-X, 15 students each taken from two different government schools. The same scale was administered after the gap of 15 days for the test-retest reliability. The product moment coefficient of correlation between two sets of scores was computed. It was found to be 0.91. This was fairly high to testify the soundness of the scale.

(b) Validity of the scale: Content validity of the scale was checked, which involves the systematic examination of test content to determine whether it covers a representative sample of the behaviour to be measured.As regards its content validity,test was shown to experts from the field of teacher educators and students for obtaining their verdict on validity. Besides these items of the scale were selected after carefully scrutinizing the definition of study habits and its dimensions,hence scale has fair degree of content validity. The face validity of the scale was established by having the reaction of students for whom the test was meant. It was also shown to the experts in the field of psychology and education. It's language, format, instructions and size was found to be suitable for the respondents.

INTERPRETATION

The maximum score that can be obtained on the study habits scale is 150 and minimum is 50. The scores theoretically ranges between 50 - 150 and the obtained score for any person will be in between these two limits. The obtained scores shall be the raw scores. So for the interpretation, raw scores are converted into Z-scores. Since the sample population was very small, therefore Z-score norms on the basis of mean and standard deviation of the total sample of 600 students have been prepared and these have been presented in the table 3.8 below.

Table – 1.8: Norms for interpretation of Z-score for the type of study habits

Sl. No.	Z -Score Range	Type of Study Habits
1	+ 0.51 and above	Appropriate Study Habits
2	– 0.50 to + 0.50	Average Study Habits
3	– 0.51 and below	Inappropriate Average Study Habits

FINAL DRAFT OFSTUDY HABIT SCALE

Always Sometimes Never

1. At the start of each weak, I carefully plan my study schedule for the week.
2. I get my homework done on time.
3. I enjoy the challenge of a difficult, new topic in lectures.
4. I revise the notes daily.

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5. I study thedifficult subjects when I am most alert .
6. I get demoralised and give up easily if something is too difficult for me.
7. I prepare ahead of time all the materials (Paper, Pencil, Book, Laptop etc.) that I will need.
8. When I take notes in class, Idoodle in my notebook to pass time.
9. When I first began a new chapter, I only look for answers to the questions at the end of the chapter.
10. I reward myself after a good study session.
11. I know "what is the important stuff" to write down.
12. I havedifficulty in concentrating on material I am studying.
13. The desk or area where I study is always clean except for the materials for the subject I am currently studying.
14. I spend more time on computer or watching TV than I should.
15. I contact othersfor study purpose.
16. I read because the teachers push me in classroom.
17. I usually spend time cramming the night before an exam.
18. I turn down chances for social activities or reschedule them if I know I have homework to do or a test to study for.
19. I wish I had gone straight into work after school.
20. I can put class notes or notes from texts into my own words.
21. My study time is interrupted by outside distractions such as face book, messages, calls, texts, noises etc.
22. I can take notes inclass, keep up with the instructor and understand the concepts at the same time.
23. I get nervous on tests.
24. I often find that my mind goes blank when I am faced with a particularly difficult question.
25. I have a specific goal in mind when I amstudying.
26. Before writing an answer to an essay question on a test, I write a rough outline on paper or in my mind.
27. I miss important points of class because I do not write as fast as I would like.
28. I access library books and search from internetfor making notes.
29. My class notes are difficult to understand later.
30. I get tired or distracted while studying for a long period of time.
31. I go to bed late during night and get up late to study.
32. I read the lessons before they are taught in class.
33. I read while I am lying on the bed.
34. I prefer to read guides to textbooks.
35. When I get to the end of a chapter I remember what I have just read.
36. I study in a haphazard and disorganised way shortly before the test.
37. I keep my studymaterial properly at one place to locate them easily.
38. I allot time for each subject separately.
39. During summer vacations and other holidays I make a plan of study.
40. I repeat the lesson if something is not cleared to me.
41. For examination Ichoose a fixed number of important questions and prepare them thoroughly.
42. I study with music on or while chatting with friends.
43. I make notes of all key words while studying regular subjects.
44. I do a thorough written practice for Maths, Physics,Chemistry and Biology (Diagrams).

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45. I do my file/project work while watching TV and other leisure activities.
46. During the break from study session, I open my Face book account or Whatsapp messages or Television.
47. I study for short intervals of 1hour and avoid long sessions.
48. I try to finish the examination paper as early as possible.
49. I spend a lot of time reading from a screen, computers, kindle and mobile devices.
50. I am too tired or too sleepy to study efficiently.

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ROLE OF CIGARETTE COMPANIES PROMOTION, ADVERTISEMENT ON THE BEHAVIOUR OF SMOKERS

Pragati Bindal[1] and Dr. Jyotsna Pareek[2]
Research Scholar[1] and Co Author[2], Jaipur National University, Jaipur

ABSTRACT

Tobacco use kills nearly six million people worldwide each year. Sadly, of the more than 6 million tobacco-related deaths which are caused every year across the world, one-sixth happen in our country - India alone. Though the ill-effects of tobacco addiction are well-known, its consumption hasn't gone down.

The smokers have a bias attitude towards their act. Even aware of the fact they are doing harm to their health and society, they try to justify it because they feel overconfident about themselves and think that smoking elevates their high self-esteem. Therefore, the cause of failure of anti-smoking advertising to reach youths due to their optimism bias is evident. If the smoker feels that he or she is healthy enough and does not fear sickness after consuming the cigarettes he turns a deaf ear to all the advises and messages conveyed to him. So, they will ignore the anti-smoking advertisement by all means which becomes a major challenge to convince them for the harm they are doing to themselves.

The government and its associated bodies/agencies are taking lot of initiatives to reduce the consumption of tobacco. Tobacco advertisement and promotions are clearly on the rise, In India cigarette companies spend almost 15% of their total revenue on advertisement and promotions. Due to stringent law of COTPA, cigarette companies have come with innovative ideas to promote their brands, like usage of more and more Point of sales material, Incentivizing the retailers and giving discounts to retails outlet, digital promotion of brand by giving lucrative gifts to smokers etc.

Keywords: Smokers, Advertisements, Promotions, COTPA

INTRODUCTION

Every day, children and youth in India are being exposed to a wide array of persuasive, ambitious, youth oriented, coveted commercial advertisements encouraging the use of tobacco products. Smoking is the most ordinary form of recreational drug used among Youth. Everyone knows smoking is bad for health but only few people, however, realize the different ways in which it great harm to individual’s mind and body. Smoking cigarette harms nearly every part of the human body. Smoking is a major reason of death and permanent disability than any single disease. As per World Health Organization (WHO), nearly 6 million human beings worldwide die due to smoking cigarettes.

Media is undoubtedly the majorly used source to publicize information and create awareness among the people & society. The inherent health hazards of smoking have caused government to launch Anti-smoking campaigns every year to curb and control tobacco smoking. The First legislation in India regarding tobacco was the Cigarettes (Regulation of Production, Supply and Distribution)Act, 1975, which mandated statutory health warnings on all cigarettes packs since 1975. The Anti-Smoking campaign emerged since smoking ban in public places in the early 20’s. In India, anti-smoking campaign started by the display of pictorial health warning on all tobacco products in 2008 as people easily relate to what they see..As per WHO report over 2 million, out of the existing 100 million smokers in India, had enrolled themselves in the first year of quit tobacco initiative of Indian Government started in the year 2016. An evaluation by the health ministry shows that an average of about 7 percent enrolled participants both smokers and smokeless tobacco consumers has demonstrated intention to quit tobacco. For Tobacco companies to maintain current level of tobacco uses and revenues requirements, aggressive addition of new smokers are required, including children, youth and women are most likely source of new smokers. (Since smoking habit in women in India is very less as compared to global average)

REVIEW OF LITERATURE

According to internal surveys of tobacco companies 89% of respondent’ age group 30-39 years who ever smoked daily tried his first cigarette at age of 11 years. 18. 62% by the age of 16 years and over 92% of respondent were found smoking cigarette regularly before age 20 years. These trends have caused a growing demand for role of marketing (advertising and other promotional activities) in making tobacco use attractive to children and youths and in encouraging them to use cigarette and smokeless tobacco. The trend for girls to begin smoking at an earlier age began between 2015-2016, another emerging trend observed during the same period in tobacco use more and more, youths began using smokeless tobacco products like E cigarettes.

What factors have contributed to lessen the declining smoking rates and to increased rates of tobacco uses among children and youths, but have proven to be less effective in sustaining tobacco uses by adults. Public health agencies suggest that youth have a heightened sensitivity to image advertising and promotion themes at a time in their own lives when they are struggling to define their own identities. Cigarettes advertisement are often evocative and play off adolescence development challenges, with addition to positioning the brand message to appeal to specific groups defined by social class, to show them apart from crowd, attention seeking behavior of youth.

Meyrick mentioned that the message of advertising became more effective if the target audience experienced a feeling of involvement towards anti-smoking advertisements, besides, youth might have optimistic bias on them. This was majorly because they felt overconfident about themselves and had self-esteem which might cause the failure of anti-smoking advertising to reach them due to their optimism bias.

Wolburg mentioned that social anti-smoking advertising was usually not effective, majorly because advertising messages generally encouraged consumption rather than discouraging consumption behavior due to media being the wrong platform for Promoting anti consumption message like “don’t smoke”

Sly et al., reveal that these awareness campaigns not only have direct effect, but also an indirect effect on smoking behavior of an individual, which goes through its effects on perceived influence of message theme and individual anti-smoking attitudes.

Tobacco advertising and promotions are clearly on the rise, In India cigarette companies spend almost 15% of their total revenue on advertisement and promotions. Due to stringent law of COTPA, cigarette companies have come with innovative ideas to promote their brands like.

1. Usage of more and more point of sales material
2. Incentivizing the retailers and giving discounts to retails outlet
3. Free sampling including lucrative gifts/ merchandising to smokers.

In 2004, India was the first countries to ratify the World Health Organization’s Framework Convention on Tobacco Control (FCTC) treaty. The FCTC pact has 181 members and contains a raft of anti-smoking provisions, including tobacco taxes, warning labels on cigarette packs and advertising bans.

Forms of Cigarette advertisement and promotion

ADVERTISING

·**Point of Sale-(POS**) Tobacco companies pay retailers to allow them to do point of sales visibility in forms of counter posters, signage on shop, since **COTPA 2003,** allows the Point of Sale visibility.

·**Internet:** - With the rise of various youth oriented YouTube channels, promotion and endorsing of various cigarette brand is becoming popular among cigarette companies. Being youth primary audience of such YouTube channel, and having zero censor, this channel has emerged as very vital platform for Cigarette Companies promotion.

PROMOTION

Merchandise such as Tobacco-branded T shirts given to retailers, backpacks, hats. Non Smokers are more prone to get attracted to smoking to get these merchandising for example Ferrari Lighter, Pen, and backpacks distributed by Phillips Morris.

Product display at retail outlets at favorable spots, retailers get paid from tobacco companies in form of display payment for this. A specific **Planogramming** (a predefined sequence of putting cigarette packets, i.e. from High MRP to Low MRP and Based on length of Cigarette, intentionally avoiding the Graphical Health Warning Side of the packet visibility.) is maintained by retailer/ company promoters at retail to better communicate with smokers.

CBU Visibility: - In accordance with COTPA, (which doesn’t restrict product stacking in outlets at candy and eye level,) also lot of dummy packets stacking is done to increase visibility. Cigarette Companies put lot of empty Cardboard Outer (CBU) which is a wholesale package of cigarette, where Graphical health warning rule of COTPA, doesn’t apply which is very appealing method to increase the product appeal by keeping it at candy and eye level.

Anticipating future advertising restriction, tobacco companies have moved from traditional form of advertisement to Point of sale promotion (within framework of COTPA 2003) and other subtle form of

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advertising and promotions. Research conducted in 2007, suggest that Point of sale advertising directly influence youth to start smoking and influence regular smoker to increase daily consumption.

Free Sampling:- Often camouflaged in form of Product Survey Programme (PSP) Tobacco companies hire third party vendors to conduct PSP and give away free samples and gifts to the youth, at high footfall areas like Shopping malls, Educational Institution, Hostels and PG area. Monitoring of free sampling has been poor, and cigarette companies who contract out free sample distribution have taken no responsibility for cited violation in which minors have been given free samples.

Kiosk Advertising: - After the entrance of Phillips Morris in Indian market, competition between ITC (which hold almost 80% of the market share) and Phillip Morris has got intense. Phillip Morris goal is to make sure that "**every adult Indian smoker should be able to buy Marlboro within walking distance"-** as per Reuters report. In order to achieve this Tobacco companies gives free Kiosk to Retailer (entirely designed by tobacco companies and costing is sometimes as high as 10 lakhs for one Kiosk) In Jaipur only ITC, Godfrey Phillips and Phillip Morris combined has more than 700 Company provided kiosk in high public footfall areas.

Sponsorship: - Tobacco company's sponsorship of bars and nightclubs has increased drastically, accompanied by cigarette brand paraphernalia, advertisements and entertainment events, bars and clubs. Though direct sponsorship to any event is prohibited but cigarette companies still give away a lot of money for sponsoring music concert, rock show, discos. Cigarette companies often flout the India's tobacco control regulations as per their convenience. There are number of other ways also in which tobacco advertising and promotion increases consumption and exacerbates the harmful impact of tobacco use on public health. It can reduce and hamper current smoker's willingness to quit smoking and on the other hand increase their smoking frequency and consumption, and lure youth to try tobacco and initiate regular use.

OBJECTIVE OF STUDY

- To examine the extent and types of cigarette advertisement and promotions done by cigarette companies and their impact.
- How cigarette companies prioritize their utilization of Retail space effective advertisement.
- How cigarette companies ensure product placement at prime location of outlets and cigarette company's incentive plans for retailers.

RESEARCH METHODOLOGY

The study was conducted to understand the Impact of Cigarette companies' promotion & advertising on change in smoking habits among youth. The scope of this study also covers the smoking routine, motivation and impact of Advertising and Promotion.

In depth qualitative interviews with a convenience sample of 50 Tobacco retailers and Questionnaire based survey for 29 Smokers were conducted. Qualitative interviews were conducted with owner of retail outlets (as often more than one-person manage the retail outlet) those selling tobacco products, to learn about modes and means of Cigarette Companies display payouts and incentive plan, how it impacts retail layout in terms of products placement and find out possible visual impact of Cigarette companies display payouts.

Sample: - Retailers were shortlisted on the basis of number packets sold every day to ensure all volume class outlets are covered (1-20 Packets per day, 21-50 packets per day and 51- 100 packets per day and more than 100 packets in a day) then it was divided into main clusters of Jaipur covering Educational institutional areas, Shopping malls, Hostel, and PG area.

Table-1: Major Areas of Jaipur Covered for Retailer's Interview

S No.	Name of Area	Profile	No. of Respondents
1	C Scheme & Mi Road	Corporate Park	5
2	Malviya Nagar	PG area & Shopping Malls	12
3	Mansarovar	Educational Institutes & PG Area	12
4	Kukas	Educational Institutes	12
5	Sitapura	Educational Institutes & Corporate Park	4
6	Vidhyadhar Nagar	Residential Area	5
		Total	50

Smokers (age group of 18- 35 years) were conveniently chosen to be interviewed at retail outlet during peak hour by taking permission and asking their willingness to participate in a tobacco questionnaire based survey.

Table-2: Demographic Profile of Smokers

Category	No. of Respondent	Total Percentage
Age	18-21 Yrs	12
	22-25 Yrs	9
	26-35 Yrs	8
Gender	Male	21
	Female	8
Educational Level	Matriculate	2
	Under Graduate	18
	Post graduate and Above	9
Profession	Government Service	3
	Private service	14
	Business	5
	Student	7

Procedure: - Interviews lasted for approx. 30-45 minutes for retailers, included various areas of discussion, Requirements and type of retailer display payout and other incentive plan, how participation in incentive plan affect the retailer brand perception and influence the sale of a particular cigarette company brands.

For smoker survey a questionnaire based interview was conducted with close ended type questions, for a time period of briefly 5 minutes. And responses were collected personally.

DATA ANALYSIS & RESULTS

Analysis: - A multi-step process was used to identify the key findings from the interviews. A subset of the major topics was assigned to cluster retailer comments accordingly. After reviewing transcripts, key themes were identified in major topic area

Table-3: Affluence of Cigarette advertisement and its impact

Questions asked	YES	NO
Do you identify by seeing specific color branding that this brand /Cigarette is available	31%	69%
Will you switch to a brand , if your brand is not available at that outlet	28%	72%
Do you notice any sequence of product stacking at retail shops in a particular manner	83%	17%
If yes, does it change perception about your brand or willingness to upgrade your brand	66%	34%
Have you come across any sampling of cigarette	72%	28%
Were you able to recall brand on your next visit to cigarette shop (free sampled respondents)	76%	24%
Did you purchased the same brand (Free Sampled respondents)	52%	48%
Did you recommend it to your peer group (Free Sampled Respondents)	62%	38%
Does not affect your smoker pattern at all (Free sampled respondents)	38%	62%

Table-4: Impact of all kinds of possible Advertising and Promotion

Question	Options	Total	Percentage
How old were you when you smoked your first cigarette, even a single puff?	Less than 11 years old.	2	7%
	Between 11 and 15 years old.	5	17%
	Between 16 and 19 years old.	9	31%
	Between 20 and 25 years old.	10	34%
	Over 26 years old.	3	10%
How many cigarettes do you smoke daily on an average ?	1-2 Cigarettes	5	17%
	3-6 Cigarettes	8	28%
	6-10 Cigarettes	12	41%
	More than 10 Cigarettes in a day	2	7%
	I don't count	2	7%

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What attracted you to initiate smoke for the very first time in your life?	Style statement	14	48%
	Many of your friend/colleague encourage you to smoke	11	38%
	Attractive packaging / advertisement	9	31%
	Free Sampling (including free cool merchandising)	7	24%
How likely will you change/try from your existing brand to a new brand after seeing the cigarette advertisement?	Most Likely	13	45%
	Likely	9	31%
	May be or may not be	5	17%
	DO Not Change	2	7%
How do you know that your preferred brand is available or not at the outlet?	By Seeing advertisement of that brand.	12	41%
	By seeing Company Kiosk	21	72%
	By Seeing Product Stacking	24	83%
	By asking to the retailer	6	21%
What do you see when you hold a cigarette packet in your hand?	Pictorial warning	9	31%
	USP of cigarette	14	48%
	Design of Packet/Filter	18	62%
Have you Come across any sampling of cigarette, if Yes?	Were you able to recall that brand on your next visit to Cigarette shop?	14	48%
	Did you purchase the same brand sampled to you on your next visit after having a free sampling?	9	31%
	Did you recommend it to your peer group	12	41%
When you go to a Convenience Shop/ Cigarette Shop, Clubs, how often do you see Ads or Promotions for cigarette Brands?	Never	3	10%
	Rarely	5	17%
	Sometimes	12	41%
	Most of the time	9	31%
	Always	0	0%
How likely is that you would ever use Such as lighter, T-shirt, Cap etc?	Very likely	18	62%
	Somewhat likely	6	21%
	Somewhat unlikely	3	10%
	Very Unlikely	2	7%
A warning label tell you that if a product is harmful to you and can be either a picture or words, During the past 30 days how often did you see a warning label on a cigarette pack?	I didn’t see see any	4	14%
	Never	5	17%
	Rarely	6	21%
	Sometimes	11	38%
	Most of the time	2	7%
	Always	1	3%
Do you Intent to Quit, If Yes, and then what motivates you to continue smoking?	Novelty offers	8	28%
	Innovative products	12	41%
	Attractive packaging	7	24%
	Others	2	7%
How do you know about new cigarette brands and packaging changes?	Point of Sales Material.	12	41%
	Product Sampling Programme (Free Sampling)	15	52%
	Retailer telling about it to smokers.	8	28%
	Other Promotional material	9	31%

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FINDINGS OF THE STUDY

- There is a correlation between cigarette advertisement and promotional efforts and the initiation and progression of cigarette among the youth.
- Certain cigarette brands are advertised and promoted to specific age group and gender, for example, Flake Excel (ITC brands) targets low income group students, and Classic Verve (Slims Cigarette) targets girls.
- An average of 13 cigarette ads and promotional materials, such as display racks, Brand Boards, Ad sign boards (Themetical, non-branded), and branded functional items (example, clocks, t shirts, mugs, etc.) were located at eye level, and prime location, often in the Back-wall of About 90% of typical Pan shops. The results suggest that Cigarette companies have made strategic use of Retail outlet space to promote their brands.
- Cigarette advertisement and promotion contributes to increase smoking continuum, from trial and experimentation to regular smoking and cigarette promotion increased the chances that youth would move from casual smoker to regular smoker.
- Since all display incentives are negotiated privately and are unique to each outlet, of the record retailer accepted that display payout to these retailers contribute to more than 30% (sometime it is as high as 60%, based on location of outlet) of their total income from cigarette. Careful observation and interview discussion suggest that display payout given by Tobacco companies to have a fair control over product placement, advertisement and price control of loose cigarette sales.
- Kiosk and Standalone outlet have different display and incentive Programme, Kiosk given by Cigarette company have standard visibility elements to ensure maximum space is taken by provider company visibility and retailer have little control over product placement of competition products, whereas Standalone outlets have more control over product placement and better negotiation power to enroll them for display payouts and other volume linked incentive plans.
- Imported cigarette (smuggled) are threat to attract adolescence and youth smoker, as they do not carry Graphical Health Warning and cheaper rates increases the smoking frequency of regular smoker and lure adolescence for trial. Over 56% of smokers prefer attractive packaging of foreign smuggled brands which doesn’t adhere to Indian regulations like Pictorial Warning (GHW) on 85 percent of the cigarette packets.
- Due to steep rise in taxation on cigarette, smoking frequency has gone down, 74% smokers are willing to switch to cheaper smuggled cigarettes, smoker is looking for a cheaper option, so in order to curve the menace of Cigarette Taxes on Tobacco product is to be increased periodically, and more stringent laws should be made and serious efforts in the implementation these laws should be ensured.
- More than 2/3 of total retailer participants in at least one kind of payout plan/ incentive plan and very keen to be part of other tobacco company’s incentives plan, even retailer approaches to competitive tobacco companies to change their existing display layout for a better payout.
- Almost all Standlone outlets are ready to participate in more than one cigarette company’s incentive Programme to earn more, more than 80% of targeted cluster outlet were found to be participating in more than one Cigarette company incentive plans

The only legal advertising venue allowed in India for the Tobacco industry is “on Pack” and Point of sales advertisement. More than 80% of the respondent believed that plain packaging would reduce the attractiveness, appeal, and promotional value of the cigarette pack, over 60% believed that packaging would help in reducing experimentation and initiation of Cigarette among youth and over 80% believed that it would motivates user to quit/reduce usage.

CONCLUSIONS

Tobacco companies are concentrating their marketing efforts at the point-of-sale and Kiosk advertisement to the extent that the store is their primary communication channel with customers. As a result, all Retailers regardless of age or smoking status are exposed to pro-smoking messages. Given the financial resources spent by Cigarette companies in stores, this venue warrants closer scrutiny by researchers and tobacco control advocates.

The retail outlet is the major communication medium between the Cigarette companies and their current smokers and future smokers. To stimulate push sale of their products, the tobacco companies offers a variety of incentive. For Jaipur town itself Cigarette companies spends a whopping 1.5 crore per month, for retailer display incentive, product discounts, these expenditures are intended to increase demand and to ensure proper availability, visibility and freshness of their products to the regular smokers.

The WHO, has proposed a 30 percent reduction in tobacco use globally in 2025. The Global narrative on tobacco control is increasingly exploring the concept of Tobacco endgame, which envisions reducing tobacco prevalence and availability to minimal levels. This would require Tobacco Control measures be strictly complied as per FCTC guidelines and innovative measure beyond FCTC be introduced in countries having political commitment to end the tobacco epidemic in the country.

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A SURVEY ON EMPOWERING WOMEN IN THE WORKPLACE SPECIAL REFERENCE TO DESH BHAGAT UNIVERSITY, PUNJAB

Dr. Suman Gulia
Assistant Professor, Department of Management and Commerce, Desh Bhagat University, Punjab

ABSTRACT

Today the empowerment of women has become one of the most important concerns of 21st century. But practically women empowerment is still an illusion of reality. The career priorities of working professionals are consistent across genders; women in the workplace continue to face issues limiting their growth trajectory within organisations. There is still a dearth of strong female leaders in organisations that women can look up to as role models. By reviewing major strands of theoretical, methodological, and empirical literature on women empowerment from the different fields and attempt to summarize what we know and don't know about what leads to women's empowerment in education sector. This paper attempts to analyse the status of women empowerment in Desh Bhagat University, Punjab by randomly collecting data from various faculty members of different department and highlights the reasons why working women in university feel they are under-represented in leadership positions. Based on the analysis, this study will provide some concrete recommendations regarding the key drivers which will facilitate working women in their careers within the university .

Keywords: women empowerment, leadership, Desh Bhagat University

INTRODUCTION

Women Empowerment refers to strengthening the social, economic and educational powers of women. It refers to an environment where there is no gender bias and have equal rights in community, society and workplaces. Empowerment of women is essentially the process of upliftment of economic, social and political status of women, the traditionally underprivileged ones, in the society. It is the process of guarding them against all forms of violence. Women empowerment involves the building up of a society, a political environment, wherein women can breathe without the fear of oppression, exploitation, apprehension, discrimination and the general feeling of persecution which goes with being a woman in a traditionally male dominated structure. Women constitute almost 50% of the world's population but India has shown disproportionate sex ratio whereby female's population has been comparatively lower than males. As far as their social status is concerned, they are not treated as equal to men in all the places. In the Western societies, the women have got equal right and status with men in all walks of life. But gender disabilities and discriminations are found in India even today. The paradoxical situation has such that she was sometimes concerned as Goddess and at other times merely as slave.

REVIEW OF LITERATURE

H. Subrahmanyam (2011) compares women education in India at present and Past. Author highlighted that there has a good progress in overall enrolment of girl students in schools. The term empower means to give lawful power or authority to act. It is the process of acquiring some activities of women. M. Bhavani Sankara Rao (2011) has highlighted that health of women members of SHG have certainly taken a turn to better. It clearly shows that heath of women members discuss among themselves about health related problems of other members and their children and make them aware of various Government provisions specially meant for them. Doepke M. Tertilt M. (2011) Does Female Empowerment Promote Economic Development? This study is an empirical analysis suggesting that money in the hands of mothers benefits children. This study developed a series of non-cooperative family bargaining models to understand what kind of frictions can give rise to the observed empirical relationship. Duflo E. (2011) Women's Empowerment and Economic Development, National Bureau of Economic Research Cambridge The study argues that the inter relationships of the Empowerment and Development are probably too weak to be self-sustaining and that continuous policy commitment to equally for its own sake may be needed to bring about equality between men and women. Sethuraman K. (2008) The Role of Women's Empowerment and Domestic Violence in child Growth and Under nutrition in a Tribal and Rural Community in South India. This research paper explores the relationship between Women's Empowerment and Domestic Violence, maternal nutritional status and the nutritional status and growth over six months in children aged 6 to 24 months in a rural and tribal community. This longitudinal observational study undertaken in rural Karnataka. India included tribal and rural subjects. Venkata Ravi and Venkatraman (2005) focused on the effects of SHG on women participation and exercising control over decision making both in family matters and in group activities.

OBJECTIVES

1. To study the career priorities across the gender in Desh Bhagat University.
2. To study the existence of female role models in the leadership in the university
3. To find the reasons of under-represented in leadership positions with the university
4. To offer useful suggestions for empower women in the workplace.

RESEARCH METHODOLOGY

This paper is basically descriptive and analytical in nature. In this paper an attempt has been taken to analyse the status of women empowerment in Desh Bhagat University, Punjab. The data used in it is purely primary, according to the need of this study. The data was randomly collected from 180 teachers of different department of university.

DATA ANALYSIS

Top career priorities of teachers in university:

	Male	Female
Working in a job I find fulfilling and rewarding	51 %	44 %
A good work-life balance	33 %	42 %
Achieving senior/leadership role	16 %	14 %

Most important career progression strategy for teachers

	Male	Female
A clear path to career progression	**21 %**	**22 %**
Personalised training and development programmes	**26 %**	**24%**
Supportive environment in the department that identify and nurture potential leaders early in their employment	**53%**	**54 %**

Strong female role models in leadership within Department:

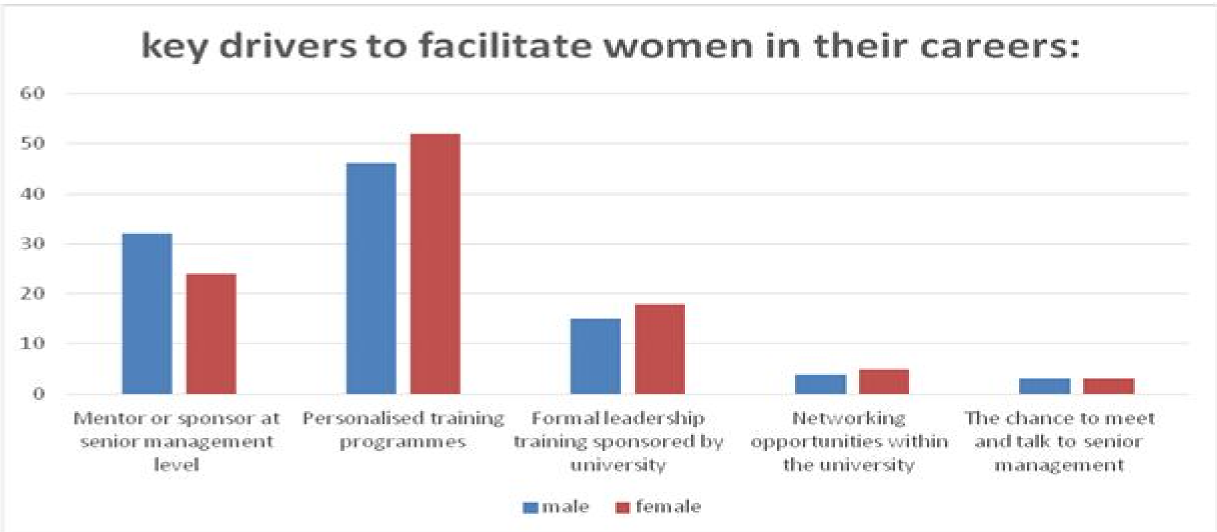
Response	Male	Female
Yes	67 %	48 %

Fair and equal representation of female leaders within the department:

Response	Male	Female
Yes	98 %	69 %

Reasons why women feel they are under-represented in leadership positions?

Reasons	Male	Female
A preference by management to promote men over women	12%	36 %
Family pressures or commitments outside of work	43%	21 %
A workplace culture that does not actively foster diversity, inclusion and equality	40 %	43 %
Poor leadership and career progression strategies	2%	0 %
Difficulty returning to work after having children	3 %	0 %



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CONCLUSION AND SUGGESTIONS

Gender bias is still prevalent in many workplaces today. Women who are more vocal and assertive may be seen as overbearing or 'behaving like men', while their nurturing, gentler counterparts are perceived as weak. Organizations who empower their employees by focussing on their strengths will achieve greater results and help develop high-potential workers into leaders. After analysing the status of women empowerment in university, there are following suggestions to improve the status of women empowerment:

- It is very important to identify the motivational factors that drive employees early in the recruitment process.
- Female leadership programmes should be of strategic importance but not overkill or be seen as a formality to tick off on a checklist.
- Women believe in the value of mentoring programmes or sponsorship at senior management levels to aid them in their career development.

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A WAVE OF CHANGE- A CASE STUDY ON THE DECCAN EDUCATION SOCIETY, POONA

Pramila Dasture
Professor, Department of History, Nowrosjee Wadia College, Pune

ABSTRACT

After preliminary dabbling's, mid-19th Century India saw western education making some progress, with the establishment of a few high schools and colleges in the larger cities of Calcutta, Madras, Bombay and Poona. The three Presidency capitals of Calcutta, Madras and Bombay saw the foundation of the three Universities. Graduates in those days, acquired jobs as mid-rank administrators, receiving much social and financial status. However, there was a large group of educated young men who saw past this social and financial advancement, and paid more interest to the needs and interests of the country. They also very well knew about the lacunas that existed in society; they thus, realised that, education was the best tool that could be used to eradicate the demerits that that clutched the Indian society acutely. It was in the mid- 1880's that a group of enlightened young men came together in Poona and set up a school and college, under the aegis of the Deccan Education Society, paving the way for furthering the educational needs of an awakening nation.

This paper intends to look at the journey of the Deccan Education Society, its founders, its objectives and its role as change-maker in the field of education.

Keywords: Deccan Education Society, education, change-maker, society

INTRODUCTION

The East India Company set up its rule in Poona in 1818, when they routed Peshwa Bajirao II, bringing an end to the Peshwa regime. Subsequently the Bombay Presidency was established, this included Sindh, Gujarat, North-Western Karnataka and Maharashtra, however, Marathwada and Vidarbha were not part of it yet.

WESTERN EDUCATION

Governor Mountstuart Elphinstone was one of the early administrators who had understood that education of the natives was a must for the smooth functioning of the colonial administrators. The Charter Act of 1813, could be said to be amongst the first of the efforts made towards the implementation of education ion India. The section 43 of the Charter Act of 1813, made it compulsory on the East India Company to accept the responsibility of the education of Indians. As soon as Mountstuart Elphinstone took the charge of the first governor of the Bombay Presidency, he wrote his famous minute on education and done experiment for educational reorganization of the province. He believed that education would lead to the ending of evil practices like sati, female infanticide etc. It was clear from his experience that Indians were closely associated in educational reorganization of Bombay. All educational institutions except Poona College and Elphinstone Institute were managed by the Bombay Native Education Society which consists of large number of Indians. The Bombay Native Education Society conducted 115 primary schools of English medium. The prime aim of the educational system developed here in India by the British Government was to make it according to their colonial interests and that it should strengthen their colonial power. However, it was not until 1835, when Thomas Babington Macaulay gave his famous Minutes, through which he declared, the spread of education, to create a class of natives, who would be British in manners and attitude and word. Issues regarding what has to be taught and how; what should be the medium of instruction, whether solely English or through vernacular languages, were issues that were being debated, until a solution was reached. The 1854 Despatch of Charles Wood, also known as "The Magna Charta of English Education in India." "A scheme of education for all India, a very comprehensive scheme than the Local or the Supreme government could ever have ventured to suggest." Soon after this the University Acts of 1857 was passed.

Education expanded the horizons and opened up newer avenues of thinking and showed how Western society functioned, bringing to light the rudimentary and orthodox customs which had gripped the Indian society. Subsequently, a wave of Renaissance swept the country; a need to work towards socio-religious reform, education of the masses, emancipation of women and the downtrodden, all began to attain centre stage. From Raja Ram Mohan Roy, to Mahatma Jotiba Phule to Keshav Dhondu Karve, to Bal Gangadhar Tilak, Savitribai Phule, Pandita Ramabai Saraswati, Ramabai Ranade, Cornelia Sohrabji and the likes, all generated a surge of inspiration for others to follow.

According to J.P. Naik and Syed Nurullah, there were three objectives which primarily discussed during the finalization of the British Educational policy in India:

i) To spread the Western Knowledge

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ii) To secure properly trained servants for the public administration of the country

iii) The Indian masses would do the Sovereign's duty

The system of liberal education in India was organized with an emphasis of spread of the western knowledge and for this purpose the universities were established and attempts were also made for the education of women. And at the same time, a system of professional and the vocational knowledge was organized with the prime object of training Indians for government service. J.P. Naik and Syed Nurullah were against the common view that the sole aim of the British educational policy was to prepare servants for the administrative set up, and further argued that the pioneers such as Mountstuart Elphinstone, Lord Macaulay were of the view that there should be eradication of superstitious culture and at the same time there should not arise sentiments of rebel against the align regime by spreading western knowledge.

DECCAN EDUCATION SOCIETY

Schools like St. Anne's, the Bishop's School, and some others had already been established by the 1860's in Poona. They had been functioning successfully, when on 1st January 1880, Bal Gangadhar Tilak, Gopal Ganesh Agarkar, Vishnushastri Chiplunkar and Mahadev Ballal Namjoshi, started the New English School in Poona. This was the first school to be established in Poona, which was run by natives. Within no time the school gained good recognition for the standard of education it was imparting .The founders soon realised that, there was growing demand to expand into higher education and not restrict themselves to only school level teaching. Thus, on 2nd January 1885, the Fergusson College was established. It was named after the then Governor of Bombay, Sir James Fergusson, who had donated a good sum of money for the establishment of the college, he was the first patron of the Deccan Education Society. (As a matter of interest, Sir James Fergusson was the son-in-law of Lord Dalhousie; the master of ceremonies at the inaugural function of the college was Sir William Wordsworth, grandson of the famous poet William Wordsworth and Principal of the Deccan College, Poona.)

By founding the Deccan Education Society on 'Vijaya Dashsami', one of the most auspicious days in the Hindu calendar, these great stalwarts began a journey of social change and a better society.

The establishment of the Fergusson College, was a significant and logical continuation of the goal of spreading education to the higher classes. Principal Vaman Shivram Apte was the first Principal of the College, he was also the Secretary of the Society.

The activities of the Society soon picked up pace, and one after another, other institutions - schools and colleges were established under it.

In 1935, on the occasion of the Golden Jubilee of Fergusson College, a technology institute was started on its campus.

The establishment of the Deccan Education Society, lay in the fact that, the society went on to become a landmark in Indian education. Many more such education societies were established after being inspired by it. The Deccan Education Society, became a great example of a non-governmental effort in spreading education.

In the initial years, Bal Gangadhar Tilak and Gopal Ganesh Agarkar worked as teachers in the Fergusson College. Gopal Krishna Gokhale and Dhondo Keshav Karve were also life members of the society and taught at the college in the 1890s.

The society established the New English School at Satara in 1899. The society took over the Mawjee Madhavjee English School in Umbergaon in 1919, and the Dravid High School of Wai in 1934. In 1919, the society opened the Willingdon College in Sangli to fulfil the demand for higher education in southern Maharashtra. In 1939, the Society started a secondary education for girls by starting the Ahilyadevi High School for Girls in the historic premises of the Holkar Wada in Pune. In 1943, the society started the Brihan Maharashtra College of Commerce, for which the Brihan Maharashtra Sugar Syndicate Ltd. gave to the Society a donation of Rs. 2,00,000. Rulers of many Princely states like Bhor and Sangli were patrons of the society.

The aim of the Deccan Education Society was declared to impart national education. Rajarshi Chhatrapati Shahu Maharaj was the president of the Deccan Education Society and helped it in its development.

The inception of the Deccan Education Society and the Fergusson College, coincided with that of the Indian National Congress. All of this brought about a spirit national awakening and self- respect. It was a time, when the country was going into a phase of socio-political progress. It was unique coming together of events, when an educational institution as the Deccan Education Society was established by the Father of Indian Unrest, Bal Gangadhar Tilak, and was nurtured by the influential political leader, Gopal Krishna Gokhale. The Deccan

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Education Society has seen a whole wide spectrum of historical events in its journey since inception. In fact the establishment of the Indian national Congress, ushered in an upsurge for the struggle for independence. The Golden Jubilee Year of 1935, coincided with the end of the non-Cooperation phase and the setting in power of popular ministries under the Irwin pact. In 1945, the year of the Diamond Jubilee, saw the end of the Second World War; as well as the Simla Conference, where seeds were sown for the establishment of an Interim Government. In the next few years, India would witness the horrific partitioning of the country and the attainment of independence. Subsequently, in the next few years, a university would be established in Poona.

CONCLUSION

Today, even after 134 years, the Deccan Education Society is a name to reckon with. It is a dynamic and vigorous conglomeration of now over 45 institutions, known for the quality of education they impart. These institutions are spread through Pune, Mumbai, Sangli, Satara and Wai, they consist of pre- primary, primary and high schools, under graduate and post-graduate colleges in Arts, Science and Commerce, Management, Agriculture and Law and research institutions. There are also institutes of technical and vocational education including nursing and physiotherapy.

The Deccan Education Society has rendered priceless service to the country through the scores of students who passed through its hallowed portals. Several of its students have been renowned patriots, thinkers, philosophers, poets, writers, teachers, social workers, scientists, industrialists, administrators, defence officers, sports persons and film makers. Every walk of life is enriched by Fergussonians, who have achieved eminence in their respective field. The College has gained worldwide reputation and recognition. Whether it was Vinayak Damodar Savarkar, former Prime Ministers P. V. Narasimha Rao and Vishwanath Pratap Singh, P. L. Deshpande, Prahlad Keshav Atre, R. P. Paranjpe, Shriram Lagoo, Smita Patil, J. B. Kripalani , Madhav Gadgil , Sai Paranjpye, Dr. Cyrus Poonawalla, and many others, all of whom have in more ways than one contributed immensely to the nation. Whether it was its founders or its students, the Deccan education Society was blessed to have luminaries.

Institutional histories have been many, but it would not be incorrect in saying that the Deccan Education Society, has been by far unique. It came up at the time of the beginning of the freedom efforts, when it was not known that the exertions would take shape into a movement of independence. It was started by individuals who had carved out a niche for themselves and were pioneers in the field of the freedom movement.

The Deccan education Society had also been blessed in securing patronage from even the British, as much as from the Governor himself. This was however, also the time, essentially the post- 1957 era, when the British were playing it safe, by using the Safety Valve Theory; as they were now, not in the mood, position or condition to risk another Revolt, like the one that had taken place in 1857.

Whether it was out of genuine desire to improve the educational set up in the nation, or was it a continuation of Macaulay's policy of educating the natives for fulfilling the administrative needs of the Raj, or out of the concern of pleasing the natives in order to avoid revolt. Whatever, may have been the accurate purpose; it worked in the favour of the founders of the Deccan Education Society, who, in many ways were the game-changers, and ushered in an era of transformation.

Today, the Deccan Education Society and its institutions have garnered a great and enviable stature in teaching and research in the Sciences and Humanities. It continues to play an important role in the field of education and is surely a pioneer in setting a change in the society.

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CUSTOMERS' SATISFACTION TOWARDS SERVICE OFFERS OFFERED BY TELECOM SERVICE PROVIDER

Dr. S. Anthony Rahul Golden[1] and Dr. S. Bulomine Regi[2]
Assistant Professor[1], Department of Commerce, St. Xavier's College (Autonomous), Palayamkottai
(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)
Assistant Professor[2], Department of Commerce, St. Mary's College (Autonomous), Thoothukudi
(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

ABSTRACT
Each and everyone expects various offers on their purchasing of products or services. Likewise, the subscribers are expecting more offers from the service providers. The service provider has an important role of satisfying the subscribers by providing various offers to the subscribers based on their expectations. Otherwise, it is impossible to retain the subscribers for a longer course of time. Hence, the researcher has analysed the level of satisfaction of the respondents on service offers. 726 sample respondents were selected for the study. From among the 726 respondents, 104 (BSNL) respondents are public and remaining 622 (JIO-224, Airtel-212, Vodafone- 132 and Idea -54) respondents are private sector subscribers. This paper discusses on the level of satisfaction of the respondents towards service offers offered by Telecom Service Providers.

Keywords: Telecom, Service Provider, Customer, Satisfaction, Service Offers

INTRODUCTION
In this modern IT era, there is a rapid growth and innovation witnessed in the mobile industry. The communication field has greatly transformed. The traditional use of mobile phone was text messaging and calling. It has bridged gap between distance communications. With the advancement of new technology, the way of communication is also changed. In ancient days, pigeons were used as a means of communication. Later, written messages were sent through letters by post. As the time passed, telephone came into existence and today is the era of wireless communication which gives rise to mobile phones. Mobiles are the latest invention and innovation in the common way of communication. Nowadays, continuing innovation in the mobile communication industry, such as mobile internet and social networking applications like twitter, facebook, whatsapp etc., has further had a measurable impact in the communication field. The mobile communication has become a force to reckon (consider) with in personal communication. It has made communication with friends and relatives much easier, as it is convenient and relatively affordable. If a family or a friend is far away, the use of text messaging and calling is crucial. The mobile cuts across distance, allowing people to connect with convenience to elude (avoid) loneliness due to distance. Each and everyone expects various offers on their purchasing of products or services. Likewise, the subscribers are expecting more offers from the service providers. The service provider has an important role of satisfying the subscribers by providing various offers to the subscribers based on their expectations. Otherwise, it is impossible to retain the subscribers for a longer course of time. Hence, the researcher has analysed the level of satisfaction of the respondents on service offers.

METHODOLOGY
The study is based on both primary and secondary data. The primary data were collected from sample respondents with the help of a questionnaire. The secondary data were collected from websites, the Telecom Regulatory Authority of India (TRAI), the Cellular Operators Authority of India (COAI), and printed form of material resources like books, journals, magazines and newspapers.

Primary Data were collected through well framed questionnaire. The questionnaire was rearranged on the basis of pilot study. The public sector includes BSNL and in private sector JIO, Airtel, Vodafone and Idea have been selected on the basis of top five GSM service providers in the study area by using stratified random sampling. 250 sample respondents have been selected from each service provider and the questionnaire was sent to 1250 (250×5) respondents selected using simple random sampling method. From among the selected 1250 respondents 726 respondents are considered as sample respondents due to completion of the questionnaire and the remaining 524 respondents were rejected due to incompleteness in filling questionnaire and few questionnaires were not returned back. From among the 726 respondents, 104 (BSNL) respondents are public and remaining 622 (JIO-224, Airtel-212, Vodafone- 132 and Idea -54) respondents are private sector subscribers.

LEVEL OF SATISFACTION TOWARDS SERVICE OFFERS

Service Offers			HDS	DS	N	S	HS	Total
Call Offers	Public sector	Count	19	17	40	22	6	104
		% Within	18.3	16.3	38.5	21.2	5.8	100
	Private sector	Count	112	54	153	108	195	622
		% Within	18.0	8.7	24.6	17.4	31.4	100
SMS	Public sector	Count	22	22	38	18	4	104
		% Within	21.2	21.2	36.5	17.3	3.8	100
	Private sector	Count	43	68	123	247	141	622
		% Within	6.9	10.9	19.8	39.7	22.7	100
Caller Tune	Public sector	Count	2	1	84	14	3	104
		% Within	1.9	1	80.8	13.4	2.9	100
	Private sector	Count	9	59	146	337	71	622
		% Within	1.4	9.5	23.5	54.2	11.4	100
Rate Cutter	Public sector	Count	11	18	54	15	6	104
		% Within	10.6	17.3	51.9	14.4	5.8	100
	Private sector	Count	45	78	164	216	119	622
		% Within	7.2	12.5	26.4	34.8	19.1	100
Internet Packages	Public sector	Count	2	15	43	39	5	104
		% Within	1.9	14.4	41.4	37.5	4.8	100
	Private sector	Count	51	76	149	260	86	622
		% Within	8.2	12.2	24	41.8	13.8	100
Special Offers	Public sector	Count	5	40	29	28	2	104
		% Within	4.8	38.5	27.9	26.9	1.9	100
	Private sector	Count	14	76	223	239	70	622
		% Within	2.2	12.2	35.8	38.5	11.3	100
Availability of VAS	Public sector	Count	14	18	38	34	0	104
		% Within	13.5	17.3	36.5	32.7	0	100
	Private sector	Count	41	90	142	259	90	622
		% Within	6.6	14.5	22.8	41.6	14.5	100
Availability of Recharge Cards	Public sector	Count	12	27	41	20	4	104
		% Within	11.5	26	39.4	19.2	3.9	100
	Private sector	Count	19	94	156	216	137	622
		% Within	3	15.1	25.1	34.7	22.1	100
Information about offers	Public sector	Count	14	14	41	30	5	104
		% Within	13.5	13.5	39.4	28.8	4.8	100
	Private sector	Count	37	32	124	211	218	622
		% Within	5.9	5.2	20	33.9	35	100
Validity of offers	Public sector	Count	12	16	28	26	22	104
		% Within	11.5	15.4	26.9	25	21.2	100
	Private sector	Count	71	91	131	194	135	622
		% Within	11.4	14.7	21.1	31.1	21.7	100

Source: Computed Primary Data

The above table shows that

Call offers: In the public sector, 38.5 per cent of the respondents are neutral, 21.2 percent of the respondents are satisfied, 18.3 percent of the respondents are highly dissatisfied, 16.3 percent of the respondents are dissatisfied and 5.8 percent of the respondents are highly satisfied with the call offers. In the private sector, 31.4 per cent of the respondents are highly satisfied, 24.6 percent of the respondents are neutral, 18 percent of the respondents are highly dissatisfied, 17.4 percent of the respondents are satisfied and 8.7 per cent of the respondents are dissatisfied with the call offers.

It is inferred that 38.5 per cent of the public sector respondents are neutral and 31.4 percent of the private sector respondents are highly satisfied.

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SMS: In the public sector, 36.5 per cent of the respondents are neutral, 21.2 percent of the respondents are highly dissatisfied as well as dissatisfied, 17.3 percent of the respondents are satisfied and 3.8 per cent of the respondents are highly satisfied with SMS offers. In the private sector, 39.7 per cent of the respondents are satisfied, 22.7 percent of the respondents are highly satisfied, 19.8 percent of the respondents are neutral, 10.9 percent of the respondents are dissatisfied and 6.9 percent of the respondents are highly dissatisfied with SMS offers.

It is inferred that 36.5 per cent of the public sector respondents are neutral and 39.7 per cent of the private sector respondents are satisfied with SMS offers.

Caller tune: In the public sector, 80.8 per cent of the respondents are neutral, 13.4 percent of the respondents are satisfied, 2.9 percent of the respondents are highly satisfied, 1.9 percent of the respondents are highly dissatisfied and only one per cent of the respondent is dissatisfied with caller tune. In the private sector, 54.2 per cent of the respondents are satisfied, 23.5 percent of the respondents are neutral, 11.4 percent of the respondents are highly satisfied, 9.5 percent of the respondents are dissatisfied and 1.4 percent of the respondents are highly dissatisfied with the caller tune.

It is inferred that 80.8 of the public sector respondents are neutral, whereas 54.2 per cent of the respondents are satisfied with caller tune offers.

Rate cutter: In the public sector, 51.9 per cent of the respondents are neutral, 17.3 percent of the respondents are dissatisfied, 14.4 percent of the respondents are satisfied, 10.6 percent of the respondents are highly dissatisfied and 5.8 percent of the respondents are highly satisfied with rate cuts. In the private sector, 34.8 per cent of the respondents are satisfied, 26.4 percent of the respondents are neutral, 19.1 percent of the respondents are highly satisfied, 12.5 percent of the respondents are dissatisfied and 7.2 percent of the respondents are highly dissatisfied with rate cuts.

It is inferred that 51.9 per cent of the public sector respondents are neutral, whereas 34.8 per cent of the private respondents are satisfied with rate cutter.

Internet package: In the public sector, 41.4 per cent of the respondents are neutral, 37.5 percent of the respondents are satisfied, 14.4 percent of the respondents are highly dissatisfied, 4.8 percent of the respondents are highly satisfied and 1.9 per cent of the respondents are highly dissatisfied with internet package. In the private sector, 41.8 per cent of the respondents are satisfied, 24 percent of the respondents are neutral, 13.8 percent of the respondents are highly satisfied, 12.2 percent of the respondents are dissatisfied and 8.2 percent of the respondents are highly dissatisfied with internet package.

It is inferred that 41.4 per cent of the public sector respondents are neutral, whereas 41.8 per cent of the private respondents are satisfied with internet packages.

Special offers: In the public sector, 38.5 per cent of the respondents are dissatisfied, 27.9 percent of the respondents are neutral, 26.9 percent of the respondents are satisfied, 4.8 percent of the respondents are highly dissatisfied and 1.9 percent of the respondents are highly satisfied with special offers. In Private sector, 38.5 per cent of the respondents are satisfied, 35.8 percent of the respondents are neutral, 12.2 percent of the respondents are dissatisfied, 11.3 percent of the respondents are highly satisfied and 2.2 per cent of the respondents are highly dissatisfied with special offers.

It is inferred that 38.5 per cent of public sector respondents are dissatisfied and 38.5 percent of private sector respondents are satisfied with special offers.

Availability of value added services: In the public sector, 36.5 per cent of the respondents are neutral, 32.7 percent of the respondents are satisfied, 17.3 percent of the respondents are dissatisfied and 13.5 percent of the respondents are highly dissatisfied with the availability of value added service. In the private sector, 41.6 per cent of the respondents are satisfied, 22.8 percent of the respondents are neutral, 14.5 percent of the respondents are highly satisfied, 14.5 percent of the respondents are dissatisfied and 6.6 percent of the respondents are highly dissatisfied with the availability of value added service.

It is inferred that 36.5 per cent of public sector respondents are neutral and 41.6 per cent of private sector respondents are satisfied with availability of value added service.

Availability of recharge cards: In the public sector, 39.4 per cent of the respondents are neutral, 26 percent of the respondents are dissatisfied, 19.2 percent of the respondents are satisfied, 11.5 percent of the respondents are highly dissatisfied and 3.9 percent of the respondents are highly satisfied with the availability of recharge cards.

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In the private sector, 34.7 per cent of the respondents are satisfied, 25.1 percent of the respondents are neutral, 22.1 percent of the respondents are highly satisfied, 15.1 percent of the respondents are dissatisfied and three per cent of the respondents are highly dissatisfied with the availability of recharge cards.

It is inferred that 39.4 per cent of the public respondents are neutral and 34.7 per cent of the private sector respondents are satisfied with the availability of recharge cards.

Information about offers: In the public sector, 39.4 per cent of the respondents are neutral, 28.8 percent of the respondents are satisfied, 13.5 percent of the respondents are dissatisfied, 13.5 percent of the respondents are highly dissatisfied and 4.8 percent of the respondents are highly satisfied about the information regarding offers. In the private sector, 35 per cent of the respondents are highly satisfied, 33.9 per cent of the respondents are satisfied, 20 percent of the respondents are neutral, 5.9 percent of the respondents are highly dissatisfied and 5.2 percent of the respondents are dissatisfied about the information regarding offers.

It is inferred that 39.4 per cent of the public sector respondents are neutral and 35 per cent of the private sector respondents are highly satisfied with information about offers.

Validity of Offers: In the public sector, 26.9 per cent of the respondents are neutral, 25 percent of the respondents are satisfied, 21.2 percent of the respondents are highly satisfied, 15.4 percent of the respondents are dissatisfied and 11.5 percent of the respondents are highly dissatisfied with validity of the offers. In the private sector, 31.1 per cent of the respondents are satisfied, 21.7 percent of the respondents are highly satisfied, 21.1 percent of the respondents are neutral, 14.7 percent of the respondents are dissatisfied and 11.4 percent of the respondents are highly dissatisfied.

It is inferred that 26.9 per cent of the public sector respondents are neutral and 31.1 per cent of private sector respondents are satisfied with the validity of the offers.

CONCLUSION

Nowadays, mobile communication is becoming the life blood of the world. To make communication much easier and faster tele-communication system is adopted. Really, it istremendous because it converts the globe into a village. It makes everything in our finger tip; anyone can communicate with people throughout the world. Always there is a thought that, “Every situation has two sides like a coin” i.e. everything has its own pros and corns. Likewise, communication also has two sides; but whatever may be the reason, yet the advantages are more in communication system. It reaches the peak of the satisfaction from the subscribers in future. As we are in a competitive world, for everything there is an alternative. Likewise, for the mobile communication service provider, there are so many alternative service providers. So, subscribers are confused in selecting their service providers due to stiff competition among the service providers in offering various schemes and offers offered to the subscribers, to attract their subscribers; otherwise the subscribers may switch over from one service provider to another provider very easily. But, whatever may be the situation there is a general problem that “long distance relationship through mobile communication generally becomes poor because of the weak signals and ends up due to jammed network”-Amit Abraham. It must be considered by the providers to avoid network problems. If so, mobile communication is a boon to the people in reducing the far distance relationship.

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IDENTITY AND VIOLENCE IN VIJAY TENDULKAR'S PLAY "SILENCE! THE COURT IS IN SESSION"

Mohd. Younus Saleem
Ph.D. Scholar, Department of English, Aligarh Muslim University, Aligarh

ABSTRACT
Simon de Beauvoir in her text, 'The Second Sex' had argued "men are able to mystify women", this mystification and stereotyping, she adds, was instrumental in creating patriarchy. 'One is not born a woman but becomes one' i.e. women's role in society is defined through her role with the male counterparts. She is a daughter to her father, a wife to a husband, a mother to a son so forth and so on. She is expected to draw her social niche according to the roles she is assigned as per the above mentioned designations. In other words, she lacks identity as an individual and if she tries to cross the lines drawn by the society's patriarchs, she is singled out and has to face numerous inhibitions. This paper argues that how Vijay Tendulkar's play "Silence! The Court Is In Session" portrays one such scenario, where the lead character has to face the wrath of the society for violating social norms and as a result how her identity becomes the cause of her violence.

Miss Leela Benare, the central figure in the play, is a school teacher. She is charged for breaking the established social norms and is declared immoral for having physical relation with more than one man. She is not married but had conceived a child. The play revolves around the court room proceedings, where she tries to defend herself by quoting extensively of individual choice and human rights. Despite her arguments, the Judge orders abortion of her foetus. She declares that society has no right to interfere in her personal affairs and the judgment is an infringement on her liberty, but it was of no avail. The paper concludes how woman's body is used as a space by the patriarchy to direct the violence and justifies the male order.

Keywords: Identity, Violence, patriarchy, social norms, morality

INTRODUCTION

One Chinese Proverb says- "If you want to plant a plant, you must sow seeds. If you want to plant a tree, you must plant a plant, But If you want to plant civilization, you must plant a woman". But it is very sad to come out with facts that she doesn't get her equal share. Due to her identity she is considered as a very weak creature on this earth. Although history has shown us many empowered figures but they are very few to count and are not sufficient to substantiate the argument. Women of Vedic period were supposed to enjoy equal religious status, getting education like that of men. Abundant evidences are present in Rig Veda to prove the highest conditions of women. In that era getting of marriage was not obligatory rather a social responsibility and nobody was allowed to force someone to do this. After the appearance of Manu Samriti sub-ordinate conditions of women begin to start. Manu, the ancient law-giver stated that man is free to enjoy unquestioned supremacy over his wife. Medieval period carried out further the teachings of Manu and the conditions of the women getting deteriorated day by day. The role of women was confined to slave to her husband, the master and ruler of the family.

But the advent of the Britishers in India proved to be fruitful for women. They advocated for their dignified life and equal rights and made strong law against the practicing of inhuman customs like *sati*. A distinct change was observed after taking of these measures and a sense of awareness among women was flagrant. No doubt after independence of India the constitution advocated for equality of status and opportunity to men and women. The fundamental rights guarantees of men and women in all walks of life. History of post independence India records the women as President, Prime minister, Chief justice, Ambassadors Lok Sabha and Rajya Sabha speakers. But large numbers of women are still struggling to prove their existence. The socio economic conditions of empowered women enabled them to get that position and the circumstances of metro cities women cannot define the real problems of the woman living in far flung area of Uttar Pradesh, Rajasthan and Orissa. Their Identity of women is a curse for them, for patriarch they are still a toy of sex or an object of recreation. During the menstruation cycle which is natural and inevitable the young procreative women are forced to go out of home to stay in a thatched roof hut at the edge of the forest called *gaokor* as they are considered as filthy and impure. Their entry in the kitchen and to touch the utensils is strictly forbidden. Many a time harassment by the ill elements and deaths due to snake bite of these women has been reported in these *gaokar*. It leads to the serious violation of human rights. But a complete and irresponsible silence is being observed across the country on this deep rooted issue.

Recently, we experienced “Me too” movement across the nation and number of incidents appeared on surface through which we can easily analyze how the identity of women became victim of patriarchal mindset. A woman of high profile from journalism to cinema and scholars to professors narrate about their harassments by their male colleagues and boss. Even the bold platform of journalism and the world of glamour failed to provide them safe environment. In 21th century where law, equality and justice are expected to prevail for everyone the corrosion of patriarchy is still dominant on our mind. The representation of women as weak docile innocents and irrational depicts the biased mentality of male.

Vijay Tendulkar the vanguard of Marathi theatre keenly observes the socio economic conditions of the women of post independence era and held his responsibility to carry out this job through his writings. In his seminal work *Silence! The Court Is In Session* he justifies the victimhood of woman by presenting her as a central figure and victims of society. Tendulkar unfolds the ugly face of patriarchy and empowered women by depicting the character of Mrs. Kashikar, Sukhatme and Karnik. He brings home the idea that empowered women are equally responsible for the degradation and depression of poor and unprivileged woman. The conspiracy and plot of exposing the personal life of Mrs. Benare, the protagonist of the play by other male colleagues was mainly built with the help of Mrs. Kashikar and during trial the way she provokes servant Balu Rokde to frame false accusation against the Benare is evident to prove her role. Miss Leela Benare is a school teacher and does her job with full honesty and dedication. She feels proud of her work that while teaching I never sit in the class and keep my eye on the whole class. She further asserts that the last drop of her blood will be served in the classroom. Her students also pay high respect to her. This growing reputation and popularity of this so called weak and irrational gender was like indigestible pill to the so called genius male colleagues. The irony is that instead of appreciation she was being dragged under in the pretext of mock trial. She was accused of having an illicit relation with professor Damle that resulted in her pregnancy. She tries to take a stand and declares that it is her personal life and she has freedom of choice. Apart from her other roles in the society, she is an individual. She pleads to the judge that her personal life should not be trespassed. But all was in vain. The judge orders abortion of her foetus.

The play tries to highlight the dilemma of the weaker sex, and the compromises they have to make to get a position in the society. First, they are expected to stay behind the veils, and if they at all get the social consent to step out, it is conditional. The condition is that they should restrict themselves in the limits identified by the society. The burden of moral obligations far outweighs the advantages of her personal achievements. The lead character in the play is a replica of “rebel” who tries to cross this limit. She was not only checked but her self-respect and inner conscience were crushed during the trial. The humiliation she faced during the trial is a symbol of patriarchal setup which tries to outweigh any effort from the part of weaker sex which challenges patriarchal social setup. Even the judge is bound by the laws of the society and his judgement is more or less a reflection of the social system prevalent at the time. Even the other characters of the play represent different mindsets of the society, who despite many disagreements are in full agreement in case of women’s moral behaviour.

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ANGUISH AND ANGER AS THE DOMINANT FEATURE IN THE NOVELS OF MULK RAJ ANAND

Chander Shekhar
Department.of English

INTRODUCTION

Mulk Raj Anand is one of the generations of the great Indian novelist writing in English with other two contemporaries namely Raja Rao and R.K. Narayan, Mulk Raj. Anand belongs to the tradition of the nineteenth century writers and writes under the preponderant influence of the European Hellenistic tradition. He himself admits rather candidly that he carries with him the double burden on his shoulders " the Alps of European tradition and the Himalayas of the Indian past". As a novelist, Anand's main forte is his social concerns that he probes with a great degree of authenticity. Firmly believing that "literature is an expression of society"2. His missionary zeal for the amelioration and welfare of the masses had an added purpose and brought a new direction to the Indo-Anglian fiction. He is one of the few Indian English writers internationally acclaimed as novelists though his works include short stories, criticism, fairy tales, autobiography, language, history, education, politics, arts, films, folk theatres, dance, music, feminism and contemporary Indian culture. "He is known for his realistic and sympathetic portrayal of the poor in India. He is a regular contributor to some of the prestigious journals in India and abroad. He is a social reformer engaged in the crusading war against all forms of social oppression and religious authoritarianism. The famous Russian writer, Maxim Gorky once remarked: "We are enemies, implacable, I am certain. An honest worker is always an enemy of society and even more an enemy of those who defend and justify agreed and envy, these base pillars of the modern social organization."

ANGER AND ANGUISH

Mulk Raj Anand felt the need to raise the voice for the weak, helpless, exploited and suffering humanity. Like Maud Gonne, Anand's girl friend, Irane gave a new perspective to his vision. The path was clear before him. "To start life again in a new home, to reach out to the silent ones, to whom he can give a mouth. He shall go and write his novel about Bakha right from within the untouchable colony, from within its dust and its heat" and felt his "eyes wide open, his heart full of aching love, his soul gushing forth towards the Bakhas of our country".[1] He wanted to bring in his fiction "the wisdom of heart" while "addressing himself to the naked truth of human life in India."[2] His aim was to "rescue from the obscure slums of the British Indian cantonment, a man of real flesh and blood, from inside knowledge of the hutments where Anand had lived and played with untouchable children and not a silhouette or profile drawn from above"[3] to create in *Coolie* “a boy in all his humanness, as against the fantastic Kim, "[4] to assert the dignity of weakness in a landless labourer. Mulk Raj Anand certainly enjoys the reputation of being a major figure in the field of Indo-Anglian Fiction. He is one of the pioneers of progressivism in the Indian literature. His contribution to the Indian literature has been phenomenal. His works have received international acclaim. He has enriched English Literature all over the globe. It is his zeal and committedness to the untouchable and suffering class people which we find in his works. Like his literary creed, he has humanistic zeal. B. Vyaghreswarudu explores different facets of Anand's themes in a critical study. Jaganmohan Chari terms his study of *Untouchable,* Anand's first novel, "outside the magic circle" suggestive of the stark realism of the novel. Surjit S. Dulai probes into the novel to discover the artistic implications of the weaving of ideology into the wrap and woof of the narrative. The protagonist in *Untouchable* has been made to unravel the epical and the existential dimensions of the character concerned.

Anger is the dominant theme in the works of Mulk Raj Anand. Theme is sometimes used interchangeably with “motif” but theme is more usefully appliced to a general concept or doctrine, whether, implicit or asserted, which an imaginative work is designed to incorporate. But a motif is a conspicuous element, such as a type of incident device, reference or formula, which occurs frequently in works of literature. Anger, protest, arrogance, defiance and revolt are the sentiments we find in Mulk Raj Anand's writings. Anand's early works particularly *Untouchable* and *Coolie* are a Literature of anger, protest and resentment. Anand has full sympathy for the poor and down-trodden. He protests against the injustice done to them. He expressess his rage at their plight by showing the ugliness squalor and misery of their lives. They are tortured and suppressed by the upper class society. Their condition is no better than beasts. Nobody dares to think of them. The rustics are victims of exploitation by "the landlord, the money lender." This is not right. They are also the part of society. In such circumstances Anand dares to write about such people. His writings are in the main line of a voice of the poor and untouchable

THE MAJOR INFLUENCES ON HIS LIFE

In this age many prominent thinkers were born such as Mahatma Gandhi, Jawahar Lal Nehru, B.R. Ambedkar and Mulk Raj Anand. Ambedkar has done a lot of service for the weaker section of society.

Anand also created such novels which were deeply concerned with the poor, untouchable and suffering class people. He raised an issue for the injustice done to these people by the upper class society. He tried to use his pen to make a revolution of equality and justice.

Mulk Raj Anand, Prem Chand, Raja Ram Mohan Rai, R.K. Narayan, Guru Nanak Dev, Guru Ravi Das gave a new perspective to Indian thoughts and feelings and a new awakening into the minds of Indian masses. The stamp of Modernity is cleanly to be seen in Indian English Literature during the period of *Chhayavad*. The two determining principles of 'Modernism' are the assimilation of new influences and experiments in form and technique. These writers mention influence from the West, Europe and America. Creative impulse and the right cause and the popular interest have in recent years shown a leaning towards novelty. The psychological and social forces accelerated the growth of Indian English literature. Our poets and authors have not only accepted foreign influences but have also made new experiments.

The nature of society in which the characters are portrayed becomes significant. The years between the treaty of Versailles and granting of Indian Independence by Britain were unable to bring about momentous changes in the world and in India. This period marked the entry of the Soviet Union, Hitler and Mussolini into the world politics. The success of the Bolshevik Revolution of 1917 offered an effective means for change, while the rise of Nazism and Facism underscored the need for change. Communism promised a new world to a Europe struggling with economic depression. In India, this was a crucial period for the Indian masses.

DEPICTION OF ANGER

Mulk Raj Anand exposes human evil vivisects and seeps of the corridors of humanity, enshrining 'sympathy and sacrifice and service.' R.K. Narayan takes up the 'drunken buffoons' and humorously exposes the comic monkeys in them. Raja Rao immortalizes Indian Philosophy. Bhabani Bhattacharya, Manohar Malgonkar, Kamala Markandaya, Nayantara Sahgal have started gloriously in their fiction. Short story is not new in India. The *Ramayana* and the *Mahabharata* and the *Bhagavata* and the *Panchatantra* etc. Mulk Raj Anand says of himself that his first story in English "The Lost Child" was a bit chopped off from his first long autobiographical revelation. Among Indian English prose Artists Nirad C. Chaudhari is a prolific writer, and *The Autobiography of An Unknown Indian* is a unique record of Indian history fused with personal history. In criticism, writers like K.R. Srinivasa Iyenar, V.K. Gokak, C.D. Narasimhaiah, P.S. Sastry, Sisir Kumar Ghose. K.R. Srinivas Iyenger is hailed as 'the most humanist critic'.

NARRATIVE TECHNIQUES

Mulk Raj Anand's novels embody a conscious effort to organically relate Indian reality. Anand's masterpieces present the motif of anger at various levels social, psychological and religious. Anand's *Untouchable* (1935) and *Coolie* (1936) reveal the basic motif of Anger. *Untouchable* and *Coolie* are the best work of Anand. Anand started his career with his best novel *Untouchable. Untouchable* deals with the theme of anger. Bakha fights for his identity. He raises his anger against injustice. In society Bakha is neglected but he rises to the height by the end of the novel.

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OPTIMIZATION OF LINEAR PROGRAMMING

Rajni
Department of Mathematics, Government College for Women, Rewari

ABSTRACT
Linear Programming Problems are widely used in the field of business, commerce, management etc. LPP are of great help in the industries as they enable them to maximize their profit and minimize their costs. Linear programming is a technique for determining an optimum solution of independent activities for available resources. If given unknown variables are integers, then the problem is called integer programming problem. linear programming problem is important for practical applications. Problems related to optimization of an objective function which is subject to the constraints and non-negativity variables called fractional programming. We only need to solve single linear programming problem to create an optimal solution for the original optimization problem.

Keyword: Linear Programming, Optimization, Objective function, Constraints, Simplex Method, Linear function.

INTRODUCTION

This paper studies two computational techniques that improve the practical performance of existing implementations of interior point methods for linear programming both are based on the concept of symmetric neighborhood as the driving tool for analysis of the good performance. In some sense these methods follow the central path. All Methods discussed have polynomial worst-case complexity. Linear Programming is a technique of optimization (Maximization or minimization). Linear optimization is a method to achieve the best outcomes in a mathematical model whose requirments are represented by linear relationships.

History of LPP ,In 1946-1947,George B.Danzing formulate LPP for use of planning problems and invented method for solving LPP and developments of LPP can be drawn from many sources. Optimization problems is natural desire to solve LPP in the “best possble way” while the need for an objective simplex function for LPP .

Investigating for and arriving at the best possible decision in any given circumstances is called optimization. The ultimate aim of all such decisions is to minimize the gain or profit which could be earned in the given circumstances or to minimize the cost or waste or loss in certain process. The first step towards optimization is to express the desired benefits, the required efforts and other relevant information as a function of certain variable that may be called ‘decision variables’. Thus optimization can be defined as the maximization or minimization of function of several variables. This function may be unconstrained or it may be subjected to certain constraints on the variable in the form of equation or inequalities.

LPP is used in oue daily life for example in economics, finance, logistics and other areas like factories approximation to more complicated formulations, as most real-life relationship ect. .

The presence of optimization LPP can be traced back to the middle of eighteen century. The work of Newton, Lagrange, Runga-kutta, Kuhn and Tucker simplex and Cauchy in solving certain types of optimization problems arising in geometry and physics by using differential calculus methods and calculus of variations is pioneering. These optimization methods better known as classical optimization methods have their own limitations and can be applied unsuccessfully to every optimization problem. These techniques are mainly of theoretical which are practically acceptable.

Each element of Optimization of LPP frame work are originated by following three method:

1. Simplex Method
2. Ellipsoid Method
3. Interior point, Method

The optimal values of the decision variables are the function of various parameters (availability of resources loss or profit and technological coefficient.) Technological coefficients of decision variables in constraint functions.

If all the function involved in an optimization linear functions of decision variables of Mathematical Programming Problem is called Linear Programming Problem (LPP). In other way or different way if some or all the functions are non linear, the Mathematical Programming Problem is called a Non Linear Programming Problem (NLPP).

The process of creating computationally methods from theoretical studies. If involves relaxing many of theoretical methods while other properties and condition. Then we will put great effort in theoretical results with corresponding computational studies. Generally that will be impossible. There are few aspects:

- Theoretical studies may not be realistic .
- Theoretical requirement is expensive while checking the condition is not satisfactory during practice

All these things depending upon the nature of the involved functions, restrictions, decision variables and the objective function. The Mathematical Programming Problems (Linear or non Linear) Can furthers be classified one by one

1. Integer Programming Problem (IPP)
2. Quadratic Programming Problem (QPP)
3. Convex Programming Problem (CPP)
4. Separable Programming Problem (SPP)
5. Multiobjective Programming Problem (MOPP)
6. Fractional Programming Problem (FPP)
7. Geometric Programming Problem (GPP) etc.

Rather than the above Programming Problem we have Dynamic Programming which is useful computational technique for solving particular type of mathematical programming problems.

Development of recent technique for solving linear programming problem are going on. Decades of work on Dantzig's simplex method had failed. Then we apply the polynomial-time Linear Programming which is called ellipsoid method, developed by Khachiyan (1979). A new polynomial-time Linear Programming which is generated in the mathematical community was developed by Karmarkar(1984). It is certified that Karmarkar's method offer forms simplex method by a factor of 50 on real world problem. At present Polynomial-time method developed by Renegar(1988),Gonzaga(1989),Monteiro and Adler (1989) and Vaildya (1990) are more effective or faster then Karmarkar's Method.

Kuhn and Tucker (1951) developed by some conditions (which are sufficient under circumstances) to be satisfied by an optimal solution. These conditions are known as K-T conditions. Now a day no single technique is available which can provide an optimal solution to every non-linear programming problem like simplex method for Linear Programming. Beale(1959) gave a method for solving convex Quadratic Programming Problem (COPP). Using K-T condition Wolfe(1959) transformed the convex quadratic programming problem is equivalent to Simplex method to use in some additional restrictions on the vector entering basis at various iterations.During 1946-1947,George B.Dantzig indepently developed general linear programming formulation to use for planning problems in US Air Force. In 1947, Dantzig also invented the simplax method that for the first time efficiently tackled the linear programming problem in most cases.

Linear programming problem is use to allocate the locating of plants, geostationary orbit for satellites to be launched the machines or the departments of factory warehouses from which good can be shipped to retailers or consumers, the location of emergency (i.e. Fire service, ambulance service or police stations). Service companies such as hotels and restaurants, gas station and convenience stores.

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DELINEATING THE AMBIVALENCE: AN ANALYSIS OF NADEEM ASLAM'S MAPS FOR LOST LOVERS

Waqar Yonus Butt[1] and Rakesh Kumar[2]
PhD Scholar[1] and Assistant Professor[2], Department of English, University of Jammu, Jammu

ABSTRACT

The novel Maps for Lost Lovers portrays the ambivalence and uncertainty in the minds of the characters who migrate to England for securing a comfortable and peaceful life. Their speculations fail utterly as they navigate the identity crisis and are confronted with unprecedented intricacies. Their trajectory in the West is haunted by their past that hampers their convergence and assimilation in England. The novel also highlights the escalation between the fundamentalist ideals of the orthodox Muslims and the modernist culture of the Western society. In their struggle for redemption, each character ends up in despair and dejection. Nadeem illustrates such inclinations in the characters of Shamas and Koukab who ponder over their predicament and incompatibility in attaining their conciliation. Their beliefs and principles are shattered in their own ways which emanates their indeterminacy and helplessness in transforming their lives.

Keywords: Ambivalence, Identity crisis, Immigration, fundamentalism, hostility.

Maps for Lost Lovers by Nadeem Aslam is a candid narrative that reflects on the subjective experiences of the characters who have been estranged from their native country, Pakistan. The novel was published in 2003 and focuses on the theme of the bitter immigrant experience of a large community of Muslims who have escaped their country and have settled in England for establishing a secure and peaceful life. But unfortunately, their speculations fail utterly and they even lose the spirit of unity that they carried along when they entered their new abode in England. Their repeated endeavours to connect to their roots as well as their aspirations to live a true Muslim life are ample with exasperations and apprehensions in the changing contours of England. Apparently, the plot deals with the murder of two lovers Jugnu and Chanda who have been killed for undermining the traditions and customs of the Islamic culture by living together in an illicit relationship. Their transgression is met with catastrophic results and the novel additionally manifests the antipathy for the influence of the British way of life which is seen as menacing and corruptible. The story orchestrates through the perspective of a couple viz. Shamas and Kaukab who are often at odds with each other.

The immigrants have unusually created their own ghetto in an unnamed British town and named it "Dasht-e-Tanhaii: The Wilderness of Loneliness or The Desert of Solitude". The name manifests their urge to live a solitary and independent life where they wish to remain pure and immaculate; far from the squalid and sinful life of the modern Britishers. Their seclusion avows their exile, alienation and dislocation where the modern values dominate the fundamentals of their fragile notions. The "cultural vulnerability within the diaspora" becomes obvious in their resentment against the change that threatens their social values and insidiously tests their faith in Islam. It becomes more complex in the antagonism between the old cultural values which the migrants champion and their British born children who rejoice the cult of the Western civilization. In the novel, Pakistan is fictionalized as "a harsh and disastrously unjust land, its history a book of sad stories" and whose "millions of sons and daughters" "roaming the planet looking for solace, they've settled in small towns that make them feel smaller still, and in cities that have tall buildings and even taller loneliness" (9).

The resentment against the British way of life becomes more pronounced in their creation of own mini Pakistan in England. Everything has been changed according to their peculiar taste and temperament. They hardly have an interaction with the Britishers or their culture which the author rightly labels as, "pockets of the Third World within the First" (161-62). The novel is set in Britain but ironically there is no portrayal of any white people except their racism. It manifests the author's inclination to portray only the life of the Muslims in Britain and of the racists who impulsively denigrate the presence of Pakistanis as any other immigrant. Their life also comprises of decay and deterioration. Bengtsson rightly states that, "Not only are the stereotyped whites excluded, but everything that they represent, i.e. Western society, is alienated and thought of as foreign, not belonging to the desirable traditions and properties of the Pakistani community" (1). Throughout the novel, it is insinuated that especially the older generation despises living life in a foreign country which they consider extremely hostile. The country does not meet their expectations and they outrightly reject the kind of life in England. Their living is a horrible experience, devoid of any happiness and satisfaction. "This isn't our country" (79) Chanda's mother tells Shamas. It is a place where "every day you hear about depraved white men doing unspeakable things to young children", a "nest of devilry from where God has been exiled" (30). It is also metaphorically indicated when Kaukab arranges to grow seedlings and cuttings that she orders from Pakistan are unable to grow and bloom in England which reflects the barrenness and infertility not only for foreign things but also for immigrants who are despised by the residents of Britain. She despairingly wonders, “If the country’s soil itself hadn’t been responsible for the failures” (95).

Astonishingly, the life created out of the displaced community is fragile and exasperating. The community fails miserably to assimilate in the culture of the new country and even their languid attempts to merge meet failures. This becomes the reason that they create their own abode within the country by renaming it as “Dasht-e-Tanhaii”. Moreover, it is not only their particular locality which they change even they transform the whole of England according to the places in Pakistan renaming every street and corner of the land reminiscent of their own motherland. “As in Lahore, a road in this town is named after Goethe. There is a Park Street here as in Calcutta, a Malabar Hill as in Bombay, and a Nag Tolla Hill as in Dhaka” (28). In this context, the assertion of James Clifford is worth mentioning who claims that, “Resistance to assimilation can take the form of reclaiming another nation that has been lost, elsewhere in space and time . . .” (156). Their attempts to transform the geography of England are their efforts to reconstruct their own homeland in an alien country. It is their way of confronting to the predicament of displacement so that they inhabit “amassing a claim on the space bit by bit” (156). Clifford further states that, “some of the most violent articulations of purity and racial exclusivism come from diaspora populations” (307).

The residents of “Dasht-e-Tanhaii” live a different life where they avoid any contact and interaction with the outside world and maintain strict seclusion lest they be corrupted by the outside squalid and immoral world. It is also maintained in the way that they treat their clothes which they wear when going outside in the middle of the white world. Immediately, after reaching home the clothes are taken off believing that it be contaminated by the polluted and dirty world outside. This behaviour is very typical and reflects the zenith of aversion the residents have for the white people:

England is a dirty country, an unsacred country full of people filthy with disgusting habits and practices, where, for all one knew, unclean dogs and cats, or unwashed people, or people who have not bathed after sexual congress, or drunks and people with invisible dried drops of alcohol on their shirts and trousers, or menstruating women, could very possibly have come into contact with the bus seat a good Muslim has just chosen to sit on, or touched an item in a shop that he or she has just picked up. . . (267).

In such atmosphere of derision and scornful ridicule for the White culture, the novel subtly represents the concern of the inhabitants for the fear of hybridization and hegemony. Every measure is taken to preserve the purity of their culture and each resistance is dealt severely. The transgressions are even susceptible to violence and condemnation which becomes ostensible in excommunication, forced marriages, rapes, exorcism, domestic violence, honour killings etc. “As is often the case in such patriarchal, rigid cultures, the standard for female purity is higher than the standard for men” (Waterman, 121). For example, when a suitable match is not available in the community in England, she is sent back to Pakistan for marriage. This becomes clear in the miserable plight of Mah-Jabeen whose marriage brings disastrous ramifications. At the age of sixteen, she is married to her cousin. Another instance follows where a Muslim girl falls in love with a Hindu boy and she is subjected to constant harassment and conceptualized as a case of exorcism and is labeled a girl possessed by the djinns. This follows another incident where Suraya is divorced by her husband in a drunken rage by articulating ‘talaq’ three times. She comes to England to marry a person who could marry her and then divorce her so that she could be reconciled back to her husband and son as the tradition demands. Surya is remorseful and laments her agony and feels crushed under the customs of the society through no fault of her own. She exclaims:

Allah is not being equally compassionate towards the poor woman who is having to go through another marriage through no fault of her own . . . as though Allah forgot there were women when he made some of his laws, thinking only of men (150).

Besides, female fetuses are continually aborted which becomes prominent in the illustration of Burra, who is Chanda’s brother and has his wife foetus aborted for he fears that she is pregnant with a baby-girl. But he soon discovers that his assumption are wrong when he learns that the foetus is instead a baby-boy. The malfeasance of male and female is understood distinctly which reflects the prejudice in their perspectives. The relationship of Chanda with Jugnu is seen aberrant and is termed as sinful whereas Chota’s promiscuity is considered a minor wrong doing.

In “Dasht-e-Tanhaii”, the inhabitants more vigorously assert their identity and feel more attached to the ideals and values of their religion and country. Kaukab, the wife of Shamas is a character who staunchly escorts such values and is critical of the notions of the Western culture which she perceives as degrading and corruptible. Her perspective and beliefs somehow form the central concern of the novel. She is an unbending orthodox

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character whose fundamentalist beliefs not only isolate her from her husband, Shamas but also from her children. She disparages living a miserable life in Britain which she thinks has snatched her essence and identity. She abhors its customs and even despises learning English, a language of which she utters only few sentences. In contrast, she idolizes Pakistan which according to her is a pristine and an impeccable country. She feels guilty and understands that migrating from Pakistan to Britain was her biggest mistake.

It was as though, when the door of Pakistan was closed on her, her hands had forgotten the art of knocking: she had made friends with some women in the area but she barely knew what lay beyond the neighbourhood and didn't know how to deal with strangers: full of apprehension concerning the white race and uncomfortable with people of another Subcontinental religion or grouping (32).

Kaukab, however, is indomitable in her house, champions and follows the orthodox cultural traditions rigidly. She asserts her beliefs and does not tolerate any opposition to her convictions. If any member of her family fails to meet her expectations she critically disparages the sinister influence of the British culture. She desires her children to emulate and endorse the Pakistani tradition but contrarily they are more mesmerized by the British ways of living. Her children find her beliefs redundant and terrible. They are more delighted to live a life that has no restrictions. Their deliberate attempt to undermine Kukab's authority frightens her which she proclaims in her words, “This accursed land has taken my children away from me. My Charag, my Mah-Jabin, my Ujala. Each time they went out they returned with a new layer of strangerness on them until finally I didn't recognise them any more” (146). Their indifference makes her life miserable and full of pain. James Clifford underlines such predisposition when he says, “Women in diaspora remain attached to, and empowered by, a “home” culture and tradition – selectively. Fundamental values of propriety and religion, speech and social patterns, and food, body, and dress protocols are preserved and adapted in a network of ongoing connections outside the host country” (314).

The central concern of the plot is the killing of Jugnu and Chanda whose deaths manifest the acrimony towards the modern British life. It reveals the hidden contempt for their host culture. Chanda had married three times but every time her marriage had proved unsuccessful. She became an encumbrance for her brothers who considered her vain. Desperate, she begins an affair with Jugnu and starts living with him in an illicit relationship. Her promiscuity becomes a source of embarrassment for her brothers who cannot endure what they perceive her subversion, “We are men but she reduced us to eunuch bystanders by not paying attention to our wishes” (342). They take pride in their barbarity and do not show any grief for such wicked action and who “preferred being murderers to being brothers to a sister who was living in sin” (342). Aslam said in an interview with Marianne Brace that, “In a way, the book is about September 11”, and further asserts that “Jugnu and Chanda are the September 11 of this book” (n.pag.). This metaphor is very significant in a way that it highlights the atrocities done by the self-absorbed fundamentalists whose assumptions mislead them to execute heinous actions. These fanatical acts are not done on the enemies of Pakistan or Islam but on the Muslims on their own land and in their own homes. “Primarily associated with the immigrant Muslim population, the phenomenon of honour crimes in modern Britain is immediately taken to affirm the perceived polarization between a secular West and its ethnic and religious minorities” (Yaqin, 101- 02). Through such revelations, the novelist endeavours to portray the ramifications of extremism not only in Pakistan but also in England where the immigrants adhere to their opinionated notions and feel thwarted by the foreign influence.

The novel investigates the transformation that a migrant undergoes in his/her travel from East to West and its ambiguous influence on his/her character and identity. It becomes necessary to redeem the remnants of the native culture which becomes vulnerable to hybridity in a foreign land. The rift is caused by the fundamental difference between the inclinations of the either culture which overwhelms the characters emotional orientation. Dislocation and loss of identity becomes visible in the immigrant experience which shatters the beliefs or partly deteriorates the existence of immigrants in a foreign land. Their cultural identity is marginalized and their life becomes baleful and perplexed. The immigrants acknowledge that their identity is no longer singular and their past experience of the home haunts them continuously and becomes an impediment to embrace the new culture of their adopted land. This refusal to adopt and confirm to the values of the adopted land consequently destroys their identity and becomes a cause of their ultimate misery. Koukab becomes a prime paradigm of this illustration who fails to meet the expectations of the Western society which is pluralistic and unrestrictive. Homi Bhabha emphasizes such concerns when he asserts that the split personality/subject who is divided between two cultures is the paramount characterization of the modern age. He further states that “Split subject that articulates, with the greatest intensity, the disjunction of time and being that characterize the social syntax of the postmodern condition” (307).

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Aslam reprimands the fundamentalist beliefs and accentuates it by manifesting the trauma such as murders, rapes, injustice, nepotism etc. inflicted mercilessly on minor contraventions. He is more overt in describing the violence which is perpetrated on women and their damnation in harsh patriarchal society. The novel even illustrates the violence and condemnation executed by the women. Suraya who returns Pakistan from England and much changed in her attitude tries to intervene in a family matter which includes, besides, an uncle raping his niece, where even she is confronted by the men who threaten to rape her. Aslam tries to portray the agony of the women who are powerless and ineffective in changing their destiny:

Eventually she was allowed to leave the house with her virtue intact; the men did, however, tell her that they were going to let everyone know that they had raped her . . . . As it turned out it was as bad as if they had raped her. What mattered was not what you yourself knew to have actually happened, but what other people thought had happened. (158)

Koukab too disapproves and condemns the illegal relationship of Chanda with Jugnu which highlights her hypocrisy and commitment to the masculine codes and underscoring their concern for each other. She would even corroborate in the process where a holy man indignantly beat a girl while exorcising djinns.

Koukab is restrained by her uncertainty in the English world. Her aura is inhibited by her incompatibility to identify with the English. She is hesitant to express her concerns and fears in a foreign language which weigh heavily on her. “I don’t go there often –white people’s houses start soon after that street, and even the Pakistanis there are not from our part of Pakistan” (42). She becomes anxious when Jugnu brings her English girlfriend home for dinner, “She had never met a white person at such an intimate level as she would tonight” (35). Even her acquaintance with few English people is numbered in years and limited to formalities such as when she interacts with a white flower deliveryman, “Thank you’ she murmurs to the flower-deliveryman is her third exchange with a white person this year; there were five last year; none the year before, if she remembers correctly; three the year before that. . .” (69).

CONCLUSION

Maps For Lost Lovers manifests the contradiction and uncertainty in the minds of the characters who ardently yearn for living a life of contentment. Outside their home, living in the Diaspora, they are confronted with inscrutable situations which bind their beliefs. In the West, life is exclusively claustrophobic and full of apprehensions. The character of Shamas and Koukab illustrate such predilection and the West for them becomes baleful and menacing. Moreover, the murder of Jugnu and Chanda becomes a catalyst in accentuating the contention among the Pakistani’s living in Dasht-e-Tanhaii. Their illicit relationship is perceived by her brothers as wicked and sinister who are eventually killed for their misdemeanour. Despite the modernization of the West, most of the characters adhere to their orthodox beliefs and champion patriarchal values. The Western society is recognized as a threat and a restraint to their own culture. The identity crisis becomes apparent in their hostility against the canons of the West and their own endeavours to carve out a mini-Pakistan on the British land. Their trauma becomes excruciating and less bearable. Nadeem has desperately tried to manifest the contradiction of convictions, traditions, religions and values the immigrants are confronted with. The text becomes a gospel in revealing the cultural clash, psychosis and the eventual ambiguation in the minds of the characters.

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AN EVALUATION OF FINANCIAL INCLUSION INITIATIVES IN PUNJAB

Dr. Kanwaljit Kaur[1] and Sarbjeet Kaur[2]
Associate Professor[1], SGGS College, Chandigarh
Research Scholar[2], Department of Economics, Panjab University, Chandigarh

ABSTRACT
The study focused on evaluation of financial inclusion initiatives in Punjab. The study used secondary data taken from journals, reports and articles. The study used graphs and percentages to evaluate the growth and progress with respect to initiatives undertaken in Punjab. The study concluded that financial inclusion has focused on macro indicators and it had showed an improvement over time. But if we compare Punjab with other states Punjab ranks at 11th place with respect to financial inclusion index amongst 35 states.

INTRODUCTION

"The test of our progress is not whether we add more to the abundance of those who have much; it is whether we provide enough for those who have too little." **- Franklin D. Roosevelt**

Nowadays Financial inclusion is discussed in academic research, public policy summits and conferences. It has gained attention due to its important role in supporting economic development of the developing-economies. In India 'financial inclusion' has become prevalent after the **Reserve Bank of India (RBI)** declared a series of measures in its credit policy for 2006-07.The primary purpose of Financial Inclusion is to provide financial services to the large un-observed and unservd population of the country. It endeavors to achieve equitable and inclusive growth by providing financial services to the poor in particular and unbanked in general. Jake Kendal, Nataliya Mylenko & Alejandro Ponc in the Policy Research working paper of the World Bank entitled, "Measuring Financial Access around the World" (2010) have observed that the financial inclusion has become an important policy measure because access and use of financial products can bring a positive transformation in the lives of the poor.

MEANING OF FINANCIAL INCLUSION

GOI (2008) defines financial inclusion, "as the process of ensuring access to financial services, timely and adequate credit needed by vulnerable groups such as weaker sections and low income groups at an affordable cost".

According to Chakraborty (2011), "financial inclusion is the process of ensuring access to appropriate financial products and services needed by all sections of society including vulnerable groups such as weaker sections and low income groups at an affordable cost in a fair and transparent manner by mainstream institutional players".

OBJECTIVES

1. To evaluate growth in financial inclusion indictors in Punjab
2. To compare Punjab with respect to financial inclusion initiatives across states and districts.

REVIEW OF LITERATURE

Camara, N et al (2014) carried out a quantitative approach to the determinants of financial inclusion in Peru using micro-data from surveys. Significant correlations were used to identify those socioeconomic characteristics that may affect financial inclusion (or exclusion) of households and enterprises. The study incorporated four levels of information: individuals, households, towns, and regions. The results designated that women, rural individuals and young people were traditionally mostly excluded groups and less likely to use the formal financial system. Loans and mortgages proved better drivers for financial inclusion of masses.

M.Meganathan and R.Saravanan (2015) evaluated the progress of financial inclusion on banking in India and to examine the region-wise coverage of banking services in India. The secondary data used in the study was collected from different sources like published RBI reports, articles, journals, newspapers, reports and books. The study period was 2012- 2013. The researcher had made use of simple percentage for interpreting the collected data. The study revealed that literacy alone cannot warranty high level of financial inclusion rather branch concentration had significant bearing on financial inclusion.

Singh.B and Singh.S (2015) investigated the current trends in financial inclusion in India with special reference to PMJDY. The study employed secondary data for availing information to achieve the objectives of the study .The study results stated that India is lagging behind other counties in terms of branch density, narrow ATM network, and maximum number of branches in urban area. The study revealed that there are still millions who don't have access to formal banking.

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Krishna et al (2016) attempted to know the status of Financial Inclusion in Maredimilli Mandal through the Business Correspondents along with the challenges identified during the process of implementation. The study highlighted that neither the Government nor the banks were piloting the Financial Literacy programs in these villages. The study pointed out that mostly villages in the study area were tiny and officials found it problematic to conduct a meeting to combine the villagers of different villages. Further, it revealed that due to lack of awareness of the people, they cannot utilize a variety of banking services provided to them and as a result money lenders advantage from the situation to make them available financial requirements.

Sarma .M (2008) worked on index of financial inclusion (IFI). The study stated that the index can be useful in comparing the stage of financial inclusion of different nations over time. The results revealed that most of the countries of the world had achieved low financial inclusion. The study pointed out that the calculation of the robust index demands sufficient, suitable and comparable data with respect to years and countries. The study concluded by recommending that International bodies should come to the forefront to disseminate information and data on different dimensions of financial inclusion.

S. Thyagarajan (2008) examined the level of financial inclusion in cuddalore district of Tamilnadu. He studied indicators such as coverage; account opening and maintenance cost, usage behavior of account holders. The study also calculated the breakeven point after which the banks would earn revenues. The study underlined some loop holes in the enactment of the drive. The results revealed a substantial percentage of unbanked masses even after the drive. The study further displayed the least usage and even dormancy of the accounts opened.

Mehrotra et al (2009) presented an overview of financial inclusion in India especially in rural areas. He also prepared Financial Inclusion Index (FII) and carried out a cost and benefit analysis from the banks' perspective. The study estimated an improvement in the status of financial inclusion for the time period 2002 - 2006. The study further outlined that most of the districts recorded FII value between 0.20 and 0.40. The study attached a greater importance to financial access as it can have far reaching benefits for masses. The research highlighted the supply side constraints like poor banking setup, low resource base of credit agencies, faulty lending procedures, cumbersome formalities, low financial literacy, etc.

Beck, et al (2009) examined the principles and strategies for broadening access. The study specified the responsibility of the financial markets that their smooth and efficient functioning provides opportunities to all. This access hence boosts growth, improve income inequalities and reduce poverty traps. On the contrary in the absence of well worked financial markets, people can't avail growth opportunities, inequalities continue. The study observed that without inclusive financial system, individuals and small enterprises, approach non-formal sources for their credit needs.

Arora, R. U. (2010) studies the quantum of financial access in developed and developing countries. Besides, he generated a new index incorporating access dimension and then compared the level of socio-economic development of various countries. The study used World Bank database 2007. The study classified the countries into two groups: advanced economies and emerging and developing economies. A total of 98 countries were included in the study depending upon the availability of data. The results ranked Belgium as the number one nation in access indicator followed by Spain and Germany. Above all the access dimension made a difference in ranking of countries with respect to HDI. As far as developing countries group were concerned, Hungary positioned first followed by Croatia (13) and Bulgaria (18). Financial access was found low in case of Pakistan, Bangladesh and Nepal.

Cnaan et al (2012) assessed the status of financial inclusion in four parts of Rural South India where the banks claimed 100% financial inclusion. The study collected data from 730 residents of four southern states such as Andhra Pradesh, Karnataka, Kerala and Tamil Nadu. The study designed a questionnaire with close ended questions. The study applied F, χ 2 and binary-logistic regression to review the results. The results revealed that most of the households had access to banks and only a small per cent were identified having no account in the bank. Further the results found caste, religion, education and financial resources as significant determinants of financial inclusion of the respondents.

Kumar. N (2013) intended to examine status of financial inclusion in India and study its determinants. The study used Panel fixed effects and dynamic panel generalized methods of moments (GMM) methodologies to explore determinants of financial inclusion. Moreover, Kendall's index of rank concordance had been calculated to test for union of states in achieving financial inclusion. It employed 29 major states and union territories covering time period of 1995 to 2008. The empirical results of the study designated the effectiveness of supply side of inclusive efforts through branch network expansion but demand side pressure exists in system as penetration indicators are unable to match pace of population growth. The study established that Branch network had clear-cut beneficial influence on financial inclusion.

Efobi, U et al (2014) reviewed the level of access and use dimension of financial services by the Nigerian residents. The variables studied include usage of bank services by individuals, usage for the purpose of saving and frequency of usage of services as dependent variables. The independent variables consisted personal characteristics, income, financial wiseness and use of ICT based solutions. The data source for the study was the Gallup World Poll Survey carried out on individuals across the world. The Tobit Regression results revealed personal characteristics, income and ICT based solutions as important predicators towards the use of financial banking services. The frequency of withdrawals positively gets impacted by higher education level, income and financial discipline.

Meganathan , M and Saravanan , R (2015) evaluated the progress of financial inclusion on banking in India and to examine the region-wise coverage of banking services in India. The secondary data used in the study was collected from different sources like published RBI reports, articles, journals, newspapers, reports and books. The study period was 2012- 2013. The researcher had made use of simple percentage for interpreting the collected data. The study revealed that literacy alone cannot warranty high level of financial inclusion rather branch concentration had significant bearing on financial inclusion.

Krishna et al (2016) attempted to know the status of Financial Inclusion in Maredimilli Mandal through the Business Correspondents along with the challenges identified during the process of implementation. The study highlighted that neither the Government nor the banks were piloting the Financial Literacy programs in these villages. The study pointed out that mostly villages in the study area were tiny and officials found it problematic to conduct a meeting to combine the villagers of different villages. Further, it revealed that due to lack of awareness of the people, they cannot utilize a variety of banking services provided to them and as a result money lenders advantage from the situation to make them available financial requirements.

Evans.O. and Adeoye. B. (2016) documented the determinants of financial inclusion in Africa for the period 2005 to 2014, using the dynamic panel data approach. The study collected data on number of depositors with commercial banks (per 1,000 adults), GDP per capita, deposit interest rates, inflation, money supply (% of GDP), population, credit to the private sector (% of GDP), number of internet users, secure internet servers, and adult literacy rate. The study initially carried out a panel unit root test on the variables in order to determine their stationarity and exclude the possibility of spurious regression. The study results stated that per capita income, broad money (% of GDP), literacy, internet access and Islamic banking presence and activity were significant factors clarifying the level of financial inclusion in Africa. Domestic credit provided by financial sector (% of GDP), deposit interest rates, inflation and population had impacted insignificant on financial inclusion.

Ramakrishna, S and Trivedi, P (2016) studied the demand side perception of individuals towards financial inclusion in Thane district of Maharashtra. The primary purpose of the study was to evaluate the effect of demographic variables such as gender, educational attainment and income of the individual on financial inclusion. The actual survey was carried out across several talukas of Thane district to cover a varied demographic population. The sample size for the study was 150 respondents. Technological factors such as ATMs, online banking, credit cards, etc) were found appropriate for making financial transactions. The important finding of the study was that the demographic factors mentioned above do made an influence on the ease of banking and access.

Sanya, O and Olumide, F.F (2017) evaluated the role of financial inclusion in poverty reduction in Ekiti state from 1980 and 2015. The author adopted random sampling technique to select 180 adults headed households across three districts of state. The data used for the study was obtained with the help of a pre structured questionnaire. The descriptive statistics and multinomial logit were applied for the purpose of data analysis. The Findings designated that poverty rate was higher among women. The study examined 58% of women and 42% men .The study reported low branch density of commercial banks in three districts. The available ones were only concentrated in state Headquarters, (Ado-Ekiti). The study further reported 45% financially excluded people.

EVALUATION OF FINANCIAL INCLUSION INITIATIVES IN PUNJAB

“No Frill” accounts were the 1st step towards “Financial Inclusion”. The ultimate purpose of this policy was to provide an opportunity to underserved section of the society to enter the mainstream market. In order to pursue this orders of Reserve Bank of India advised the Convener Bank to implement the paragraph 157 of Annual Policy statement for the year 2006-07 and identify at least one district in the State for achieving 100% Financial

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Inclusion by providing "No Frill" account and General Purpose Credit Card. Initially the process of 100% Financial Inclusion was successfully implemented in two districts of Gurdaspur & Mansa of Punjab.

a) During 99th meeting of SLBC (Pb) it was decided that this process should be replicated in six (6) more districts of Bathinda, Faridkot, Ferozepur, Muktsar, Sangrur & Tarn Taran and the Controlling Heads of Banks & LDMs were requested to complete the process of 100% Financial Inclusion by providing banking facilities either by deposit accounts (normal or No Frill Deposit accounts) or by providing credit (under normal lending scheme or GCC scheme) latest by 30th September 2007. The LDMs of these districts were requested to: -

- Allot villages to various banks for completing the process of 100% Financial Inclusion, organize banks into a sub group for implementation of the scheme
- The village wise data of households may be obtained from the BDPOs and the information thus obtained can be used to watch the process of 100% Financial Inclusion.

Table-1.1: District Wise Progress of Financial Inclusion in Punjab

District	No. of Villages	Total Rural Households	Households covered in Deposit A/Cs		Households covered under credit A/Cs		Villages where 100% Financial Inclusion Completed
			Normal A/Cs	No Frill A/Cs	Under Normal Lending Schemes	Under GCC Scheme	
Bathinda (SBOP)	287	138529	89500	10693	45841	357	287 (100%)
Faridkot (PSB)	171	62163	40916*	8262	13336	1397	171 (100%)
Muktsar (SBOP)	234	100549	74473	11602	25963	546	234 (100%)
Tarn Taran (PNB)	452	131818	115162	17893	37303	499	452 (100%)
Sangrur (SBOP)	581	152289	100341	12951	53199	1307	581 (100%)

The above table shows that the target of 100% financial inclusion was accomplishedin 6 identified districts. Tarn Taran districtwasthe first and foremost tocomplete this in all its villages followed by Bathinda.

As per table 1.2 no of Jhan Dhan accounts had surged over the period of time whereas Rupay cards had declined in number.

Table-1.2

Position as on	Total number of PMJDY accounts	Number of Rupay Cards issued	% of Rupay Cards issued	Number of Rupay Cards activated	% of Rupay cards activated	Zero balance accounts	% of zero balance a/cs
31.12.2016	5868391	4964037	84.58	3564133	71.79%	927789	15.81
31.03.2017	5961045	4954182	83.10	3564688	71.95%	961716	16.13

Source: Slbc Report

C) Branch Expansion: The brick and mortar branch expansion was also an objective of GOI to achieve financial inclusiveness of masses. As a result 259 new branches of Commercial Banks were opened in the State during the period from 1st Oct. 2014 to 30th September 2015, thus raising the network of branches from 5579 as at 1st Oct.2014 to 5838 as at 30thSeptember 2015. Area wise analysis is summarized below:-

Table-1.3: Branch Expansions

Number of Branches	Sept. 2013	Sept 2014	Sept. 2015	Variations	
				Sept 2014/Sept 2013	Sept.2015/sept 2014
				Absolute	Absolute
Rural	1960	2364	2528	404	164
Semi Urban	1524	1729	1788	205	59
Urban	1396	1486	1522	90	36
Total	4880	5579	5838	699	259

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D) Deposit Growth: As far as deposits in the banks were concerned, it had showed a growth by 33224 crore, from 245813 crore as at September 2014 to 279037 crore as at September 2015, thus posting a growth of 13.51% asagainst an increase of 16.15% during the corresponding period last year.

Table 1.4 Deposit Growth (Amount ` in Crore)

Aggregate Deposits	As At			Variation			
	Sept. 2013	Sept. 2014	Sept. 2015	Sept. 2014 / Sept. 2013		Sept. 2015 / Sept. 2014	
				Absolute	%age	Absolute	%age
Rural	46393	55442	64375	9049	19.50	8933	16.11
Semi Urban	72532	76807	87944	4275	5.89	11137	14.49
Urban	92707	113564	126718	20857	22.49	13154	11.58
Total	211632	245813	279037	34181	16.15	33224	13.51

E) Credit Expansion: Provision of financial services to the unbanked is the foremost objective of this drive. Soit leads to growth of gross credit provided to the people in the State increased 17570 crore, from 188392 crore as at September 2014 to 205962 crore as at September 2015, thus demonstrating a growth of 9.32 % as against 11.88% during the same period last year.

Total Advances	As At			Variation			
	Sept. 2013	Sept. 2014	Sept. 2015	Sept. 2014 / Sept. 2013		Sept. 2015 / Sept. 2014	
				Absolute	%age	Absolute	%age
Rural	29445	33689	38212	4244	14.41	4523	13.42
Semi Urban	47489	51644	58716	4155	8.74	7072	13.69
Urban	91453	103059	109034	11606	12.69	5975	5.79
Total	168387	188392	205962	20005	11.88	17570	9.32

F) Ranking and index of Punjab: Punjab has recorded an improvement with regard to index and ranking as both has gone up seeing the following table.

Table: 1.3Ranking and index of Punjab

Year	2013	2012	2011	2010	CV
Index	59.7	56.8	55.7	51.8	.0583
Rank	12	11	11	11	

Source: CRISIL

Seeing the table 1.2, If we compare index district wise then over the period of time,Barnala, Bathindha, Faridkot,Ferozpur, Mansa and Mukatsar recorded highest improvement in index. If we consider the district wise index Patiala has topped the list with 68.4 and least of fazilika with 48.8.

Table-1.4: District wise index of financial inclusion

District	2010	2013	%Improvement in index
Amritsar	54.6	58.7	7.57 %
Barnala	44.8	63.6	41.8 %
Bathindha	46.8	63.1	38.39%
Faridkot	44.5	58.3	31.01%
Fatehgarh sahib	51.3	60.8	18.51
FAZILIKA	NA	48.8	_
Ferozpur	41.2	61.5	49.27%
Gurdaspur	47.9	55.7	16.28%
Hoshiarpur	56.8	61.6	8.45%
Jalandhar	62.4	62.4	0%
Kapurthala	60.1	60.8	1.1%
Ludhiana	60.4	61.6	1.65 %
Mansa	35.4	50.4	42.3%
Moga	48.6	59.0	21.39%
Mukatsar	39.3	52.7	34.09%
Pathankot	NA	56.6	%

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Patiala	59.6	68.4	14.76%
Ropar	52.4	60.1	14.69%
SAS	55.8	59.9	7.37%
Sangrur	44.7	59.9	34.00%
SBS NAGAR	58.6	60.1	3.41%
Taran taran	39.6	50	26.6%

Source: CRISIL , 2015

As per table 1.5, if we compare Punjab with other states, Punjab ranked at 12th place amongst 35 states of India. Manipur state has .51 % of CV which is highest amongst all the states with respect to financial inclusion index.

Table 1.5 State Wise Inclusix Scores

State	Index 2013	Rank	2012	Rank	2011	Rank	2010	Rank	C.V
Puducherry	89.4	1	82.2	1	79.6	1	75.9	2	0.25
Kerala	88.9	2	80.4	3	76.1	3	71.3	4	0.12
Tamil Nadu	79.2	3	64.8	8	60.5	7	57.6	7	0.13
Goa	76.1	4	74.0	5	72.0	4	72.6	3	0.02
Chandigarh	75.4	5	80.7	2	78.1	2	82.4	1	-
Karnataka	74.4	6	61.4	9	57.7	10	54.7	8	0.18
Andhra Pradesh	69.2	7	64.8	7	61.3	6	57.6	6	0.10
Delhi	67.0	8	78.2	4	64.2	5	58.4	5	-
Lakshadweep	65.7	9	65.7	6	58.7	8	52.6	10	-
Tripura	63.8	10	44.1	15	38.7	17	37.7	16	0.26
Himachal Pradesh	60.5	11	58.4	10	58.5	9	53.2	9	0.10
Punjab	59.7	12	56.8	11	55.7	11	51.8	11	0.08
Uttarakhand	59.3	13	52.4	12	50.5	12	48.5	12	0.09
Orissa	55.2	14	43.3	16	40.6	15	36.7	18	0.25
Andaman & Nicobar Islands	54.6	15	50.9	13	45.1	14	42.8	15	0.36
Haryana	53.2	16	49.3	14	48.4	13	43.8	13	0.16
Maharashtra	49.0	17	40.7	18	37.5	19	34.8	19	0.31
Sikkim	46.8	18	41.4	17	40.0	16	42.9	14	0.27
West Bengal	46.6	19	31.4	29	28.8	29	27.2	29	0.26
Gujrat	46.0	20	40.6	19	38.6	18	36.8	17	0.23
Jammu & Kashmir	45.2	21	36.9	23	33.8	23	32.9	23	0.23
Dadra & Nagar Haveli	43.7	22	40.3	21	37.1	21	33.8	22	-
Daman & Diu	43.2	23	40.5	20	37.3	20	34.2	20	0.09
Mizoram	42.6	24	39.3	22	34.9	22	34.1	21	0.27
Madhya Pradesh	40.5	25	33.1	27	29.9	27	29.1	26	0.33
Uttar Pradesh	40.1	26	35.2	24	33.5	24	31.5	24	0.19
Assam	39.6	27	30.4	30	28.2	30	25.7	31	0.31
Jharkhand	39.4	28	32.1	26	30.1	26	27.3	27	0.21
Rajasthan	39.4	29	34.8	25	32.7	25	30.2	25	0.21
Meghalaya	36.4	30	31.6	28	29.2	28	27.2	28	0.43
Chhattisgarh	35.4	31	28.8	32	27.0	32	24.8	32	0.29
Arunachal Pradesh	30.5	32	28.4	31	27.4	31	26.3	30	0.45
Bihar	30.2	33	25.5	33	23.5	33	21.4	34	0.22
Nagaland	28.9	34	26.1	34	23.1	34	21.6	33	0.46
Manipur	21.6	35	17.8	35	16.6	35	15.6	35	0.51

Source: Crisil

CONCLUSION

So we can conclude here that Punjab is energetically working on financial inclusion drive and its supply side indicators. But still ground realities are different. Still there is issue of financial literacy because it's more important to make them aware about different schemes and initiatives. Moreover there is also an issue that the cards were provided but not activated .In some cases cards were delivered to account holder but pin was not activated. Mere provision of products and services will not result in inclusion of masses. RBI and GOI should focus on increasing the usage and regularity of usage of goods and services.

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IMPACT OF HOME ENVIORNMENT ON ACADEMIC ACHIVEMENT OF TWELFTH GRADE STUDENTS

Dr. Pooja
Assistant Professor, Sohan Lal DAV College of Education, Ambala City

ABSTRACT

Children are the most important entities not only in the life of parents but also in the life of a society and state at larger extent. Even before a child is born, his parents have certain notions about what their dream child will be like and the kind. This study is an endeavour to study impact of home environment on academic achievement with an objective to find out academic achievement of twelfth grade students in relation to their home environment (parent-child relationship).The descriptive survey method was followed. The research tools used for obtaining the data for present study was parent child relationship scale' by Dr. Nalini rao. Correlation of coefficients of High, Average & Low academics achievers with parent child relationship was found. A high and positive relationship of high academic achievers but a low and positive correlation (0.31) was in case of low academic achievers.

Keyterms used in the study: Academic achievement, Home Environment

INTRODUCTION

Children are the most important entities not only in the life of parents but also in the life of a society and state at larger extent. Even before a child is born, his parents have certain notions about what their dream child will be like and the kind. The influence of the home environment is transmitted to children in many different ways. The importance of home as a factor influencing school learning is undeniable. Hence, investigating the impact of home environment on academic achievement may be brought under the fabric of parent-Child relationship.

OBJECTIVE OF THE STUDY

To find out academic achievement of twelfth grade students in relation to their home environment (parent-child relationship).

HYPOTHESIS OF THE STUDY

There is a relationship between academic achievement of twelfth grade students and their home environment (parent-child relationship).

KEY TERMS USED IN THE STUDY

Academic achievement: Academic achievement refers to knowledge attained or skill developed by pupils, usually in the school subject, measured by marks assigned or by test score by teacher.

Home Environment: By home environment it is meant that the sum total of the facilities available in a family in the light of children's needs. But in the present study, home environment includes parent-child relationship which means characteristic behaviour of parents as experienced by their children.

Methodology: In the present study, the descriptive survey method was followed.

(a) Sample- Fifty students of twelfth grade of different senior secondary schools of Karnal city were taken as sample for the present study. The present study was limited to 10 senior secondary schools of karnal city. The study was further delimated to academic achievement of twelfth grade students in relation to their home environment. Home environment here is confined to parent child parent child relationship in terms of parental attitudes as perceived by the children.

(b) Tool: The research tools used for obtaining the data for present study was parent child relationship scale' by Dr. Nalini rao. The tool contains 100 items categorized into ten dimensions, namely, as follows:

- Demanding (Dem.)
- Indifferent(Ind.)
- Loving (Lov.)
- Neglecting(Neg.)
- Protecting (pro.)
- Rejecting (Rej.)

- Symbolic reward (SR) and object reward (OR)
- Symbolic Punishment (SP) and object punishment (OP)

Items of the scale are arranged in the same order as the dimensions and they rotate in a cycle through the scale. Each respondent scores the tool for both father and mother separately.

DATA COLLECTION

A sample of 50 twelfth grade students of different senior secondary of karnal city was selected for the present study. Data was collected through parent- child relationship scale.

STATISTICAL TECHNIQUES

Data collected and further tabulated was statistically analysed through the following techniques:

1. Frequency distribution
2. Product Moment Correlation

MAIN FINDINGS OF THE STUDY

Correlation of coefficients of High, Average & Low academics achievers with parent child relationship (Table-1)

A high and positive relationship of high academic achievers but a low and positive correlation (0.31) was in case of low academic achievers.

Ten parent-child relationship dimensions on five point Scale ranging from 'Always to 'very rarely' among high achievers, average achievers and low achievers.

Protecting - Protecting subscale scored high on family relationship scale for almost overwhelming percentage of respondents.

Symbolic punishment - 'Symbolic punishment' did not score relatively high in favour of high & average achiever as compared to low achievers.

Rejecting - Date highlights the difference among students, regarding their perception about parental rejection towards themselves.

Object Punishment - Data shows that 9.3% of low achievers were in 'Always' as compared to 4.8% of high & 4.0% of average achievers.

Demanding - Data shows not high & average achievers parents were not of 'demanding' nature while low achievers were of opposite opinion regarding their parental behaviour. This may be the only reason for the low correlation coefficient in case of academically low achievers.

Indifferent - A low percentage of low achievers (902%) were under the category of 'Very rarely'. While 25.3% of high achievers were under very rarely.

Symbolic Reward - A remarkable difference in the percentage of various academic achievers (40.8% high, 29.11% average, 11.8% low) under 'Always' Category.

Loving - Scores on 'Loving' subscale were found to be slightly weaker in case of low achievers which gives a clue for low correlation between two variables.

Object reward – Most of the respondents were in category of 'Rarely' less percentage of high average achievers were under one category of 'Very rarely' while 13.3 percent of low achievers were under 'very rarely'.

Neglecting – A very low percentage of low achievers (10.9%) fell under category of 'Rarely' than their counterparts (33.5 and 34.6% high and average achievers, respectively).

Table 1 : Correlation of coefficients of high academic achievers, average academic and low academic achievers with Parent-child relationship

Academic Achiever	Correlation of coefficient
High academic achievers	0.71
Average academic achievers	0.62
Low academic achievers	0.31

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TABLE 2

Ten parent-child relationship dimensions on five point Scale ranging from ‘Always to ‘very rarely’ among high achievers, average achievers and low achievers.

Academic Achiever	Five point scale: Always	Many times	Some times	Rarely	Very rarely
PROTECTING					
High achievers	30.4	28.7	30.3	5.2	4.6
Average achiveres	31.9	27.0	27.6	7.6	5.8
Low achievers	23.3	30.8	29.1	7.5	6.6
SYMBOLIC PUNISHMENT					
High achievers	21.2	25.3	35.9	7.2	10.7
Average achievers	26.1	30.9	21.0	10.9	13.6
Low achievers	18.3	37.6	30.8	8.8	8.2
REJECTING					
High achievers	7.2	16.0	20.8	20.8	45.4
Average achievers	5.5	18.8	20.3	20.0	36.9
Low achievers	30.9	20.0	10.9	19.5	20.6
OBJECT PUNISHMENT					
High achievers	4.8	13.9	35.3	20.0	28.9
Average achievers	4.0	19.0	30.8	16.8	30.0
Low achievers	9.3	18.2	29.6	19.7	9.8
DEMANDING					
High achievers	7.9	20.2	17.8	20.6	30.3
Average achievers	6.1	18.6	19.2	25.7	32.0
Low achievers	15.8	16.7	18.3	15.0	30.1
INDIFFERENT					
High achievers	5.1	11.8	20.8	38.6	25.3
Average achievers	9.8	18.6	27.3	33.7	11.2
Low achievers	19.3	24.3	30.3	23.6	9.2
SYMBOLIC REWARD					
High achievers	40.8	30.1	15.8	10.3	4.1
Average achievers	29.1	27.3	25.1	7.9	10.3
Low achievers	11.8	17.9	30.0	20.1	21.8
LOVING					
High achievers	29.7	30.3	33.8	4.0	1.7
Average achievers	20.4	31.8	28.9	16.3	3.8
Low achievers	11.2	20.8	30.8	17.4	19.6
OBJECT REWARD					
High achievers	10.9	21.6	30.1	29.0	8.3
Average achievers	7.3	13.8	28.3	40.7	9.5
Low achievers	11.7	19.1	21.9	35.9	13.6
NEGLECTING					
High achievers	8.3	15.4	23.8	33.5	13.4
Average achievers	9.5	20.3	18.0	34.6	15.7
Low achievers	17.4	38.6	25.1	10.9	10.8

EDUCATIONAL IMPLICATIONS

Educational implication will concern with the working out of action plan for better parent child relationship what has been presented and discussed in the text of this study covers the existing situation, that is ,what is? But winding up of the study at this stage will lead to an impression that the facts have been collected ,analyised and interpreted. Therefore,what is needed to explain the likely use of findings of this study. An awareness need to be inculcated among the parents about the importance of congenial home environment, i.e., parent child relationship for improved academic achievement of their wards. There is a ziest of the study to the parents ,that it is not important “howmuch” time they are spending with their wards ,but important is that” how” they are interacting with them .

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A STUDY OF SOLID WASTE MANAGEMENT IN INDIA

Prof Sonali More-Madhale
Department of Economics, Nowrosjee Wadia College, Pune

INTRODUCTION

Solid Waste refers to the refuse, solid and semi solid waste matters of a community except the night soil . Solid waste contains organic as well as inorganic matters. Solid waste management includes the entire process of dealing with solid waste ,starting from the collection from the primary source to ultimately disposing off it hygienically, so that it may not be a nuisance or create any harmful effect on nearby community. Solid waste management involves, management at waste generation level, storage at the source of generation, primary collection, street cleansing , temporary storage at locality level , regular and periodic transportation of this temporarily collected waste to disposing sites and treatment plants.

As per Municipal Solid Waste Management and Handling rules - 2000, solid waste management is in the obligatory function of urban local bodies , but in actual practice the solid waste management is given the last priority and the duties are either not performed or poorly performed consequently the city has to face numerable problems related to environment and sanitation .

As per the reports of the committee constituted by the Hon'ble Supreme Court of India in March 1999, the lack of financial resources , inefficient institutional arrangement , inappropriate technology , weak legislative measures and unawareness in public towards solid waste management has made the service most unsatisfactory and inefficient .

The solid waste management approach in India is extremely inefficient, using old and obsolete system, technology for storage collection processing, treatment and disposal. There is no formal organized system of segregation of biodegradable and non biodegradable solid waste. The recovery and recycling of waste is only done by scavengers and scrap dealers which is highly hazardous to those which are involved in this job .

THE ENTIRE SOLID WASTE MANAGEMENT CAN BE DIVIDED IN FOLLOWING ACTIONS

1. Generation
2. Collection at primary source
3. Street Cleansing
4. Transportation to the secondary/ locality storage/community bins
5. Storage at locality level
6. Transport to dumping sites and treatment plants
7. Treatment and Dumping
8. Traditional approaches

GENERATION OF SOLID WASTE (MAJOR SOURCES AT URBAN CENTRES)

1. Residential Areas, Institutional / Community areas
2. Vegetables markets (retail/wholesale)
3. Hotels , and restaurants
4. Commercial areas
5. Biomedical waste from hospitals and dispensaries
6. Waste from domestic / stray animals /dairies
7. Industries
8. Waste from street cleansing
9. Miscellaneous

QUANTITY OF GENERATION OF WASTES IN INDIAN CITIES (PER CAPITA/PER DAY)

- **Delhi** .60 Kg
- **Bangalore** .53 Kg

- **Calcutta** .51 Kg
- **Hyderabad** .35 Kg
- **Sonepat** .343 Kg
- **Hardwar** .40 Kg
- **Meerut** .45 Kg

✓ Waste generation in small cities is lesser than larger cities.

✓ The amount of solid waste generation is also directly related to the economic status of families.

✓ As per studies conducted by Tata Energy Research Institute, higher income group generate more solid waste than middle and lower income groups .

✓ The lower income groups in New Delhi generate less than $1/3^{rd}$ of solid waste than their higher income counter parts .

✓ As per studies conducted, in smaller cities of population about 3 lakhs.

The generation of biodegradable waste (50 – 65%) is more than non biodegradable waste (35 – 50 %). The biodegradable waste can be easily reduced to manures by compositing plant.

PROBLEMS OBSERVED IN THE PROCESSING AND RECOVERY OF SOLID WASTE

1. Generally in Indian cities the formal processing and recovery units are not established
2. Recovery and recyclable activities restricted to small and medium kabadiwallas.
3. Involvement of small children and old people employed for sorting and segregating waste.
4. No protective clothing /consideration for rag pickers / scavengers.
5. Generally in Indian cities financial implications of recovery and recycling has not been studied or considered to use solid waste for the purpose of finance generation.

STRUCTURES OF MUNICIPAL TEAM WORKING FOR SANITARY CLEANING

In Indian towns the entire municipal area of town is divided in to sanitary divisions having 100-1000 acres of land depending on size of cities, population densities, locations & available facilities and manpower. In each of the sanitary divisions one Safai Daroga is posted under whom 5-10 scavengers / workers perform the cleaning work. Over these safai darogas there are sanitary inspectors and chief sanitary inspector responsible for the cleanliness and total hygienic environment of city.

GENERAL GUIDELINES AND POLICIES PREVAILING IN INDIA FOR WASTE MANAGEMENT

In India, administration and regulation is governed by the Ministry of Environment and Forests and Climate Change (MoEF), the Ministry of Urban Development (MoUD), the National Environmental Engineering Research Institute (NEERI), CPCB, and State Pollution Control Boards (SPCBs) and ground level implementation responsibility lies with ULBs.

The following are major steps taken by GOI for solid-waste management in India during last two and half decades:

- National waste management committee: The main objective of the committee constituted in 1990 was to identify the recyclable contents in solid waste picked up by rag-pickers.
- Strategy Paper: A manual on SWM has been developed by the MoUD in collaboration with the NEERI in August, 1995.
- Policy Paper: MoUD and the Central Public Health and Environmental Engineering Institute prepared a strategy paper for the treatment of wastewater, appropriate hygiene, SWM, and efficacy in drainage system.
- Master plan of Municipal Solid Waste: A stratagem was formulated by the combined efforts of MoEF, CPCB, and ULBs to develop a master plan for SWM with emphasis to biomedical waste in March, 1995.
- High Powered Committee: In 1995, a High Powered Committee constituted under the Chairmanship of Dr. Bajaj, to encompass a long-term strategy for the SWM using appropriate technology.

SOLID WASTE MANAGEMENT PRACTICES IN INDIA

In India, MSWM is governed by MSWR. However, majority of ULBs do not have appropriate action plans for execution and enactment of the MSWR. Unfortunately, no city in India can claim 100% segregation of waste at dwelling unit and on an average only 70% waste collection is observed, while the remaining 30% is again mixed up and lost in the urban environment. Out of total waste collected, only 12.45% waste is scientifically processed and rest is disposed in open dumps.

- **Segregation :** There is no organized and scientifically planned segregation of MSW either at household level or at community bin. Sorting of waste, is mostly accomplished by unorganized sector and seldom practiced by waste producers. Segregation and sorting takes places under very unsafe and hazardous conditions and the effectiveness of segregation is reasonably low as unorganized sector segregates only valuable discarded constituents from waste stream which can guarantee them comparatively higher economic return in the recycling market.
- **Collection :** Waste produced by houses is usually transferred into communal bins that are fabricated from metal, made from concrete or in combination of both. Street sweepings also find its way to community bins. These community waste bins are also used by other essential commercial sectors in the vicinity of disposal bins along with household waste except where some commercial complexes or industrial units engage municipal authorities for transfer of their waste to disposal site by paying some amount.
- **Reuse / recycle:** This entails activities like collecting those materials from the waste, which could be gainfully retrieved and utilized for making new products. Since un-segregated waste is dumped at community bins, its optimal recycling is not possible. However, rag-pickers usually sorted out and took and sell recyclable material like plastics, glass, etc. In Pondicherry, almost all recyclable material is sorted out by rag-pickers and absorbed in material stream through recycling.
- **Transportation**: Modes of transportation for MSWM practised in India are : bullock carts, hand rickshaws, compactors, trucks, tractor, trailers, and dumpers. In smaller towns trucks having 5–9 ton capacity are used without adequate cover system. Stationary compactors, mobile compactors/closed tempos, and tarpaulin-covered vehicles are used in the transportation of MSW and about 65, 15, and 20% of waste is transported through these compacters, respectively. The maintenance of vehicles used in for transportation of waste is usually done in workshop run by ULBs but most of these workshops can do minor repairs only.
- **Disposal**: In India, almost every city, town, or village adopted unscientific disposal of MSW. Though there was an increase in population during the decade for these cities, no significant reason was indicated by author for reduction as well as equal amount in waste generation for these cities. However, the possible reason for reduction could be that the waste generated could not reach the designated dumping site and was lost in the cities peripherals, outskirts, along the road, low lying area, along the drain, green areas, etc.

CLASSIFICATION OF WASTE

There may be different types of waste such as Domestic waste, Factory waste, Waste from oil factory, E-waste, Construction waste, Agricultural waste, Food processing waste, Bio-medical waste, Nuclear waste, Slaughter house waste etc. We can classify waste as follows:

- Solid waste- vegetable waste, kitchen waste, household waste etc.
- E-waste- discarded electronic devices such as computer, TV, music systems etc.
- Liquid waste- water used for different industries, tanneries, distilleries, thermal power plants
- Plastic waste- plastic bags, bottles, bucket, etc.
- Metal waste- unused metal sheet, metal scraps etc.
- Nuclear waste- unused materials from nuclear power plants

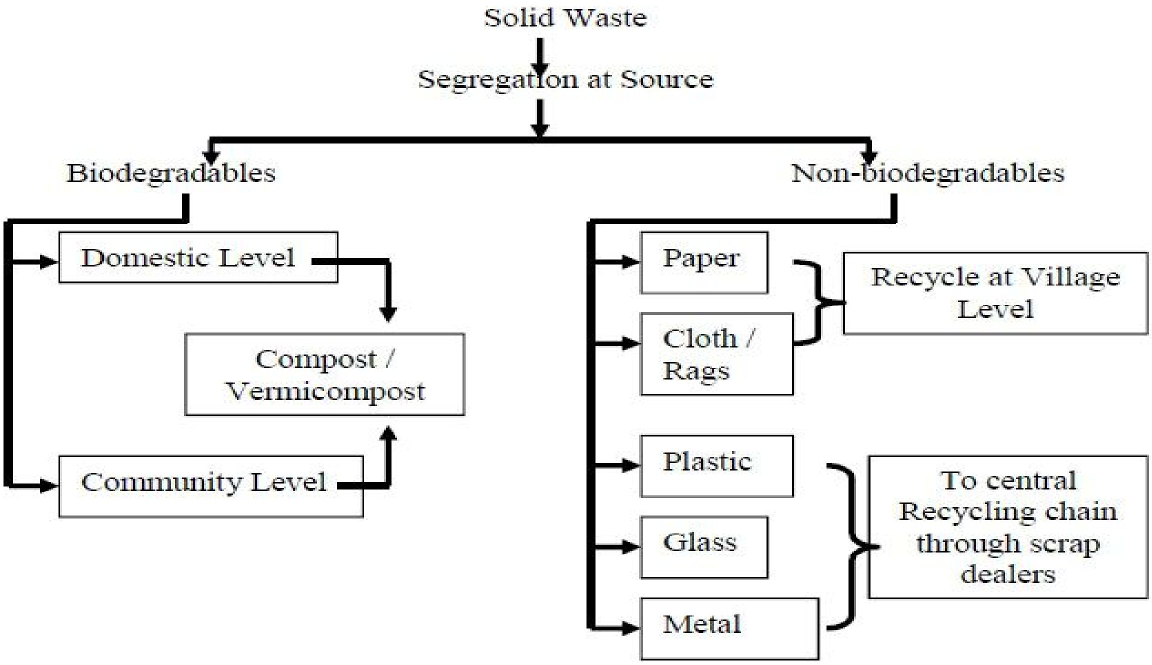
WET WASTE (BIODEGRADABLE) INCLUDES THE FOLLOWING:

- Kitchen waste including food waste of all kinds, cooked and uncooked, including eggshells and bones
- Flower and fruit waste including juice peels and house-plant waste
- Garden sweeping or yard waste consisting of green/dry leaves
- Sanitary wastes
- Green waste from vegetable & fruit vendors/shops

- Waste from food & tea stalls/shops etc.

DRY WASTE (NON-BIODEGRADABLE) INCLUDES THE FOLLOWING:

- Paper and plastic, all kinds
- Cardboard and cartons
- Containers of all kinds excluding those containing hazardous material
- Packaging of all kinds
- Glass of all kinds
- Metals of all kinds
- Rags, rubber
- House sweeping (dust etc.)
- Ashes
- Foils, wrappings, pouches, sachets and tetra packs (rinsed)
- Discarded electronic items from offices, colonies viz. cassettes, computer diskettes, printer cartridges and electronic parts.
- Discarded clothing, furniture and equipment



CHALLENGES

- Awareness to enhance segregation : Ecological awareness and citizen participation to segregate waste at source, door-to-door collection, and disposal in appropriate collecting bin is imperative
- Characterization of Municipal Solid Waste: India is a vast country divided into different climatic zone, different food habits, and different living standard thereby producing waste of different types. Till date, no comprehensive studies have been conducted to cover almost all cities and towns of India to characterize the waste generated and disposed on landfill.
- Urbanization and lack of appropriate level funding.
- Implementation of rules at ground level: There is a need to create dedicated group of officers and skilled staff for Urban Local Bodies with specialization in MSWM..
- Lack of coordination among centre and state: there is less dialogue between central and state government. Delay in submission of information from state to central delays appropriate level implementation at ground level.

- Appropriate technological solution, outsourcing and public private partnership are insufficient..
- Lack of waste-to-energy projects.
- Involvement of organized sector is delieanated

RECOMMENDATIONS

- There is a need to educate and create awareness among the people
- Clear guidelines relating to the kind of storage receptacles , segregation of waste etc. should be issued , offenders should be penalized .
- There should be segregation of non biodegradable /recyclable waste at sources or at secondary collection point and methods like compositing should be used for biodegradable waste.
- There should be segregation of waste at the city level also for disposing the recyclable waste and hazardous waste properly.
- The food waste , vegetable and organic waste produced at source which are biodegradable should be stored in non corrosive container preferably with cover / lid
- Dry and recyclable waste should be stored in bag / sacks made of plastic / paper / cloth etc.
- All the domestic hazardous waste , electronic equipment waste should be stored in bags / sacks and should be disposed in notified safe areas .
- Separate community bins should be provided for dry and wet waste.
- For commercial areas and hotels the dustbins should be containers not more than 100 lts in size with handles on top or on sides with rim at base.
- In case of vegetable markets large containers complementing the transportation system should be provided.
- For waste in meat and fish markets the containers should be non corrosive and not more than 100lts.
- Biomedical waste from hospitals and nursing homes should be treated as per the provisions contained in Government of India , Ministry of Environment and Forest Biomedical wastes (Management and Handling) Rules -1998 .
- Wastes from construction sites, Demolition waste should be within the premises and not at all obstructing the road.
- Door step collection of waste by municipal workers and commercial areas should be ensured.
- All waste should be segregated in bio degradable, non biodegradable waste before primary collection.
- Transportation to temporary source should be by handcarts / trycles with detachable containers of 20 to 40lts capacity.
- For street cleansing sweeping operation should be broadly clarified as per the cleansing requirements.
- The time of sweeping operation should be synchronized with that of generation by dividing the city in to sweeper beats .
- Shovels should be used to pick the heaped waste and transfer to the containers.
- For temporary storage and in case of community bins, containers should be metal mobile containers in place of cylindrical cement. Bins, masonry tanks and space should be provided to accommodate 3-10 cubic meter size .
- In order to reduce waste at dumping site, Incinerators, composting methods can be used.
- There is a dire need for community participation and design and development of appropriate system of primary collection of waste so as to synchronize with the storage at source as well as temporary storage collection point
- The dumping should be done generally in low lying areas of city, open land available in out skirt of city.
- Every dumping site should be away from residential area or habitation.

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- Dumping sites should preferably be barren land
- Sites should have proper access.
- Sites should have provision for workers shelter stay, tools, equipment, electronic weighs bridge etc.

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EXPLOITATION OF OVERSEAS MIGRANT LABOUR

Prince
Student, SGGS College, Chandigarh

ABSTRACT

This paper explores the problems faced by the Indian labour which are migrated around the globe. It also discussed the rights of international labour law, measures taken by the government related to it and their outcomes. India is one of the biggest supplier of migrant labour in the world. In 2013 India experienced largest number of emigration clearance that was granted to 819,701 people. In the course of time these numbers started decreasing. Almost every immigrant faces exploitation due to their vulnerability and desperation to survive in an alien country. The major exploitation faced by them is of UNDERPAYMENT, which mostly involves part timers. Having a dreadful working condition is another problem faced by temporarily migrated labour. Very often, migrants encounter biting discrimination in housing, social security, house or health. The exploitation rate of migrant workers is maximum in Middle East, with tens of thousands of labour being exploited and having the most horrifying stories. Though there exists various rights to protect immigrants, but it does not have much practical impact. Earlier rights focused on their implementation, where as former looks at international and regional treaty rectification.

INTRODUCTION

In recent years, overseas employment firmly rose as individuals from poorer regions spilled to more developed countries in scrutiny of a unfaltering income. The United Nations reported in 2013 that the total number of international migrants has outstretched 232 million.1 Global remittances from migrant workers to their home countries aggregated to $557 billion in the same year, which is about four times wider than the $150 billion in global development aid.

The increasing migration volume, along with the rising demand of labourers for infrastructural needs especially in the Middle East, captured the attention of the media, which has been closely observering the human rights oppress and worker exploitation. Migration policy is influential in ensuring the rights of the workers, decreasing the rate of exploitation, and reintegrating them back into their home community.

India has had a immense history of migration, embarkin when the British moved parts of the population to Sri Lanka, Malaya and other countries to work in developing plantations. Movements of unskilled labour raise in the 1970s and export of labour to the Gulf countries started in recent decades. Of late, movement to South East Asian countries has become increasingly popular. Much of the migration in recent years has been a direct result of the prevailing idea that jobs abroad are more lucrative than those discovered within the borders of India. Further, it has been found that returnees dignify their experiences in other countries, and minimise the challenges they may have faced. As of late however, media and individual reports of exploitation are exploding these myths. Non-governmental organisations and government agencies are also bearing the burden of this reality as more and more Indians are returning to the country disillusioned, disenfranchised, often financially burdened and sometimes emotionally and physically weakened.

REVIEW OF LITERATURE

Overseas Migration is different in India in terms of other countries. Due to the speedy growth of population, the Unemployment rate is also rising. Over the 1 million labour force is emerging every month. This is the reason people are migrating to seek jobs in different countries . And another aspect of migration is education as well.

Empirical Evidence: According to UN repot in 2013 the total number of international migration has outstreched 232 million .In 2017, out of 258 million international migrants around the world, 106 million were Asian. India was the largest country to provide 17 million international migrants across frontiers.*Number of migrants in Middle Income Countries decreased to 32% from 37% in 2000.*

OBJECTIVE

The main objective of this paper is to review and analyse the Exploration of overseas Migrant Labour trends in India to other countries in recent years.

RESEARCH METHEDOLOGY

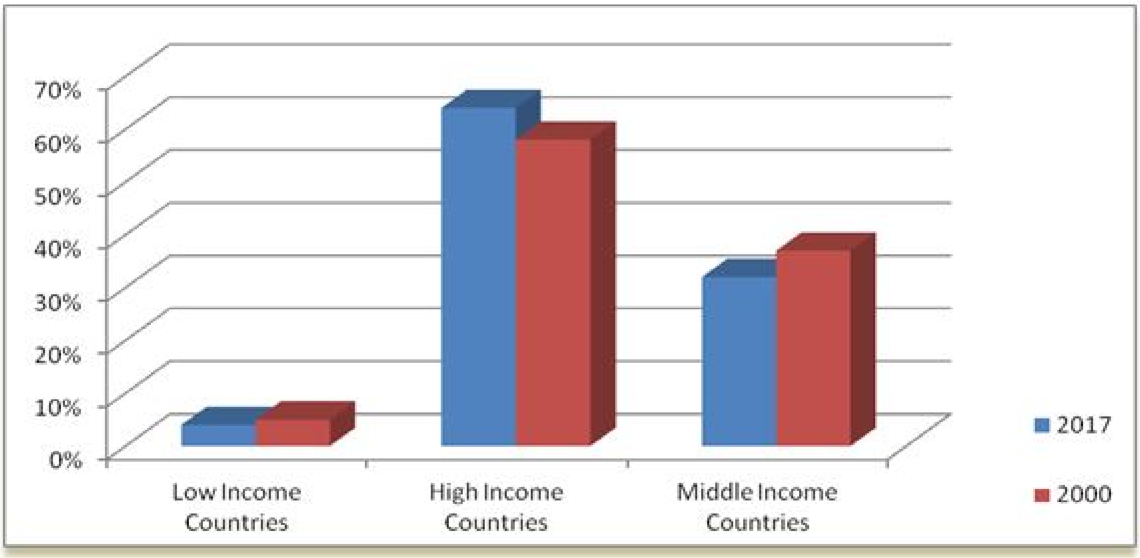
Secondary data has used.

- Case study
- Surveys

HIGHLIGHTS OF KEY FACTS

- Form 220 millions in 2010, the number of overseas labour worldwide has increased to around 260 millions.
- In 2017, out of 258 million international migrants around the world, 106 million were Asian.
- In 2017, India was the largest country to provide 17 million international migrants across frontiers.
- The number of female migrants is a lot less than that of males, and this number keeps on decreasing with time.
- In 2017, more young ones are stepping outside the country for work, as compared in 2000, middle age people were the one who preferred working abroad.
- Large number of inflow of migrants is observed in North America, with least migrants preferring European countries.

1. Around 90% of Indians drift towards Middle Eastern areas.



PERCENTAGE OF INTERNATIONAL MIGRANTS BY INCOME

- Preference to migrate to high Income Country shows increase of 6%, which is from 58% in 2000 to 64% in 2017. (according to UN report)
- Whereas Low Income Country is preferred by very minimum percentage of people, with negative change over the time.
- Number of migrants in Middle Income Countries decreased to 32% from 37% in 2000.

INTERNATIONAL LABOUR LAW

International labour law is an organisation, which is concerned with the rights and duties of employers, employees and trade unions. There are 2 main international bodies involved in improving the labour condition, these bodies are:

1. **World Trade Organisation:** WTO started working from 1 January 1995, focusing on benefits of labours or trades facing discrimination. WTO is the largest organisation working for betterment of the economy in the world. WTO also resolves the disputes related to trades by providing independent judges, this is known as dispute resolution process.
2. **International Labour Organisation:** ILO is an agency controlled by United Nations and works for promoting work opportunities and social protection to the overseas migrant workers by setting up some international labour standards. This organisation helps immigrants to enjoy freedom, equity and security and make them work with dignity.

International human rights consist of nine important human rights:

1. International Contract on Civil and Political Rights
2. International Contract on Economic, Social and Cultural Rights
3. International Convention to Protection of Rights of All Migrant Workers and Members of Their Families

4. Convention on the Elimination of All Forms of Racial Discrimination
5. Convention on the Elimination of Discrimination against Women
6. Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment
7. Convention on the Rights of the Child
8. Convention on the Rights of Persons with Disabilities
9. International Convention for the Protection of All Persons from Enforced Disappearance

Even with the presence of these rights one does not enjoy the benefits of it. Still there is large number of migrated labour facing infinite discrimination.

NEVER ENDING EXPLOITATION

It is difficult to digest the fact that, even in this modern era, people are discriminated and exploited on the basis of colour, nationality and needs. There is a huge number of Indians who yearly migrate from their home country to other places across the globe, due to different reasons. Earning money and supporting their family is not so easy for them as they are exploited to no end, they get trapped in this never ending pit of exploitation until they decide to return back, some don't even get that chance.

There are different types of exploitation international labour has to face. Some of the major problems faced by them are:

- Underpayment and Wage Theft
- Hazardous Working Conditions
- Racism and Discrimination

UNDERPAYMENT AND WAGE THEFT

People temporarily migrate from one country to another for work and to attain a better lifestyle. Rather than having a bright future ahead of them, they experience unbearable exploitation. They are paid lesser than what they actually deserve and in some cases they are not even paid. Underpayment is one of the major problem faced, reason behind it is the mind set to be recruited in a job whether or not they earn sufficient money.

The main objective of an immigrant is to obtain Permanent Residence of the country they migrate to, and they believe that to attain it they have to work for some specific time period. It has become more of trade than a job.

"Owner of the shop agrees to file for my PR with condition that I have to work for 6 months without any pay. He will transfer money in my account but I have to withdraw it and return back to him." by anonymous.

HAZARDOUS WORKING CONDITIONS

Working conditions cover various categories such as time period, environment and work burden. World that we see on television is an appealing lie; reality is way too different than that. Overseas labour leaves their home place with high hopes and expecting working to be more worthy there, but what they experience is near to a nightmare.

- A large number of migrants have to work overtime and most of time this extra work is without pay considering as a part of their work.

  Richard Denniss, executive director of THINK TANK The Australia Institute said "industries in the service sector such as finance, law and IT have the highest prevalence of unpaid overtime".

- Migrated labour goes through mental as well as physical abuse and sexual harassment. Place of work is not always hygienic and is the cause of various health issues. Basic necessities such as first aid are not available for them. If the person fails to complete the task in given time period then they have to go through alot of verbal abuse and a few times physical abuse.

- International migrants have to overwork most of the time. They work more than what they are paid for. Usually they prefer to over burden themselves with work rather than getting unemployed.

RACISM AND DISCRIMINATION

In 2009, the media of Australia, mostly in Melbourne, Sydney, and India publicised reports of crimes and robberies against Indians in Australia that were described as racially motivated. There were accusations of intense Hinduphobia along with the racist hate crimes.

Rallies were organised in Melbourne and Sydney, and intense media coverage of the perceived hate crimes commenced in India, which were mostly critical of Australian and Victorian Police. The Australian government initially called for calm as it began an investigation into the crimes. In June 2009, the Victoria Police Chief Commissioner, Simon Overland, stated that some of the crimes were racist and hinduphobic in nature, and others were opportunistic. A subsequent Indian Government investigation concluded that, of 152 reported assaults against Indian students in Australia that year, 23 involved racial

DISCRIMINATION IN GULF COUNTRIES

It is a mechanism used in the GCC, and countries such as Jordan and Lebanon, to regulate a guest worker program whereby a migrant workers status is bound to his or her employer or 'kafeel' for the duration of their contract.

This system was utilized and solidified in the GCC after an influx of workers after the discovery of oil. Kafala has been discussed in the context of modern slavery and exploitation, and its misuse has also allowed for the facilitation of sex trafficking.

Although academic attention focuses predominately on male abuse of women, it is important to acknowledge the role that matriarchs and women in general have in abusing migrant domestic workers. Women domestic workers are observed by some of their employers, who happen to be Arab women, as inferior. Violence can be seen a way for Arab women to regain control of their agency, something they have lost in the traditional conservative norms of the societies they live in. Even though the constitution of countries such as Qatar prohibits discrimination on the grounds of gender, race, religion, according to this report "legal, cultural, and institutional discrimination existed against women, non-citizens, and foreign workers". For instance, in Qatar spousal rape is not considered illegal and there is no specific law concerning domestic violence.

There are intertwining political, economic, and cultural factors that have contributed to migrant workers taking on an alien identity. Culturally, as domestic workers work near families and households, there is a deep reluctance on the part of employers for intervention by the state, especially if they believe that their domestic help has gained access to sensitive information about the family.

It is also partly due to these suspicions that unjustifiable mistreatment of workers by their employers take place. For example, employers can sometimes harbour resentment about the motivations of workers, especially those that appear too close to male members of the family.

DISCUSSION

The exploitation is not a very new issue although it is a very old method of discrimination. The exploitation with Indian labours is common in current time. We have been witnessing an increasing number of exploitation in Gulf countries, many cases under this is still not been registered, hence are unknown. So the government needs to take care of this because over 252 billion labours are migrated from Indian till 2017. And they are the one most reliable sources of foreign remittent.

NON-DEROGABLE RIGHTS

There are only FOUR non-degorable rights:-

1. the **right** to life (article 9)
2. the **right** to be free from torture and other inhumane or degrading treatment or punishment,
3. the **right** to be free from slavery or servitude and,
4. the **right** to be free from retroactive application of penal laws

There are few other rights which are for overseas labour for their protection, such as:-

- Freedom of thought, conscience and religion (article 12)
- The right to liberty and personal security and protection against arbitrary detention (article 16)
- The right to procedural guarantees (article 18).

CONCLUTION

Through this study it can be observed that there are a large amount of people who go through numerous difficulties and exploitation, shattering their dream to have a bright life ahead of them. No matter how advance or open-minded we pretend to be, still there are people who experience the treatment which breaks them from inside.

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Though UN, ILO and WTO had made few laws to protect the international labours, still it lacks behind in one or the other way. One of major reason is that, utilisation of these rights or laws are not in the range of people who actually need it. Another reason is lack of knowledge regarding rights to international migrants. There does not seem a decrease in exploitation faced by them, rather it is increasing with time.

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SPEEDY TRIAL- A NECESSARY INGREDIENT OF FAIR TRIAL

Sarita
Assistant Professor, Universal Law College, UGI

ABSTRACT

There is a serious case regarding the disposal of cases under judicial system which is responsible for denial of justice to the under trial prisoners in India. This paper delves into past judgements of the Hon'ble Supreme Court and tries to critically analyse what all reasons are behind this problem.

Speedy trial is one of the necessary ingredients of fair trial and there can be no doubt that delay itself defeats the ends of justice. Justice as they say must not only be done, but it must also seem to have been done.

INTRODUCTION

A popular saying goes "Justice delayed is justice denied". Justice Krishna Iyer while dealing with bail petition in Babu Singh v. State of U.P.[1], remarked

"Our justice system even in grave cases, suffers from slow motion syndrome which is lethal to 'fair trial' whatever the ultimate decision. Speedy justice is a component of social justice since the community, as a whole, is concerned in the criminal being condignly and finally punished within a reasonable time and the innocent being absolved from the inordinate ordeal of criminal proceedings."

In Sheela Barse v. Union of India[2] court reaffirmed that speedy trial to be fundamental right. Right to speedy trial is a concept gaining recognition and importance by each passing day. The Apex Court on several occasions has expressed its concern in respect of delay caused in courts and has also gone to the extent of saying that speedy trial is not only the right of the accused but of the victims of the crime also. The Hon'ble Apex Court in Hussainara Khatoon (I) v. Home Secretary, State of Bihar[3], has held that:

"No procedure which does not ensure a reasonably quick trial can be regarded as 'reasonable, fair or just' and it would fall foul of Article 21.There can, therefore, be no doubt that speedy trial, and by speedy trial we mean reasonably expeditious trial is an integral and essential part of the fundamental right to life and liberty enshrined in Article 21."

The Constitution Bench of the Apex court in *A.R.Antulay* v. *R.S.Nayak*[4], has held that the right to a speedy trial was a part of fair, just and reasonable procedure implicit in Article 21 of the Constitution. In *State of U.P.* v. *Ram Veer Singh and Another*[5], the apex court has held as follows:

"The golden thread which runs through the web of administration of justice in criminal cases is that if two views are possible on the evidence adduced in the case, one pointing to the guilt of the accused and the other to his innocence, the view which is favourable to the accused should be adopted. The paramount consideration of the Court is to ensure that miscarriage of justice is prevented. A miscarriage of justice which may arise from acquittal of the guilty is no less than from the conviction of an innocent. "

Therefore, it is needless to say that the right to speedy trial can be regarded as reasonable, fair and just.

The right to speedy trial has been endorsed in almost all relevant international charters and conventions, most notably the International Covenant on Civil and Political Rights (ICCPR), which India ratified on 10 April 1979.The ICCPR provides explicitly for the right to speedy trial. Article 9(1**)** declares that "*every one has the right to liberty and security of person [and that] no one shall be subject to arbitrary arrest or detention".*

Article 9(3) declares further that:

"*Any one arrested or detained on a criminal charge shall be brought promptly before a judge or other officer authorized by law to exercise judicial power and shall be entitled to trial within a reasonable time or to release.*

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[1] (1978) 1 SCC 579.

[2] (1986) 3 SCC 632.

[3] (1980) 1 SCC 81.

[4] (1992) 1 SCC 225.

[5] (2007) 6 SCC 164.

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It shall not be the general rule that the persons awaiting trial shall be detained in custody but release may be subject to guarantees to appear for trial at any stage of the judicial proceedings and, should occasion arise, for execution of the judgment".

The enforceability of international conventions has come up before the Supreme Court of India. The Supreme Court in *People's Union for Civil Liberties* v. *Union of India*[1]**,** has observed that:

"The provisions of the covenant, which elucidate and go to effectuate the fundamental rights guaranteed by our Constitution, can certainly be relied upon by courts as facets of those fundamental rights and hence, enforceable as such".

In *Vishaka and Others v. State of Rajasthan and Others*[2]**,** the Supreme Court observed:

"*The international conventions and norms are to be read into them in the absence of enacted domestic law occupying the fields when there is no inconsistency between them. It is now an accepted rule of judicial construction that regard must be had to international conventions and norms for construing domestic law when there is no inconsistency between them and there is a void in the domestic* law."………..

3.4.1 U.S. Position

The Sixth Amendment to the U.S. Constitution guarantees all persons accused of criminal wrongdoing the right to a speedy trial. Although this right is derived from the federal Constitution, it has been made applicable to state criminal proceedings through the U.S. Supreme Court's interpretation of the Due Process and Equal Protection Clauses of the Fourteenth Amendment.

The Sixth Amendment provides in part that "*In all criminal cases the accused shall enjoy the right … to a speedy trial.*" It was one of several provisions included in the Bill of Rights to reject explicitly earlier English practice that had permitted the accused to languish in prison for extended periods of time prior to indictment and the commencement of trial.

The Sixth Amendment speedy trial guarantee has been before the Supreme Court of United States in a number of cases. The Court has spoken eloquently about its importance as a fundamental right and in *Klopfer* v. *North Carolina*[3] incorporated it into the Fourteenth Amendment's Due Process Clause. Despite the applicability of the speedy trial doctrine to notoriously overcrowded state courts, the Court has rarely found the right to have been violated. For instance,

In *Barker v. Wingo*[4], it held that despite a five-year delay between indictment and trial, there was no violation of the right. Observing that circumstances vary in each case, the Court rejected a hard and fast time-limit rule in favour of a balancing test that considers:

i) Length of delay.

ii) Reason for delay,

iii) Prejudice to the defendant,

iv) The defendant's timely assertion of rights.

However, when balancing these factors, the court almost invariably has ruled in favour of the prosecution.

3.4.2 Position in India

In India, neither the Constitution nor any existing laws or statutes specifically confer the right to speedy trial on the accused. Supreme Court of course, discussed hereinbefore has expounded on it and has held it to be an integral constituent of Article 21. Most of the existing laws also do not provide any timeframe in which a trial must be concluded; in cases where some timeframe has been provided, the courts have held them to be "directory" and not "mandatory". Procedural law, i.e. The Code of Criminal Procedure, 1973 provides a statutory time limit to complete an investigation. Section 167 further provides that a failure to complete investigation within the statutory timeframe shall lead to release of the accused in custody on bail.

[1] AIR *1997* SC 568.

[2] (1997) 6 SCC 241.

[3] 386 US 213 (1967).

[4] 407 U.S. 514 (1972).

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Problem of delay and arrears in courts has been commented upon by jurists and legal commentators on numerous occasions. It continues to bedevil contemporary legal discussions and debate. According to National Crime Record Bureau data 85.6% percent of IPC cases remained pending for trial at the end of year 2009 in various criminal courts of the country.

Percentage of cases in which trial was completed decreased to 12.6% percent in 2009 from 13.4% percent in 2008. 31,199 trials (3.0%) were completed after 10 years of trial out of 10,25,781 completed trials, 11.4% between 5 to 10 years, 22.6% between 3 to 5 years, 32.5% between 1 to 3 years, 17.9% between 6 months to a year and 12.6% within 6 months. It may be seen that maximum disposal of cases by various courts (32.5%) took place between 1 to 3 years followed by 3 - 5 years (22.6%). The percentage pendency of cases (IPC and SLL both) for trials was found to be on higher side in North Eastern States except Mizoram.[1] The data understandably shows a varied pattern. Statistical figures should not set off a political blame game but the effort needs to be directed at ensuring speedy disposal of cases without compromising on quality. Policy should be uniform. The 77th Law Commission of India Report focused on the problem of delay and arrears in trial courts. The report laying bare the problem sifted through various symptoms of the malaise before diagnosing it. Report begins on the note that judiciary enjoys immense public confidence as it commands moral authority unlike other branches of the state viz. legislature and executive.

Addressing the problem of huge backlog, report makes reference to Rankin committee view of 1925. Rankin committee had observed that improvements in methods of case disposal are vital but where the arrears are unmanageable, improvement in methods can only palliate and not cure. Citing an example it said, “when there is enough work pending at end of 1924 to occupy a subordinate judge till end of 1926, difficult contested suits instituted in 1925 have no chance of being decided before 1927.’’ Post constitution many attempts were made by the government to tackle delay at all India level. At the end of year 1969 a committee was constituted preside by then Chief Justice Mr. Hidyatullah. Upon his retirement Mr. Justice Shah took over as chairman. At state level too initiatives were taken. In Uttar Pradesh for example, in 1950, a committee was constituted under chairmanship of Mr. Justice K.N. Wanchoo.

77th report makes an important observation that the trial judge is a key player in speedy dispensation of justice. It minced no words in calling him the lynchpin of justice system. It debunks the notion of “upper court myth’’ which looks at the provisional nature of trial court decisions being subject to correction in appeal and says it ignores reality. The Report stresses that in spite of the right to appeal in many cases appeal is not filed. Moreover, the appellate courts have only written records placed before them and they are reluctant to interfere with the appraisement of evidence of witnesses. Report stressed on the need to modernize judicial training and need for injecting bright young law graduates as judicial officers in the system. Recommendation was made that they should be paid well too. The Report particularly focused on the need to have judicial officers with dynamic personality. It is submitted that the suggestions and recommendations of the report holds true even today. The modernization process of judicial apparatus is moving at a snail’s pace.

In an article published in the year 1980[2], Upendra Baxi while looking into the plight of under trials made some insightful comments. The article was written in the backdrop of media attention generated with regard to plight of under trials in Bihar jails. Tour notes made by a former senior cop K.K. Rustamji while visiting jails in Bihar made up the story published in the national newspaper Indian Express. Legal intervention by lawyer Kapila Hingorani in the form of filing of habeas corpus petition was seen as momentous. In a series of Hussainara judgments,[3] the leading judicial dicta delivered by Justice Bhagwati outlined clearly that right to speedy trial is not specifically enumerated as a fundamental right. It is implicit in the broad sweep and content of Article 21 of the constitution. Court took aid from Maneka judgment[4] and further held that a procedure which fails to ensure a reasonably quick trial would fall foul of Article 21.Reading widely Article 39A, it said that it also emphasizes that free legal service is an inalienable element of 'reasonable, fair and just' procedure for without it a person suffering from economic or other disabilities would be deprived of the opportunity for securing justice.

The right to free legal service is therefore, clearly an essential ingredient of 'reasonable, fair and just' procedure for a person accused of, an offence and it must be held implicit in the guarantee of Art. 21. Court had earlier

[1] National Crime Records Bureau, Crime in India, Annual Report, 2009, pp.73-78

[2] Baxi, *The Supreme Court Under Trial: Under Trials and the Supreme Court*, (Journal Section) 1980 1 SCC.

[3] AIR 1979 SC 1380; (1980) 1 SCC 80.

[4] (1978) 1 SCC 248.

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pointed out in *M. H. Hoskot* v. *State of Maharashtra*[1]-"*Judicial justice, with procedural intricacies, legal submissions and critical examination of evidence, leans upon professional expertise; and a failure of equal justice under the law is on the cards where such supportive skill is absent for one side. Our judicature, moulded by Anglo-American models and our judicial process, engineered by kindred legal technology, compel the collaboration of lawyer-power for steering the wheels of equal justice under the law"*. Free legal services to the poor and the needy are an essential element of any 'reasonable, fair and just' procedure.

Baxi lamented the fact that bar has not been responsive to the right of speedy trial. Nudging the conscious of lawyers he observed that stern judicial practices forbidding dilatory tactics may affect the tribe of lawyers' expert at securing adjournment motions. He further observed that for many senior lawyers the right to speedy trial may mean that they cannot corner the market for legal services in monopolistic fashion. Lack of political will by the Supreme Court too was touched upon by Baxi. He argued that one may not look at the court as such in searching reformatory initiatives but look at individual justices. He looked at judicial orientation of the then incumbent judges of the apex court and distinguished their judicial attitudes from a sociological standpoint in to 'legalist' and 'activist' judges' framework. He added another category of 'eclectic' or 'balancing' judges[2].He concluded by hoping that Supreme Court would adequately meet the challenges of rapidly changing nature of political activity in India.

The 77th Law Commission Report also recommended introduction of All India Judicial Service on the lines of All India Civil Services for the executive. The 14th Report of the first Law Commission[3] under M.C. Setalvad too had recommended on similar lines. It said,

"one reason why meritorious young men or young practitioners of some standing keep away from the judicial service is the comparative inferiority of the status of district judicial officers vis a vis concern of the district executive.''

The recent initiative undertaken by Law Ministry to build consensus on All India Judicial Services has hit a roadblock with high courts of more than twenty states either opposing the move or showing no interest[4].The proposed intake aims to recruit one fourth of district judges through an All India competitive exam. Putting the idea of All India Judicial Services Examination in cold storage will not augur well for judiciary as an institution. It is vital to introduce some improvisations in the process of recruitment of judges if we wish to boost the image of judiciary, especially, at the district level.

It is to be noted that Malimath Committee has recommended fivefold increase in intake of judicial officers in a phased manner.[5]The Committee in fact, almost reiterates the observation of 77th Law Commission Report by expressing concern on the deteriorating quality of the judicial officers. It is submitted that recommendations to deal effectively with problem of delays and arrears in courts in the past sixty years or so have been on similar thought pattern. Reforms nonetheless are not still in sight. Local initiatives though have been taken and case hearing in some courts like the Delhi High Court for instance, is faster as litigants can track the progress in their cases by checking cause list regularly updated on its official website. Such initiatives need to be taken to courts in interior parts of the nation too. The idea is to address the problem of huge pendency of cases in courtrooms. Increasingly, it is being felt that litigation rate is spiralling. Effective beginning needs to be made somewhere. Supreme Court passed directions in *All India Judges Association case*[6] to increase judge strength fivefold, to fill fill up existing vacancies by 2003, to create ad hoc posts and commensurate infrastructure by 2007.These directions still await implementation. Court had also passed suitable directions in *Salem Advocate Bar Association, Tamil Nadu* v. *Union of India*[7], *P.Ramachandra Rao*[1] and *Shambhu Nath*[2].

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[1] (1978) 3 SCC 544.

[2] Baxi attributes the use of terms 'legalist' and 'activist' judges to Marc Galanter. Legalist judges are precedent bound; passive umpire and formalistic while activist judges are doctrinally innovative, mission oriented and programmatic among other qualities possessed by judges according to Marc Galanter.

[3] 14th Report, First Law Commission, Vol. 1, 1958.

[4] The Times of India, New Delhi, July18, 2010.

[5] Supra note 32 at p.280.

[6] (2002) 4 SCC 247.

[7] (2005) 6 SCC344.

3.4.3 Provisions of The Code of Criminal Procedure,1973 -A Critical Analysis:

The Criminal Procedure Code, 1973 as it stands, incorporates a few provisions to which resort can be had for protecting the interest of the accused and saving him from unreasonable prolixity at the trial. Section 309, dealing with power to postpone or adjourn proceedings, provides generally for every inquiry or trial, being proceeded with as expeditiously as possible, and in particular, when the examination of witnesses has once begun, the same shall continue from day to day until all the witnesses in attendance have been examined and unless the Court finds the adjournment of the same beyond the following day to be necessary for reasons to be recorded. Vide Amendment Act 5 of 2009 in The Code of Criminal Procedure, 1973 a proviso has been added which stipulates that in case of sex offences under sections 376 to 376D the inquiry or trial shall be as far as possible be completed within a period of two months from the date of examination of the witnesses. This particular amendment is timely and should aid in expediting cases of the category mentioned.

Explanation-2 to Section 309 confers power on the Court to impose costs to be paid by the prosecution or the accused, in appropriate cases, and putting the parties on terms while granting an adjournment or postponing of proceedings. This power to impose costs is rarely exercised by the Courts. Section 258, in Chapter XX of the Code on trial of summons-cases, empowers the Magistrate trying summons cases instituted otherwise than upon complaint, for reasons to be recorded by him, to stop the proceedings at any stage without pronouncing any judgment and where such stoppage of proceedings is made after the evidence of the principal witnesses has been recorded, to pronounce a judgment of acquittal, and in any other case, release the accused, having effect of discharge. This provision is almost never used by the courts.

In appropriate cases, inherent power of the High Court, under Section 482 can be invoked to make such orders, as may be necessary, to give effect to any order under the Code or to prevent abuse of the process of any Court, or otherwise, to secure the ends of justice. The power is wide and, if judiciously and consciously exercised, can take care of almost all the situations where interference by the High Court becomes necessary on account of delay in proceedings or for any other reason amounting to oppression or harassment in any trial, inquiry or proceedings. In appropriate cases, the High Courts have exercised their jurisdiction under Section 482 of the code for quashing of first information report and terminating criminal proceedings if the case of abuse of process of law was clearly made out. Such power can certainly be exercised on a case being made out of breach of fundamental right conferred by Article 21 of the Constitution. The object of the whole process inevitably is to secure justice.

Criminal courts should exercise powers available to them, such as those under Sections 309, 311 and 258 of Code to effectuate the right to speedy trial. The Malimath Committee notices that section 173(8) of the Code is rarely put to use for discovering the truth. Under the relevant section magistrate can direct further investigation in a case. Report gives example of the case of *Kashmiri Devi* v. *Delhi Administration*[3] where Supreme Court gave direction for fresh investigation as prima facie it came to the conclusion that police failed to act in a forth right manner. A watchful and diligent trial judge can put these provisions to test. In appropriate cases jurisdiction of High Court under Section 482 of Criminal Procedure Code and Articles 226 and 227 of Constitution can be invoked seeking appropriate relief or suitable directions.

[1](2002) 4 SCC 578.

[2] (2001) 4 SCC 667.

[3] AIR 1988 S.C.1323.

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ROLE OF EDUCATION, SUSTAINABLE DEVELOPMENT AND MORALITY IN HIGHER EDUCATION

Kamla Devi[1] and Dr. Neetu Sharma[2]
Assistant Professor[1], Economics, Government College Satnali (M/Garh)
Assistant Professor[2], Commerce, Government College Satnali (M/Garh)

Institutions of higher education have a major role to play in preparing the younger generation for a propitious future. The purpose of this paper is to discuss the role of education and morality in Higher Education. Education plays an important role in the process of social change. It is very potential instrument, a powerful medium of bringing changes in the society. The modern world is changing very fast Education is the main instrument for development change. It has the important task of preparing leaders for different walks of life - social, political, cultural, scientific and technological Universities and colleges function as the focal centers of Higher education. The educators have the prime responsibility of educating the youth of a nation about the thinking, language and actions of the people of their nation and other nations across the world. Education may produce positive externality or negative externality depending upon the nature upon the nature of value it generates through its learner. Without a moral education, no affirmative attitude towards sustainable development can be fruitful.

Sustainable development means a long run development, which accepts the responsibility for the well being of future generations. Valve education would play a chief component towards achieving sustainable development. Morality refers to personal or cultural value code of conduct or social values. In morality people strong beliefs about what is right and wrong.

In the present era of globalization, when pressure of competitions becomes enormous in society, the material education often welcomes different degrees of demoralizations both in public and private life. If the future generation is a major motto of sustainable development then inculcation of value education is highly required from the stage of adolescence of an individual.

In India spread of moral education is only taught in the primary of secondary level of education but when a teenager passes through his adolescence and faces different queries and confusions, he gets easily frustrated and direction less. The moment when he requires enormous moral support, he gets nothing. This is the reason of privatization of my issues i.e. importance of value education in Higher Education Institute without value education the higher education has become lopsided and we all crave of responsible citizens for the state. The Corruption becomes rampant and economy is crippled. Hence if sustainable development is the prime objective of all the persons across the nations in this 21st Century, then the pre condition would be introduction of value education in Higher Institute.

Swami Vivekananda said, "The character of a man is the sum total of the bent of his mind. We are what our thought made us" Learning gives Creativity, Creativity leads to thinking, Thinking provides knowledge, Knowledge makes you great:- Dr A.P.J Abdul Kalam Eloy Anello said, "at the heat of the global crisis afflicting humanity, there is an underlying crisis of value, which manifests the lf in the social, economic, Political and environmental spheres of human existence."

Choudhury (2005) interprets education as means to end, which leads to development, progress and efficiency. Value education is defined as 'Education of Becoming' by Seshadri (2005) I value education helps a learner to broaden his views. He starts accepting his success and futures with equal mental power of acceptance. II Extra Curricular Activity Related. Without value education an extra Curricular activity is only viewed as an activity to win the Competitions. A learner enhances his different soft skill on fine also only to be Victorious. Era of globalization has taught him to become more and more selfish. III Student - teacher relationship, The present era of Globalization has made education a 'Commodity' specially in higher educational institute. HEIS morality became a market of education, where the buyers and sellers are students and teachers respectively. This calls for urgent need of introduction of value education in HEIs. IV Self Assessment value education makes both the teachers and learners accountable to their own conscience. UGC (2003) said that the need of the hour is to 'inculcate human values in the students of HEIs, like quest for peace, right to conduct, non-Violence, compassion, tolerance, love for all living beings, respect for the Motherland and the glory of its culture and traditions in order to promote social and responsible citizenship, However, understanding the efficacy, only Tamil Nadu has introduced a compulsory paper on value education to under graduate students of all colleges.

Meaning of ethics According to the dictionary is "the study of morality." Although ethics deal with morality, it is not quite the same as morality. Morality is defined as the standards that an individual or a group has about what is right and wrong good and evil.

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Morality is derived from Latin word "moraditas" which means manner, character and proper behavior, It lay emphasis on the Code of conduct in the matters of right or wrong whether by society, philosophy, religion or individual conscience. It is also refers to an ideal code of conduct which would be espoused by all rural people under specified conditions.

The word ethics is derived from the Greek word ethos' which means character and from Latin word "Moves" which means customs. It can be defined as the moral values, ruler or standard governing the conduct of a particular group, profession or culture. This group organization and cultural ethics co-exist with one another. Together they influence the set of values. Being personality ethical means one is own personal code of ethics.

Ethical dilemmas arise when one's own ethical standards conflict with those who have some other entity.

The effectiveness at work is linked to exercising human values i.e moral and ethical values. The human values support established business values such as service, communications, excellence, innovation and co-ordination. The human values help good interaction and reduce disputes. There is upsurge all over the world that ethics is vitally important for business and society Ethics along can help to protect society which government or the laws cannot help. Higher education institutions i.e colleges and Universities are custodians of knowledge. Therefore, these college and Universities create knowledge within a particular society they are the intuitions with moral responsibility to maintain the well being of that society. India has one of the largest Higher education systems in the world.

In India presently 11 million students are in higher education system and this represents Just the 11% of the 17-23 year old population. The govt. hopes to increase this to at least 23% by 2018 as per the report of Pwc on India-Higher education sector, opportunities for Private participation.

Ethics seeks to address questions such as how a moral customs can be achieved in a specific situation. The American Guru of modern management. Peter F. Drucker states that business professionals should abide by "Principles of normal essence or illegal acts.

Education refers to the process designed to bring out the hidden goodness and Capability in human beings nearly two thousand and more years ago Greek philosophers used the term 'Educare' meaning 'Educators should advice the simplest and more effective methods to turn the minds towards the light, not to implant sight in it because it already has the capacity, but to correct its orientation because it is not facing the right way - Plato, Republic, 375.

Education is seen as consisting of three components namely - Information, Knowledge and wisdom, each one leading to the next so that we illimitably end up with wisdom. White knowledge backed by information develops human skills and capabilities to achieve many things in the best way possible. It is wisdom that guides me to decide the priorities. Ultimately, everything I undertakes has to be purposeful not only to oneself but more so to the society one lives in. Education at higher levels has made human beings not only greedy, but also self-Centered. Swami Ranganathananda eleventh President of the Rama Krishna math and mission Puts it nicely with his reference to the Ten commandments of massage, That is education today. Higher education institutions bear a profound, moral responsibility to increase the awareness, knowledge, skills and values needed to create a just critical but overlooked role in making this vision a reality. Higher Education has unique academic freedom and the critical mass and diversity of skills to develop new ideas, to comment on society and its challenges. Leo Toistoy provides some insights into the inner realities required for such change. Head, heart, hand. The educational experience of graduate must reflect on intimate connection among curriculum and research, understanding and working to improve local and regional communities, So that they are healthier, more specially and stable. The context of learning will change to make human interdependence, values and ethics a central part of teaching of all discipline. All the students will understand that we are an integral part of nature. They will understand the ecological services that are critical for human existence and how to make social foot print of human activity.

CONCLUSION

It has been quoted that the true philosophy of education lies in the combination of values and validity of human life. Education is not merely imparting knowledge in a particular faculty or subject of face will in exams, It should be training in logical thinking and should help the coming generations adjust to the available changing environment. Proper education process is a passport to good, comfortable and secure life. The process is transmitted through commitment and sharing of teacher- Pupil relationship. The love and Toy, values and respect the basic ethics are getting either eliminated or getting deteriorated to the rock bottom.

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STUDY OF PITCH ANGLE DEPENDENCE OF ENERGETIC ELECTRON PRECIPITATION AT MID LATITUDE

Navin Kumar[1] and D. P. Singh[2]
[1]Department of Physics, Dravidian University, Kuppam
[2]Department of Physics, FGM College, Hisar

ABSTRACT
Wave particle interaction between ELF waves and cyclotron resonant electrons has been studied & energy diffusion is calculated at mid latitude. We consider L-values of mid-latitudes (2.0, 2.4, and 3.0).and put them into the loss cone to send them into the mid ionosphere. By this way murphy of ionosphere changed which helps in elf propagation in earth's ionosphere waveguide. We see that as frequency increases at constant L- values energy diffusion increases .In the same manner we find that L-value is constant and frequency is changed energy diffusion goes on increases. This phenomena helps us in understanding the effect of elf waves on whistler mode propagation and D-E region perturbation and help us in understanding the phenomena of aurorae law farther they are decrease or intense.

Keywords: Magnetospheric plasma waves, Electron precipitation, Wave-particle interactions, energy diffusion scattering, Cyclotron resonance, Earth's radiation belt, Energetic electron.

INTRODUCTION

Pitch angle diffusion into the atmospheric loss cone is a major cause of electron losses within the inner magnetosphere. When measuring the electron pitch angle distributions at the magnetic equator, it is difficult to assess whether pitch angle transport is uniform throughout the distribution or whether it is stronger over one part of the distribution relative to another. At moderately high L values, for example in the regions mapping near and above geosynchronous orbit, "bands" (see Fig. 1) of electron precipitation are commonly observed by low altitude polar orbiting spacecraft [Blake et al., 1996; Fritz, 1968; Vampola, 1971; Vampola, 1977]. Sometimes the magnetic field at these L values can become strongly stretched, especially during magnetically active and intense ring current periods, and the field's radius of curvature becomes small enough to cause loss of electron adiabaticity. This has also been observed, [Imhof et al., 1977, 1978, 1979, 1991]. Another kind of precipitation has been observed, called micro bursts [Blake et al., 1996, Lorentzen, et al., 2001a, 2001b; O'Brien et al., 2003] that can extend over wide range of L values in the outer radiation zone. It is clear that not all the precipitation bands and bursts are generated by the same process. But, it is thought that the majority of the precipitation bands and microbursts observed at low altitudes are caused by wave-particle interactions.

RESEARCH METHODOLOGY

The pitch angle scattering in magnetosphere is explained using the analytics method called the ionospheric model.

We assume a homogeneous collision less plasma immersed in a uniform background magnetic field in the presence of superposed electromagnetic waves. The relativistic quasi-linear diffusion equation for the gyro phase-averaged phase space density φ is

$$\frac{\partial \varphi}{\partial t} = \frac{1}{\sin\alpha}\frac{\partial}{\partial\alpha}\left[D_{\alpha\alpha}\sin\alpha\frac{\partial\varphi}{\partial\alpha}\right] + \frac{1}{\sin\alpha}\frac{\partial}{\partial\alpha}D_{\alpha p}\left[\sin\alpha\frac{\partial\varphi}{\partial p}\right] + \frac{\partial}{p^2\,\partial p}\,p^2 D_{p\alpha}\left[\frac{\partial\varphi}{\partial\alpha}\right] + \left[\frac{\partial}{p^2\,\partial p}\,p^2 D_{pp}\frac{\partial\varphi}{\partial p}\right] \quad \text{-------------------- (1)}$$

where $D_{\alpha\alpha}$, $D_{\alpha p} = D_{p\alpha}$, and D_{pp} are the cyclotron resonant diffusion coefficients which depend on the properties of the waves; $p = \gamma m v$ is the particle momentum where v is the particle speed and m is the rest mass; $\gamma = (1 - v^2/c^2)^{-1/2}$ is the Lorentz factor (c is the speed of light); α is the pitch-angle, and t denotes time. The diffusion coefficients (Danny Summers and Binbin Ni (2008),

$D\ \alpha\alpha = (\Delta\alpha)^2 / (2\Delta t)$,

$D\ \alpha p = (\Delta\alpha)(\Delta p) / (2\Delta t)$, ------------- (2)

$Dpp = (\Delta p)^2 / (2\Delta t)$

are determined from the ensemble-averaged particle-orbit corrections. Explicit formulae for $D\ \alpha\alpha$, $D\ \alpha p$, Dpp corresponding to field-aligned (R-mode and L-mode) electromagnetic waves have been derived by Summers (2005) and Summers *et al.* (2007a).

With $\rho = (\sqrt{\pi}/2)\ \mathrm{erf}\ [(\omega_m - \omega_1)/\delta\omega] + \mathrm{erf}\ [(\omega_2 - \omega_m)/\delta\omega]$ -------------(4)

Where ω is the wave frequency, ω_1 is the lower frequency limit, ω_2 is the upper frequency limit, ω_m is the frequency of maximum wave power, δω is a measure of the bandwidth, and erf is the error function (Danny Summers and Binbin Ni (2008), . The wave spectral density (3) has been normalized so that

$$(\Delta B)^2 / 8\pi = \int_{\omega 1}^{\omega 2} W(\omega)\, d\omega \qquad \text{--------------- (5)}$$

Where ΔB is the mean wave amplitude. In the present study we consider electron interaction with (R-mode) VLF chorus, (R-mode) ELF hiss, and (L-mode) EMIC waves. We assume hydrogen plasma and we consider only field-aligned waves. Under the conditions of field-aligned wave propagation, all cyclotron harmonics n are omitted except $n = -1$ and $n = +1$ which correspond respectively to R-mode and L-mode waves.

RESULTS AND CONCLUSIONS

We have followed the empirical model of educational electron density in the magnetosphere. The data from ISEE1 satellite were analyzed to find out the pitch angle loss cone scattering. Then a mechanism from diffusive-equilibrium model which has been experimentally verified by Carpenter & Anderson in 1992 implemented here. In this case not only plasma pause density is given but electron density at L=1.1 to L=8 has been given. In our case electron density and H^+ density are equal that is why we call it diffusive-equilibrium model. The electron density is as under these values have earlier been used by Singh & Singh (2006). When the case is o at L=3 we consider electron density of 1000, 1500 and at L= 3.5, the value is 500 .In between L- Values we use formula such that $\log N_1 - \log N_2 = L_1 - L_2$ so the slope of graph is used to compute electron density at different latitudes. In figure 1 we show the variation of wave pitch angle diffusion coefficient with pitch angle ranges from 10^o to 70^o at different ELF frequencies having values 300 Hz, 1000 Hz & 2000 Hz, keeping latitude, wave magnetic field and wave width 2.0, 0.001 nT and 50 Hz respectively. We find that for 300 Hz, wave pitch angle diffusion coefficient increases, it means higher pitch angles are useful in precipitating electrons. As frequency increased to 1000 Hz to 2000 Hz, Dαα (wave pitch angle diffusion coefficient) increases. It reveals that higher frequencies are suitable in diffusing electrons in loss cone than lower frequencies.

Variation of Pitch angle diffusion coefficient with Pitch angle at different interacting ELF frequencies, keeping L=2.0, Bw =0.001 nT and wave width 50 Hz.

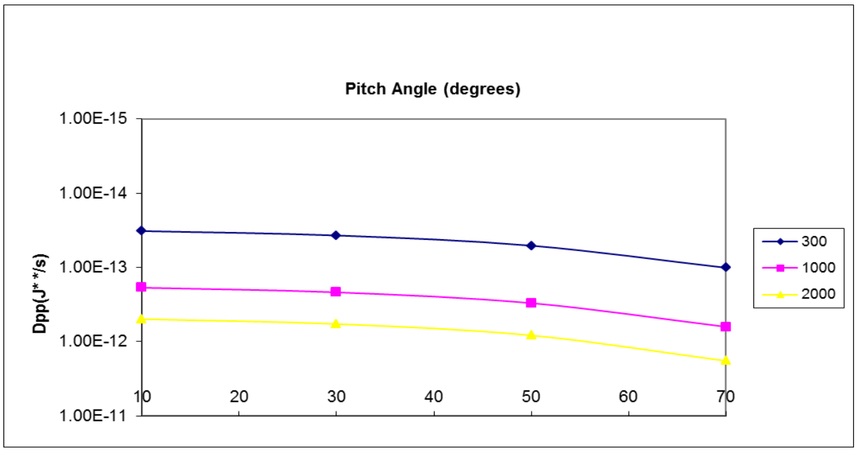

Figure-1: Variation of energy diffusion coefficient with Pitch angle at different interacting ELF frequencies, keeping L=2.0, Bw =0.001 nT and wave width 50 Hz.

It means lower frequencies are not suited for diffusing of electrons in the loss cone. As the graphs shows that for frequency 300 Hz, it is above the curve for frequency 1000 Hz and curve for frequency 2000 Hz is below the curve for frequency 1000 Hz. Hence large frequencies are very useful in precipitating the electrons. Wave pitch angle diffusion means diffusing of electrons in the loss cone. Also the large values of pitch angles the curves are showing higher value of wave pitch angle diffusion coefficients. So, both the higher values of pitch angle and frequencies are contributing to the maximum diffusion of electrons to the loss cone. The exponential graph shows the variation of wave pitch angle diffusion with variations in the frequency at different values of pitch angle. Figure 2, describes the change in energy diffusion coefficient with pitch angles ranges from10^o to 80^o at different low latitudes (2.0, 2.4, 3.0) keeping ELF frequency 2500 Hz, wave magnetic field (Bw) 0.1 nT and wave width 150 Hz. The result is that for L = 2.0, energy diffusion coefficient increases with increase of pitch angles. Hence, the large wave magnetic field supports the precipitation of the electrons. When the wave width increased, Dαα decreases. Therefore, higher wave width is not suitable for diffusing the electron into the loss cone than low wave width. From figure it is noted that curve for higher wave width i.e. 150 Hz is at top and for 50 Hz it is at the bottom. Hence it is observed that higher wave widths are not so effective for precipitation of electrons rather than the lower wave width.

(2) Variation of energy diffusion coefficient with pitch angle at different

L-Values, keeping ELF frequency 2500 Hz, Bw =0.1 nT and wave width 150 Hz.

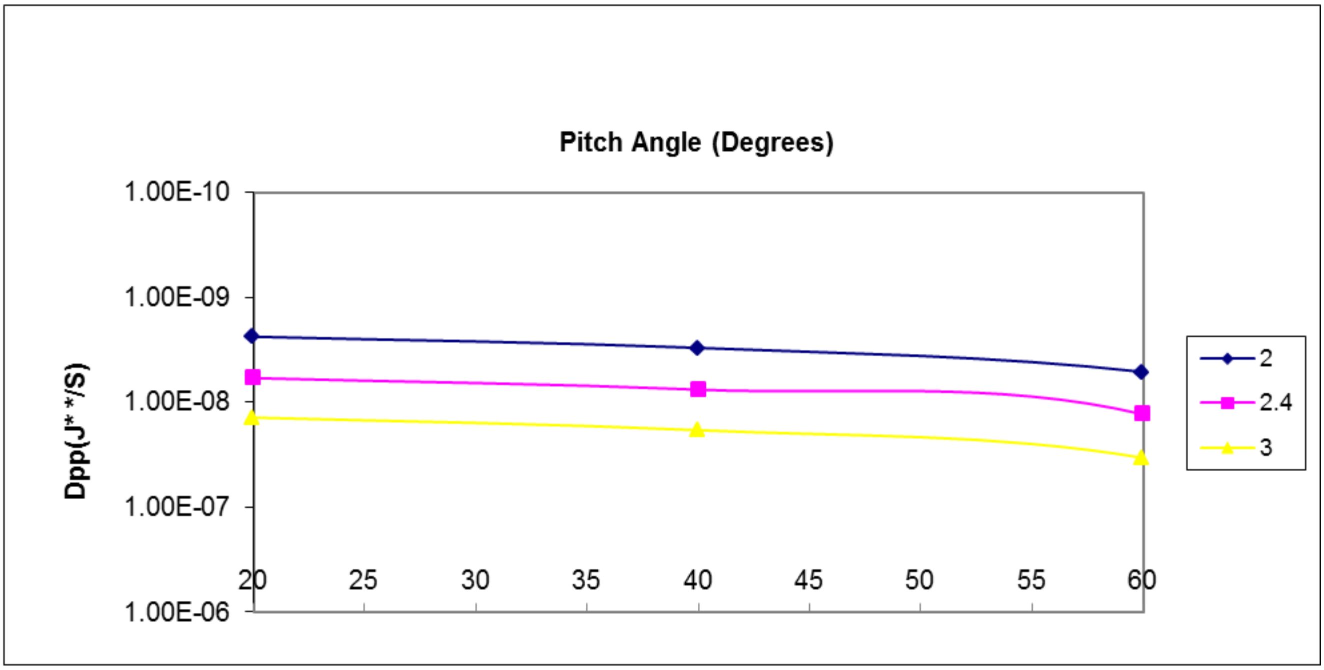

Figure-2: Variation of energy diffusion coefficient with pitch angle at different L-values, keeping ELF frequency 2500 Hz, Bw =0.1 nT and wave width 150 Hz

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CHITTA VRITTI NIRODHA THROUGH YOGA

Capt. Dr. Satpal Kaur
Associate Professor, SKR College of Physical Education, Kharar, SAS Nagar, Punjab

"The realization of the oneness of the Self with all other selves is key to both individual bliss and world peace"

ABSTRACT
The purpose of present descriptive type of paper is to explore the world of Yoga and its significance for mental health for global peace that has been disturbed by scientific and technological world. On the one hand it made living of mankind highly comfortable and creative but on other hand it is associated with the progress in the emergence of mental illness. It not only affects the progress but also the quality of life. Yoga is an ancient technique practiced by sages and yogis and taught it as a desirable and healthy way of life. The very meaning of yoga is to achieve a balance within the internal and external environment; thereby seeking to attain mental, spiritual and physical well-being.

INTRODUCTION
The tremendous advancement in the present scenario made whole universe like a big prosperous village due to superfast life anxiety, stress and strain or can be defined as an age of hurry, worry, and burry. Terrorism, violence, cruelty, socio-economic imbalance, intolerance, meanness, apathy towards the suffering of fellow being is the one of the major problems faced by the whole world. Consequently, it affects not only to global value concern but also an alarming situation for mental health of generations.

It means that yoga is the removing of the fluctuations of the mind. Yoga is the stilling of the mind until it rests in a state of total and utter tranquility, so that one experiences life as it is: as Reality. One experiences life through the clearest of lenses — lenses not colored by thoughts of good or bad, or mine or yours. When the fluctuations of the mind are totally removed, we are at one with everything and all that is. We experience oneness, or union with all. We have no separation from our inner divinity and the Divine.

There are four social elements that affect the mental health of the person namely family, educational institution, professional surrounding, and community. The treatment is given on three different aspects like biological, psychological and social level. There is virtually a revolution in reviving in most of the cultural and traditional therapies like Yoga, Reiki, Ayurveda, and Naturopathy to heal and prevent any health problems. Intense scientific researches on these therapies are going on for examining the safety and effectiveness.

Yoga among these is one of such allay which can provide a number of additional therapeutic techniques from 'Womb to Tomb - birth to death". Now a day Baba Ram Dev has brought up yoga practice and its holistic approach at global level and the worlds had accepted it as a scientific way to treat anxiety, stress, strain, hormonal disorders, insomnia, hypertension, depression and many more psychosomatic problems. Patanjali defines yoga as 'mastery over the modifications of mind – Chitta vritti nirodha'. Yoga originated in India several thousand years ago as a system of physical and spiritual practices. It was formalized in the second century BC in the form of the Yoga sutras, attributed to the scholar Pentanjali (Iyenger 1993, 2000). The word 'Yoga' means 'union' or 'yoke' or 'joining'. Originally, Yoga is a method for joining a regular imperfect human being with the divine principle, or God. It also an transnational cultural product.

Ashtanga Yoga is the royal eightfold yoga, standardized by the ancient sage Patanjali. Its outset and conclusion is the state of unlimited ecstasy and freedom that forms the core of our being. Patanjali calls this state objectless Samadhi, the Upanishads refer to it as the heart. Ashtanga Yoga employs a multitude of techniques, such as postures, breathing, purification, concentration and meditation exercises. Ashtanga Yoga is also known as Hatha Yoga, "ha" is sun and "tha" is moon. These two heavenly bodies represent the dualities which may be joined through the practice.

Ashtanga or Hatha Yoga is a physical practice by which one can attain balance, learn to acknowledge and control opposing forces. The forces may be physical, psychological, and emotional. Balance may involve effort and ease, calm and chaos, mind and body. Ultimately the practice of yoga leads to a union of the body, mind and soul. It not only gives freedom from disease but a complete state of physical and mental, spiritual and social well being. The 196 Yoga Sutras (threads) of the master Patanjali describe all aspects of the practice. They provide instruction on how to lead a life of fulfillment. It has practical suggestions of what to *do* to regulate the mind, so as to attain direct experience beyond the mind (Iyenger 1993, 2000).

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This 6000 years old practice is now became supportive treatment for the medical world. It was previously stated that there was no one “official” definition of mental health. The world health organization defines mental health as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community. A holistic model of mental health generally includes concepts based upon anthropological, educational, psychological, religious and sociological perspectives, as well as theoretical perspectives from personality, social, clinical, health and developmental psychology (Hattie et.al.2004).

Mental health is a concept that refers to the psychological and emotional well-being of a person. From the perspective of the discipline of positive psychology or holism mental health may include and individual’s ability to enjoy life and procure a balance between life activities and efforts to achieve psychological resilience. It is basically an attitude and approach of an individual towards life psychological, environmental, genetic, or physiological factors have a profound effect on overall mental development. Being mentally healthy generally means that person is able to use emotional capabilities to function well in society and go through everyday life with little or no difficulty and run family life, social life, and life at work more effectively. A mental illness

Having negative experiences in any of the said areas can deteriorate the condition of mental health. Mental illness impairs the ability to perform routine tasks, foster healthy relationships, or cope with anger or stress. It can cause an inferiority complex, a negative body image, and intense feelings of self-hate, anger, disgust, and uselessness, which could mutate into extreme depression, psycho-social disorders, or eating disorders. People with mental problems socially isolate themselves, and develop anxiety disorders, concentration problems, extreme mood swings, irrational or destructive thought patterns, and behavioral problems. These can be classified into six categories:

Mood Disorders: These are characterized by feeling of hopelessness, changes in eating pattern, troubled sleep, chronic fatigue, and even thought of suicide and death. There are two major types of mood disorders:

Depression: A state of extreme sadness or melancholy that affects a person’s social functions. It can occur in older persons, especially those with physical problems. Symptoms include sadness, inactivity, difficulty in thinking and concentrating, and feelings of despair. Depressed persons often have trouble sleeping, changes in appetite, fatigue, and agitation. Depression usually can be treated successfully.

Bipolar Disorder: Bipolar disorder, or manic depression, is a Psychiatric illness that creates extreme shifts in a person’s ability to functions, energy and mood. These changes may be dramatic or subtle and typically vary over the course of a person’s life. People with bipolar disorder experience extreme mood swings. It is normal to have “ups and downs” but it these patients, “ups” are very high (manic pole) and “low” is very low (depressive pole). This disorder is also known as manic-depressive illness. These symptoms or states are usually temporary, lasting for about a maximum of two weeks. If you experience them for more than two weeks, see a doctor immediately.

Anxiety Disorders: This include abnormal anxiety, phobias, and panic disorders that come unpredictably ad disrupt our normal daily routines. Anxiety disorders are developed over a period of time.

Schizophrenia: This is characterized by distortions in a person’s perception of reality. A person with schizophrenia manifests disordered thinking and usually experience hallucinations. Of all other mental illnesses, this is considered as the most serious.

Alzheimer’s Disease: Alzheimer’s disease is the term used to describe a demanding disorder marked by certain brain changes, regardless of the age of onset. It proceeds in stages over months or years and gradually destroys memory, reason, judgment, language, and eventually the ability to carry out even simple tasks.

Eating Disorders: People with mental disorders are more prone to indulging in comfort eating or emotional binges. Finding comfort in food is something we all do from time to time. But with a mental illness, it becomes difficult to control. This obsession with food ultimately leads to negative effects towards a person’s social life and daily activities due to obesity, which puts a person at a risk for heart disease and diabetes, in addition to creating an unhealthy body image.

Psychologists believe that yoga is good for patents suffering from all explained disorders. Those suffering from this, often have low self-esteem and negative thought, which with regular practice of Yoga it can change into more positive thoughts and better self esteem. Obese people face a well-known list of physical risks. Diabetes, high blood pressure and heart disease are just a few ailments that can strike far too soon. Their bodies are not all that is affected. In addition to being at risk for lifelong physical ailments, overweight people may also

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experience psychological distress. The emotional effects can be even being worsened for girls who are frequently exposed to unrealistic beauty ideals.

The slow and stretching asanas of Yoga releases the physical tension and improves strength and flexibility both in body and mind. It enables one to relax fully, and promotes sound sleep and also improves digestion and stimulates blood circulation. These isometric exercises involve a coordinated action of synergetic and antagonist muscles in bringing about steadiness, flexibility and accuracy of the movement. By improving psychological motivation and decreasing heart rate, minute ventilation, oxygen consumption and respiratory quotient it also improves the static motor performance, hand-eye coordination, grip strength, cardiovascular endurance, anaerobic power thermoregulatory efficiency tolerance, stretch endurance and decreasing the onset of fatigue (Dash and Telles, 2001).

Pranayama, the deep breathing gives vitality by increasing the supply of oxygen to the brain and meditation enhances the powers of concentration. Pranayama gives two vital reasons for wanting to increase breath volume. Firstly, by increasing inhalation one gets increase in the amount of oxygen supplied. Secondly, by increasing exhalation one efficiently exhales toxins, including mental, emotional, physical toxins, and environmental toxins. Pranayama are mechanism of yogic breathing that improves oxygen consumption with better oxygen delivery and utilization.

Meditation is a universally accepted process of cleansing, healing and restoring the mind, body and the spirit practiced not just in today's modern world, but in ancient cultures. Yogis, or people trained with the ancient art of meditating, proclaim meditation as the highest state of mind, where health, longevity, spiritual progress, facilitates changing your behavior, cultivate virtue and purity and self awareness is achieved, producing a kind of mystical peace and tranquility.

Ashtanga Yoga greatly improves quality of life and open mankind to change for positive transformation, to let go of old patterns, and make room for an emerging awareness of a more authentic self with ethical discipline by the principles of Nama and Niyama. Asana, Pranayama and Pratyahara aim to integrate one's physical, physiological experience with the psychological and the spiritual. Dharna, Dhyana and Samadhi are the fruit of the practice. They lead to total absorption into a state of bliss.

It can be concluded that Yoga is becoming popular in different parts of the world. For the restless mind it gives solace. For a common man it is the fashion of the day to keep him fit and beautiful (Brena 1975, Garde 1975, Kuvalayananda 1971, Sri Yogendra, 1972). For the sick, it is a boon and some use it for developing memory, intelligence and creativity. With its multifold advantages it is becoming a part of education (Bloomfield et.al1975, Dennistonet et. al 1975).Specialists use it to unfold deeper layers of consciousness in their move towards perfection (Sarasvati, 1975). Ashtanga Yoga is a complete workout for good mental health. Its scientific form of exercise gives complete benefits of the exercise (Nirmala, 1978). It frees the practitioner physically and mentally, often heightening intuition and creativity by boosting mood and work wonders on mental health yoga also de-stresses and can calm your mind and de-clutter the stressful thoughts and helps to have healthy relationships, maintain physical health and well-being, handle the natural ups and downs of life, discover and grow toward our potential. It is a way to navigate the dangers of modernity without falling pray to materialism. After all yoga bridges the gap between body and mind and purifies the both to attach with supreme soul. It transforms a person from inside of the body and leads to calm and credible, consequently peace around everyone globally.

"Real bliss is maintaining equanimity of mind at all times, at all places, under all circumstances, not only in church or synagogue, but in time square or on the battlefield" Swami Satchidananada

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THE COWLEY FATHERS: CONTRIBUTION TOWARDS EDUCATION IN POONA

Pramila Dasture
Professor, Department of History, Nowrosjee Wadia College, Pune

ABSTRACT

Missionary work was a common feature of the early modern times, their work continued irrespective of colonial regimes. Missions were, essentially a religious group sent into an area to proselytize or perform ministries of service, such as education, literacy, social justice, health care, and economic development. There were numerous missions that worked tirelessly in countries around the world. India too saw a spate of missionary activity. In Poona in the pre independence era, there were several missionaries, like the Scottish Missionary, the Presbyterians, the Sisters of Wantage, the Cowley Fathers and other such.

This article intends to look at the missionary work taken up the Society of St John the Evangelist (SSJE), more commonly known as the Cowley Fathers from Oxford, England. This is one of those missions that worked for almost hundred years in India, their main focus however being Bombay and Poona. Along with the Wantage Sisters, the Cowley fathers worked parallel, providing education, medical health care and industrial training to the native population.

However, despite their immense contribution to the society, there is not much information or literature available on them, barring a few references here and there and a couple of books written by some of the priests of the society. Thus, in this context, this article will proof to be helpful to anyone who is particularly interested in missionary activity in Poona, and Subaltern history in general.

Keywords: Cowley Fathers, education, Poona, missionaries, Sisters of Wantage

INTRODUCTION

The mission-work of the Society of St John the Evangelist (SSJE), at one point of time had spread across the entire world: from Oxford and London to the US and Canada; to India, South Africa, and the Far East. The Society was founded by Richard Meux Benson in 1866. The Society went on to be recognised more commonly as the Cowley Fathers; this was after,as their mother house was in Cowley, East Oxford, which is now the home of St Stephen's House. The SSJE is distinguished as the first religious order for men to be founded, and to prosper, in the Church of England. Since 1914, the SSJE continues to flourish in the United States, at Boston; their main focus of prayer and teaching in the Episcopal Church.

The main focus, of course was religious teaching; however, the Cowley Fathers founded schools, churches, and community centres. They were known for clergy retreats that renewed and strengthened the vocations of the priests who came to them, and for parish missions up and down the country; eventually, their work took them across the globe.

Although some of the order's members have left accounts of their ministry, and others have received their own biographies at the hands of others, no major study has yet been produced that charts the history of the Cowley Fathers in any depth – until now.

The Society of St John the Evangelist (SSJE) is an Anglican religious order for men. The members live under a rule of life and, at profession, make monastic vows of poverty, celibacy and obedience. In as early as 1859, the S.S.J.E missionaries desired to work in India, in continuation of the work they carried out at Cowley in Oxford.

However, they were mot the first to carry out mission work in Poona; it has been documented that the first mission work done in Poona was in 1831 by the Scotch Presbyterians; their work was connected with the Catholic Church. In 1868 a Tamil Christian priest began his missionary work in tandem with the Scottish Presbyterians, he extended his work to the local native Maratha population.

In 1869 Bishop Douglas of Bombay eloquently urged the establishment of chain of Mission stations in Maratha country, beginning with Poona and Kolhapur. Two missionaries were stationed at Poona in 1873, they hired rental rooms in many parts of city to initiate its permanent establishment. This association grew out of the St. John's Guild for Poona Mission, which was officially founded in 1878 at a residential bungalow at Panch Howd, a little away from the in the city called a Mission House.

The Society's work in Poona coincided with the historical events of the day and time; it essentially commenced in the post 1857 era and continued until 1967, when the Cowley Fathers, eventually left the country.

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WHY POONA?

Historically speaking the importance of Poona had always been eminent. Poona's strategic location, and more importantly, it being the monsoon capital of the Bombay Presidency was something that gave it a stature, higher than other cities. Previously too it had been the seat of the power of the Marathas under the Peshwas. In the late 19^{th} and early 20^{th} centuries, the city was an important centre of social and religious reform movements, as well as the nationalist movement. Poona was a peculiar place in many ways; due to its historical past, the city seemed to be divided into three parts. The first part was the main city, the more native part of the city and in the days of the British, it was the hub of the national movement. The second part was the cantonment and military base, consisting of a significant European population of soldiers, officers, and their families. The third part was the Sadr Bazar, an area, in between these two huge population zones, this was the slightly poorer of the three sections and a good place to start the mission work.

PANCH HAUD MISSION

Work of the Cowley Fathers, in Poona started at a place called Panch Haud, which got its name from the five cisterns of water that were a part of the older aqueduct system of the city, although now defunct, they still lie buried in the premises. The Holy name Church here has a 135 feet high tower and is still very much in function.

Father Nilkantha Shastri Goreh, who was a well-known convert Christianity, stayed at the Mission until his death in1895. In 1891, Anadibai Joshi's husband, Gopal Joshi, hosted a lecture at the Mission. Many were invited, but orthodox and progressive. G.V. Kanitkar, M. G. Ranade and C.R. Bhatt represented the Prarthana Samaj, while V.K Rajwade, G. K. Gokhale and Bal Gangadhar Tilak, belonged to the orthodox group. Around 52 people attended this lecture. Many drank the tea that was offered there, and many didn't as they thought it was against their faith. A couple of months after this incident, the Age of Consent Bill was passed on 19^{th} March 1891. The whole incident became known as the Panch Haud Tea Episode. The Panch Haud Mission had come into news on a number of occasions, once when the very famous Justice M.G. Ranade, stayed at the Mission Church

WORK OF THE COWLEY FATHERS AND THE SISTERS OF WANTAGE

In Poona, the Cowley Fathers preached the Gospel through the medium of churches as well as through technical schools and industrial workshops, fruit farms, they also introduced compost in their market garden, at a time when it was under suspicion in England and quite unknown in India. While in Poona, the Cowley Fathers, always worked in tandem with the Community of St. Mary the Virgin, more commonly known as the Sisters of Wantage.

Bishop Mylne, the Lord Bishop of Bombay, had laid the foundation of a permanent mission centre at Panch Haud. He had asked the Sisters of Wantage to help. They had responded in 1877, by sending six sisters to Poona. Thus, the Sisters settled in Poona before the Cowley Fathers. The Sisters had expanded their work through the various schools they ran and administered. The Sisters worked at three levels- educational, medical and industrial.

Some of their organizations were: (i) St Mary's School (this school was unique, as it had a number of non-Christians from influential homes enrolled), (ii) St Michael's and St. Katherine's Hostels, (iii) The Epiphany Boarding House, (iv) St. Gabriel's Hostel, (v) St. Hilda's Primary School, (vi) St. John's Hospital, (vii) Holy Family Home and (viii) St. Crispin's Home, Yerandawana.

The Cowley Fathers conducted a number of their educational activities within the premises of the Panch Haud. Until 1891, Father Rivington was in charge of the Society's work in Poona. Later he started a training centre for the Indians, for the ministry of the Indian Church. First Father Relton, then Father Elwin became the Provincial Superior. Subsequently, the Mission gained stability and continued to function successfully under Father Bishop and Father Wain until 1967, when they finally withdrew from Poona.

The Cowley Fathers worked at three levels- educational, medical and industrial. However, missionary work was always centred around the Holy Name Church, Panch Haud. Sermons and preaching of any kind was mostly done in Marathi, to attract the local population. Some of their organizations were: (i) The Church of the Holy Name (ii) St. Crispin's Church and Mission Centre at Yerandawana (iii) St. John's Hostel (iv) St. Edward's School (v) St. Luke's Hostel (vi) The Mission Workshop (vi) Outstation work at Rasta Peth, Lonavala and Kirkee.

Sometimes, the Fathers and the Sisters worked jointly like at the Holy Family Home and St. Gabriel's Home and home for the boys at Yerandawana, known as the St. Pancras. There was also a small hostel for High School boys known as St. Martin's.

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Soon the school and the Mission began to get crowded and new buildings were set up. Under the Headmastership of Mr. Jadhav and Mr. Awaghade, the Mission did good work. At the Mission many Hindus interacted very well with the Christian brothers. The contribution of Mr. Daniels, in charge of the St. John's Hostel, was immense; he was compared to the famous character of Mr. Chipping from James Hilton's novel 'Goodbye Mr. Chips'; this spoke highly of the dedication and sincerity of the Cowley Fathers.

A major contribution of the fathers was seen in their efforts towards the industrial training of the boys. Their work comprised of a carpenters' workshop, which grew into the Epsom Workshop; the boys received a government certificate of carpentry from St. Edwards' School. The boys were also taught weaving; there was a small coffin making company and a Laundry School for Christian Dhobi's. The boys were taught to play ex-army instruments; moreover, the number of boys who earned an employment in the army, was pretty high. The boys were also taught who to play professional cricket according to English rules; this they did at the ground beside the St. Mary's Church.

CONCLUSION

The Cowley Fathers, worked in Poona tirelessly until 1947 without any interruption or interference. However, as is known that, with time and tide a lot can change, similarly, the post-independence era saw a whole lot of modifications. The change of guard and transfer of power in the newly born independent Indian dominion, saw the transfer of the rights of functioning to and Indian Board of Governors, under the Bombay Diocesan Trust. Thus, by 1965, the Cowley Fathers, gave up their rights and moved out of Poona.

The work of the Cowley fathers and the Sisters of Wantage has been a huge part of Indian history and mainly the history of Poona. Sadly, though it has been a neglected part. It would not be wrong in saying that the Cowley Fathers, have been unsung heroes. They wove the fabric of the Christians and non- Christians together. Although they began off with a religious motive, they soon moved above only religion. With the provision of medical facilities as one objective, which they provided very well. Yet, education remained their focus. Their work moved away for classroom teaching and provided vocational guidance to the students. What is admirable and praiseworthy, is that the native population was rather open to the work of the Fathers; this was due to their unique method preaching- teaching, and even the fact that by now Western education had begun to seep downward and society was beginning to open up. Yet, this was still a step simpler for the Cowley Fathers, as they dealt with the boys, and society was still more open and liberal towards this gender. The work of the Fathers, in many ways is similar to the educational thoughts of Gandhiji; as he too tried to stress upon the importance of vocational training and education. Gandhiji's concept of Nai Talim, Sevagram, Champaran all seem to be very close to what the Fathers thought; simply that, education should be holistic and all round, and should not merely restrict itself to the classroom. Nevertheless, the Cowley Fathers and their work needs to be commemorated and cherished and brought to the fore from the shadows of time.

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ROLE OF GINGER AGAINST CYPERMETHRIN INDUCED TOXICITY IN BRAIN AND SERUM OF FEMALE WISTAR RATS

Poonam Sharma
Department of Zoology, Indira Gandhi National Tribal University, Amarkantak

ABSTRACT

Pesticides are toxic substances, non-biodegradable and accumulate in the food chain. Mostly they affect the nervous system causing tumors in living organisms. Cypermethrin is a pesticide of the synthetic pyrethroid group, used extensively in the fields of environmental health and agriculture. It is known to act as both a stomach and a contact poison. Its selective toxic effects are related to the neural sodium channels. Medicinal plants are considerably useful and economically essential. They contain active constituents that are used in the treatment of many human diseases. Ginger is a herbaceous perennial, the rhizome of which is widely used as a spice. It also possesses antioxidant activity, neuroprotective effect and anxiolytic effect. There are more than 50 antioxidants isolated from rhizomes of ginger. The present work is planned to study the toxic effect of cypermethrin and protective role of ginger on the brain and serum of Wistar rats. Thirty female Wistar rats were divided into Five groups of six rats each. Group A was taken as control, group B exposed to cypermethrin (5.76mg /kg bw), group C Cypermethrin (5.75mg/kgbw) for 14 days followed by ginger (100mg/kgbw) for 14 days, group D Ginger (100mg/kgbw) for 14 days followed by cypermethrin (5.75mg /kgbw) for 14 days , group E Cypermethrin (5.75mg/kgbw) and ginger rhizome 100mg/kgbw for 28 days. Cypermethrin administration caused increase in LPO level, decrease in non-enzymatic (GSH) and enzymatic antioxidants (SOD, CAT, GPx, GR, GST) in brain and serum of female Wistar rats. Post, pre and combination treatment with ginger helped in normalizing most of the parameters indicating protective effect of plant on neurotoxicity induced by cypermethrin.

Keywords: Cypermethrin, ginger, brain, serum, oxidative stress

INTRODUCTION

Pesticides are toxic substances, non-biodegradable and accumulate in the food chain. Mostly they affect the nervous system causing tumors in living organisms. They are not only neurotoxic but also affect other systems and have shown a high degree of impact on metabolism by inhibiting enzymes like acetyl cholinesterase (Matsumura *et al.,* 1975; O'Brien *et al.,* 1967).

Pesticides can be classified based upon their biological mechanism function or application method. Pesticides can be classified by their chemical nature. Pyrethroids are more hydrophobic than other classes of insecticides (Michaelangeli *et al*., 1990). The principal target site for pyrethroid is defined as the voltage – dependent sodium channel in the neuronal membrane. Pyrethroids are considered safe because most vertebrates have sufficient enzymes required to break down. Poisonings were due to inappropriate handling with pyrethroids.

Cypermethrin is a pesticide of the synthetic pyrethroid group, used extensively in the fields of environmental health and agriculture. It was synthesized in 1974 and first marketed in 1977 by Shell. Cypermethrin [(RS)-cyano-(3-phenoxyphenyl) methyl (1RS)- cis -, trans -3-(2,2-dichloroethenyl) -2.2-dimethyl cyclopropane carboxylate] is used to kill insects especially on cotton. It is known to act as both a stomach and a contact poison. Its selective toxic effects are related to the neural sodium channels. The toxicity of its varies with the type of vehicle used. The metabolism of cypermethrin is quite rapid, and during its metabolism reactive oxygen species (ROS) are generated.

Some of the more common cypermethrin formulation registered for used in Tasmania are listed below Alpha Duop, Alphasip, Alphamax, Alpha sud, Astound, Buzzard, Antares, Dictate, Di-Namic, Dominex, Fastac, Vanquish, Bestox, Bugoff, Fendona Zenith. Cypermethrin rapidly degrade in sunlight with a half- life of 18-16 days. It is not soluble in water. Symptoms of high dermal exposure include numbness, tingling, itching, burning sensation loss of bladder control, in co-ordination seizures and possible death. It becomes one of the most important insecticides in wide scale use. It has wide uses in cotton, cereals, vegetables and fruit, for food storage, in public health and in animal husbandry. It, an analogue of pyrethrins is classified by the World Health Organization (WHO) as moderately hazardous. It interacts with the sodium channels in nerve cells through which sodium enters the cells in order to transmit a nerve signal. These channels can remain opens for up to seconds compared to the normal period of a few milliseconds, after a signal has been transmitted (Clark *et al*., 1989). It also interferes with other receptors in the nervous system. The effect is that of long lasting trains of repetitive impulses in sense organ (Abbassy *et al*., 1983).

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It is highly toxic to fish, bees and aquatic insects. In humans, it is deactivated by enzymatic hydrolysis to several carboxylic acid metabolites, which are eliminated in the urine (R.Baselt, 2008). At we have a wide variety of products containing Cypermethrin in liquid and powder concentrates: Cypermethrin also modulates the level of neurotransmitters, including gamma-aminobutyric acid and dopamine.

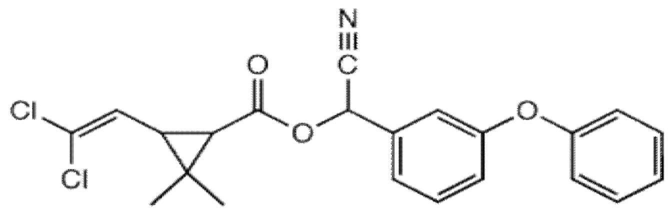

Fig-1: Structure of Cypermethrin

In spite of wide range of effectiveness, cypermethrin (CY) is not free from side effects. Signs like muscular tremors, ataxia, weakness of limbs, convulsions, coma and death from respiratory depression have been reported after ingesting high doses of CY, while its dermal contact in the facial area cause a subjective sensation of tingling or numbness (Sandhu *et al.*, 2000). Cypermethrin is put into cracks and holes in apartment buildings, warehouses, laboratories and stores. It can also be used on ships, planes and trucks to prevent insect infestation. It can cause health problems in humans. Cypermethrin has adverse effects on the skin, respiratory system and digestive system and can even cause death.

Medicinal plants are considerably useful and economically essential. They contain active constituents that are used in the treatment of many human diseases. The plant extracts have been developed and proposed for use as antimicrobial substances. Plants used in traditional medicine contain a vast array of substances that can be used to treat chronic and infectious diseases. Most of the wild floras are rich in medicinal and aromatic properties like antibacterial, antiviral, antihelminitic, anticancer, sedative, laxative, cardiotonic, diuretic and others. They are important sources of bio-molecules, with application for the manufacture of pharmaceuticals and cosmeceuticals. People have used medicinal plants in health care since the time of earliest human evolution. Bioactive compounds currently extracted from plants are used as medicines; many of the plant species that proved medicinal herbs have been scientifically evaluated for their possible medical applications. Medicinal plants have considerable importance in international trade and their clinical, pharmaceutical, and economic value is still growing, although this varies widely between countries. Based on current research and financial investments, medicinal plants will, seemingly, continue to play an important role as a health aid. Indian medicinal plants/herbs shows good result on disease cure.

Zingiber officinale Roscoe or ginger, member of the family of *Zingiberaceae*, is a herbaceous perennial, the rhizome of which is widely used as a spice. It is used in Asian traditional medicine for various purposes including stomach aches, nausea and diarrhea and joint and muscle pain. It also possesses antioxidant activity, neuroprotective effect and anxiolytic effect. Ginger has a long history of medicinal use dating back 2,500years in China and India. There are more than 50 antioxidants isolated from rhizomes of ginger.

India is rightly called as “spice bowl of the world” for its production of variety and superior quality of spices. Growing spices for various purposes has been famous since the ancient times.

Young ginger rhizomes are called "hashouga" Common forms of ginger include fresh or dried root, tablets, capsules, liquid extracts (tinctures), and teas in Japanese and are eaten raw in Japan. Essential oil from rhizomes of *Zingiber officinale* has been the subject of numerous studies worldwide. The oil has been reported to have stimulating action (Lim *et al*., 2005), anti-spasmodic action (Riyazi *et al*., 2005), immunomodulation (Zhou *et al*., 2006; Carasco *et al*., 2009), anti-inflammatory action (Nogueira *et al*., 2011), and other types of activity. However, there are relatively few reports on the oil's antimicrobial action, which is probably because of the weakness of that action (Lopez *et al*., 2005).

Some pungent constituents present in ginger and other *zingiberaceous* plants have potent antioxidant and anti-inflammatory activities, and some of them exhibit cancer preventive activity in experimental carcinogenesis. The anticancer properties of ginger are attributed to the presence of certain pungent vallinoids, viz. [6]-gingerol and [6]-paradol, as well as some other constituents like shogaols, zingerone etc. A number of mechanisms that may be involved in the chemo preventive effects of ginger and its components have been reported from the laboratory studies in a wide range of experimental models.

The present work is planned to study the toxic effect of cypermethrin and protective role of ginger on the serum and brain antioxidant and non-antioxidant enzymes of female Wistar rats.

MATERIALS AND METHODS

ANIMALS

The Inbred female Wistar rats were purchased from animal research Division, Central drug Research Institute of Lucknow (India). Adult female Wistar Rats (80–90 days old) was allowed to acclimatize for one month in the animal house of Department of Biomedical Sciences, Bundelkhand University, Jhansi. Rats were kept in temperature of 21 ± 1°C in 12 h light, 12 h darkness. Food and water were offered *ad libitum*. The different group of animals was maintained in polypropylene cages measuring 45×30×30 with husk bedding. All the principles of laboratory animal care were followed.

CHEMICALS

Technical Grade Cypermethrin or alpha Cypermethrin (97%) was purchased from Gharda Chemicals Lt. Mumbai. Ginger rhizome was purchased from the local market of Jhansi. The plant material was identified at National Vriksha Ayurveda Research Institute, Jhansi (U.P).

EXTRACTION OF GINGER JUICE

Fresh ginger was purchased from the local market of Jhansi. The ginger was peeled & chopped in pieces & grinded in the mixer grinder to get juice. The juice was filtered through whatman filter paper and centrifuged at 2000 rpm at RT for 15 min. After that the filtrate was lyophilized to obtain a completely dried powder of ginger. The dried powder was stored in pre-weighted tightly screw capped bottles and the yields of extracts have been weighted.

VEHICLES

Dimethyl Sulfoxide (0.5ml) was used as vehicle for cypermethrin in order to avoid weight gain due to oil consumption. The plant extract was dissolved in 1ml of double distilled water.

TREATMENT SCHEDULE

30 Female Wistar rats were divided into 5 groups of six rats each.

Group A	Control	Normal diet and water *ad libitum* for 14 days
Group B	Exposure	cypermethrin (5.75mg/kgbw) for 14 days
Group C	Post-treatment	Cypermethrin (5.75mg/kgbw) for 14 days followed by ginger (100mg/kgbw) for 14 days.
Group D	Pre-treatment	Ginger (100mg/kgbw) for 14 days followed by cypermethrin (5.75mg /kgbw) for 14 days.
Group E	Combination	Cypermethrin (5.75mg/kgbw) and ginger *rhizome* 100mg/kgbw for 28 days.

At the end of the experiment, rats were sacrificed as per institutional ethical committee guidelines (BU/Pharma/IAEC/11/039). Blood samples collected in centrifuge tubes were centrifuged at 3000 rpm for 20 min. Serum was stored at -20°C until used for biochemical assays. Brain was quickly removed and washed with chilled saline, one part of the brain was kept for biochemical estimations and other part was kept in-40℃ in deep-freezer in 10% formalin for histological examination.

PREPARATION OF HOMOGENATE

1g Tissues were homogenized with 10 times (w/v) homogenizing buffer (0.1M phosphate buffer, P_H 7.4 + 150 mM KCl). Now it is called 10% homogenate used for biochemical estimation. LPO and GSH estimation was done from freshly prepared homogenate and remaining 10% homogenate was centrifuged at 9000 rpm for 20 min. to get supernatant (S). The supernatant (S) obtained was used for other estimation.

BIOCHEMICAL ESTIMATIONS

Lipid per oxidation was estimated as described by Ohkawa *et al.*, 1979. Reduced glutathione was estimated by the method described by Ellman, 1959. Super Oxide Dismutase was estimated by the method described by Kakkar *et al.*, 1984. Catalase was estimated by the method described by Sinha, 1972. Glutathione Peroxidase was estimated by the method described by Rotruck *et al.*, 1973. Glutathione-S-Transferase was estimated by the method described by Habig *et al.*, 1974. Glutathione reductase was estimated by the method described by Carlberg *et al.*, (1981). Acetylcholinesterase assay was estimated by G. L. Ellman *et al.*, 1961. Protein was estimated by Lowry *et al.*, 1961 method.

STATISTICAL ANALYSIS

Results were expressed as Mean ± S.Em. Data was subjected to one way analysis of variance (ANOVA). The treatment groups were compared with control group using Dunnett's test. All the statistics were carried out in GraphPad InStat Software Inc., v. 3.06, San Digeo, USA.

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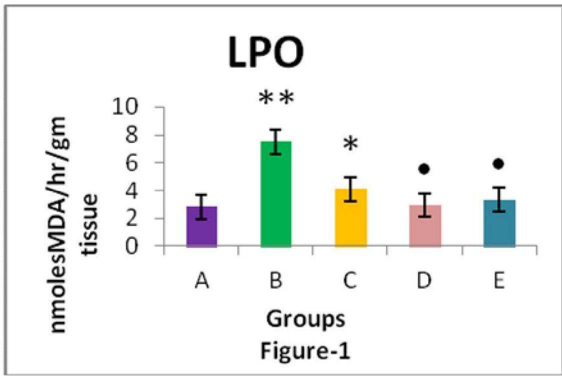
P-values designate as

●=	P> 0.05	Non-significant
*=	P<0.05	Significant
** =	P<0.01	Highly significant

RESULTS

In the present study, LPO level significantly (p<0.01) increased in group B (161.71%) and significantly (p<0.05) in group C (46.20%) as compare to group A. A non-significant (p>0.05) increase was observed in group D (4.56%) and group E (18.58%) when compared to group A(Fig.1)



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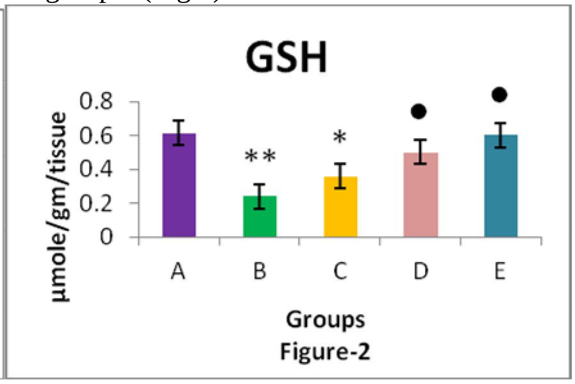

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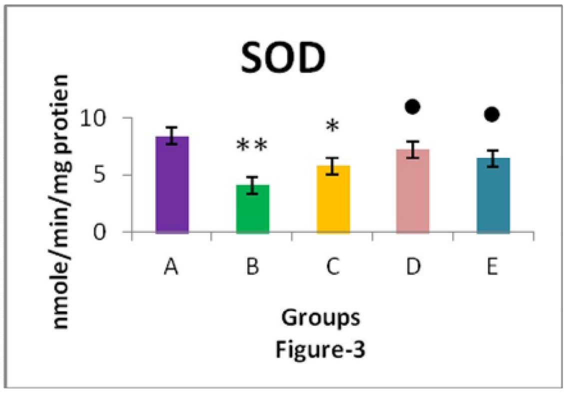

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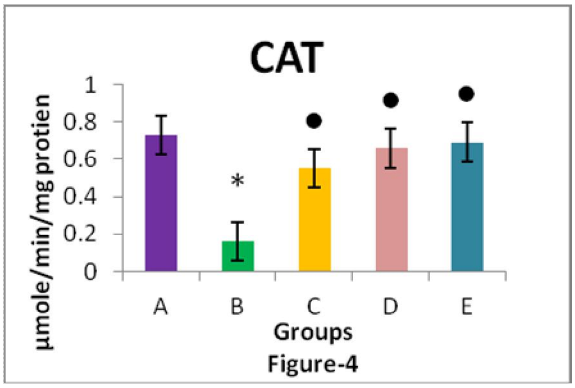

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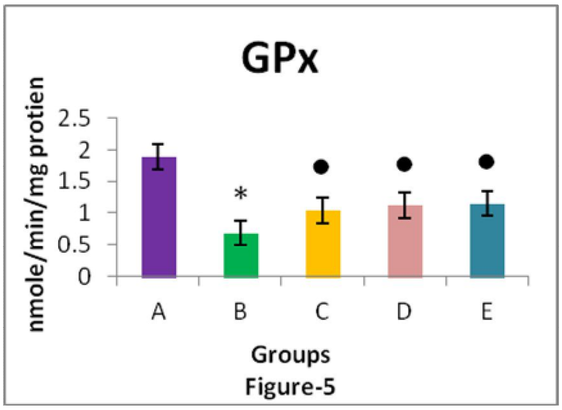

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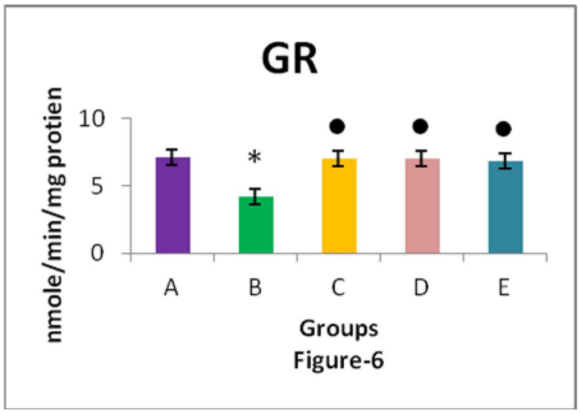

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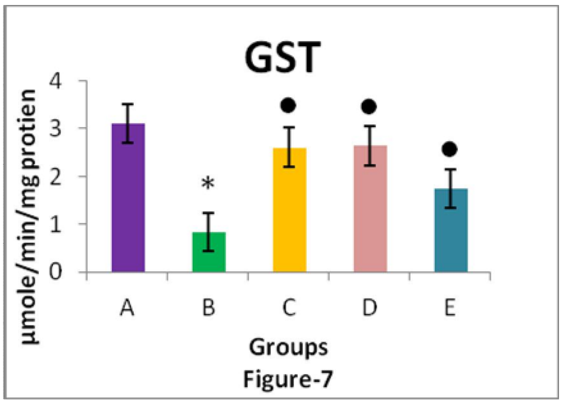

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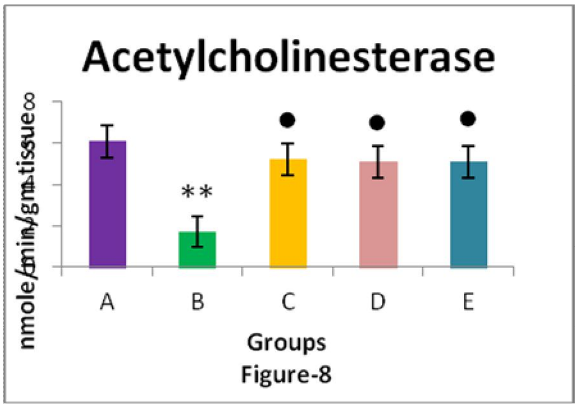

Figure-8

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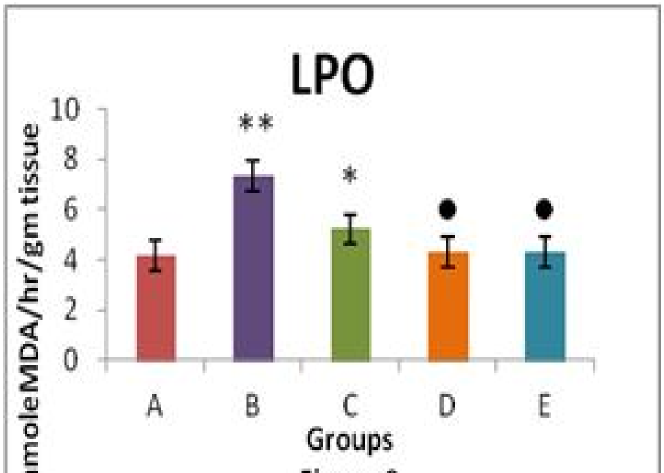
Each bar expressed as Mean ± SEM for 6 rats each.

**=P<0.01, *= P<0.05, ●=P>0.05 as compared with control value. Group A-Control, Group B- Exposure, Group C-Post-treatment, Group D-Pre-treatment, Group E- Combination Group.

Figure 1-8: Effects of ginger on Lipid peroxidation, Non-enzymatic antioxidants, enzymatic antioxidants and acetylcholinesterase activity in the brain of Wistar rats exposed to Cypermethrin.

GSH level was found to be decreased significantly (p<0.01) in group B (61.201%) and significantly (p<0.05) in group C (41.72%) as compared to group A. On the other hand, it was observed that down regulation of GSH was upregulated by ginger. A non-significant (p>0.05) reduction in group D (18.50%) and group E (2.27%) was reported as compared to group A (Fig.2). SOD activity was significantly (p<0.01) decreased in group B(51.44%) and significantly (p<0.05) in group C (31.22%) as compared to group A. On the other hand, the activity was non-significantly (p>0.05) decreased in group D (14.21%) and group E (23.36%) as compared to group A (Fig.3). Figure 4 showed a significant (p<0.05) decrease in CAT activity in group B (78.00%), exposed to cypermethrin as compared to group A. On the contrary, a non-significant (p>0.05) reduction was observed in group C (24.72%), group D (10.10%) and group E (5.45%) when compared with group A. GPx activity was found to be significantly (p< 0.05) decreased in group B (63.91%), as compared to group A. There was a non - significant (p>0.05) decrease in group C (45.21%), group D (40.78%) and group E (39.30%) were observed when compared with group A. Cypermethrin significantly (p<0.05) decreased GR activity in group B (41.69%) in the brain of Wistar rat as compared to group A. A non-significant (p>0.05) decrease was observed (p>0.05) in group C (1.98%), group D (1.80%) and group E (4.66%) respectively. GST activity showed significant (p< 0.05) decrease in group B (73.12%) in the brain of Wistar rats as compared to group A. A non-significant (p>0.05) decrease was observed in group C (16.13%), group D (15.17%) and group E (44.03 %) as compared to group-A. The activity of acetylcholinesterase significantly (p< 0.01) decreased in group B (1.72%). However, a non-significant (p>0.05) decrease was observed in group C (5.22%), group D (5.10%) and group E (5.09 %) as compared with group A.



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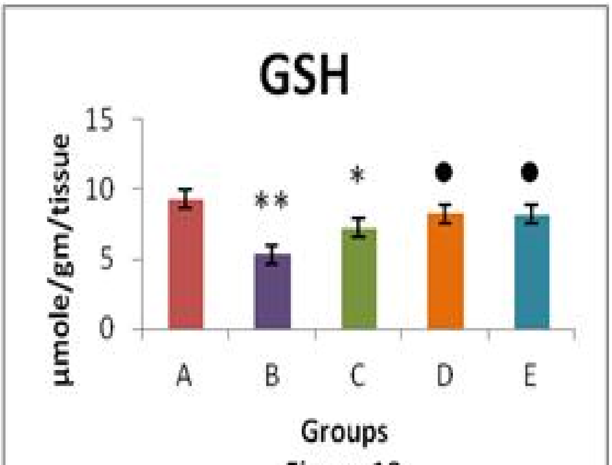

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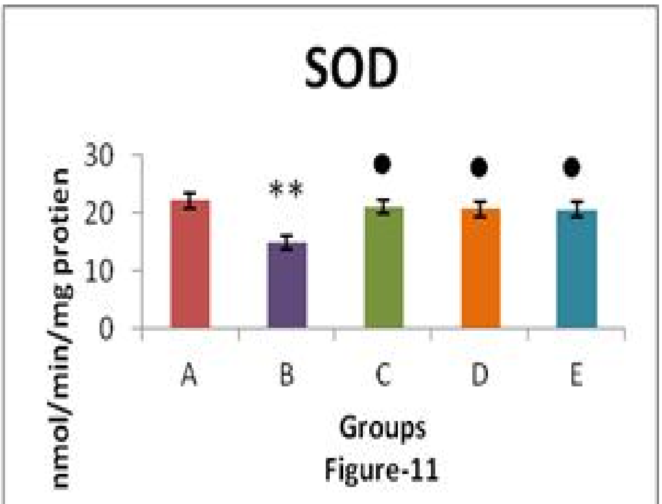

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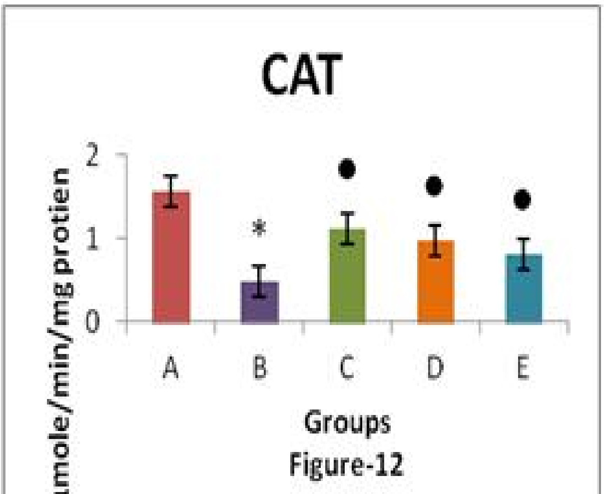

Figure-12

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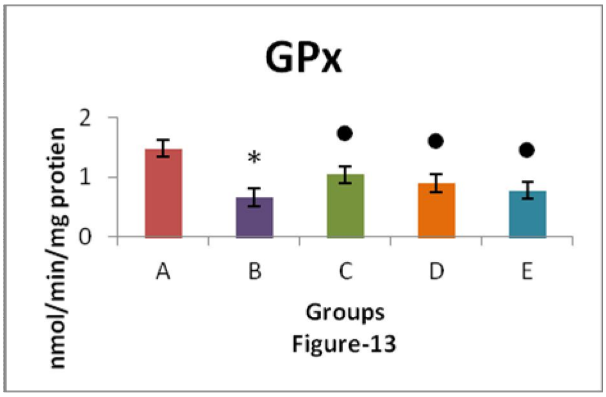

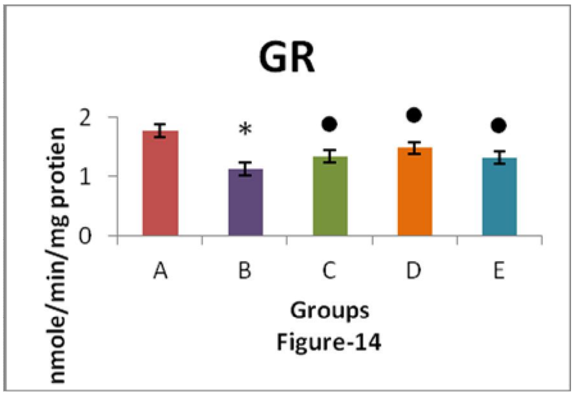

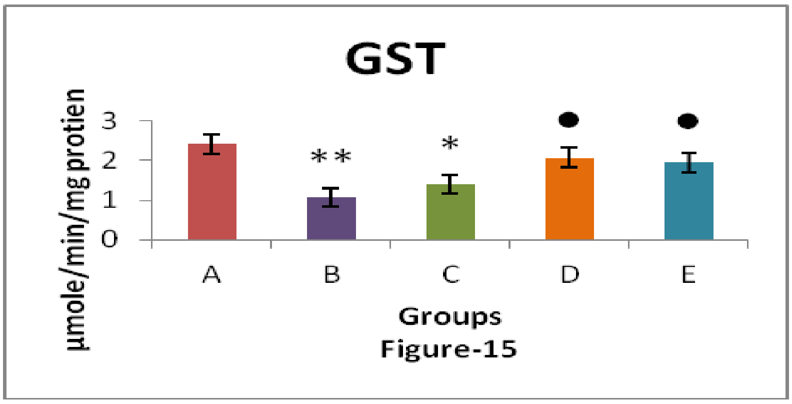

Each bar expressed as Mean ± SEM for 6 rats each.

**=P<0.01, *= P<0.05, ●=P>0.05 as compared with control value. Group A-Control, Group B- Exposure, Group C-Post-treatment, Group D-Pre-treatment, Group E- Combination Group.

Figure 9-15: Effects of ginger on Lipid peroxidation, Non-enzymatic antioxidants, enzymatic antioxidants and acetylcholinesterase activity in the serum of Wistar rats exposed to Cypermethrin.

In the serum, level of LPO was significantly (p<0.01) increased in group B(76.27%) and significantly (p<0.05) decreased in group C (25.40%) as compared to group A. On the other hand, non-significant (p>0.05) increase was observed in group D (3.84%) and group E (3.12%) when compared with group A (Fig.9). Figure 10 depicts the level of GSH in serum of control and experimental animals. A significant (p<0.01) decline in group B (42.60%) and significant (p<0.05) in group C (16.78%) was reported as compared to group A. However, non-significant (p>0.05) decrease was observed in group D (11.22%) and group E (11.39%) when compared to group A. SOD activity was significantly (p< 0.01) decreased in group B (32.76%) as compared to group A. There was a non-significant (p>0.05) decrease in group C (4.92%), group D (6.76%) and group E (6.95 %) were observed when compared with group A (Fig.11). In the present investigations, CAT activity significantly (p<0.05) decreased in group B (68.11%) in the serum of Wistar rat as compared to group A. On the contrary, a non-significant (p>0.05) decrease was seen in group C (28.82%), group D (37.53%) and group E (47.95%) as compared with group A (Fig.12). Figure 13 showed a significant (p<0.05) decrease in GPx activity in group B (55.39%) rat serum as compared to group A. On the other hand, non-significant (p>0.05) decrease was observed in group C (29.85%), group D (39.55%) and group E (47.64%) when compared with group A. GR activity was significantly (p< 0.05) decreased in group B (36.23%) as compared to group A. On the other hand there was non-significant (p>0.05) decrease in group C (24.54%),group D (16.36%) and group E (26.07%) animals when compared with group A animals (Fig.14). The activity of GST was found to be significantly (p<0.01) increased in group B(55.93%) and significantly (p<0.05) in group C (42.08%) as compared to group A. However, non-significant (p>0.05) decrease was observed in group D (14.51%) and group E (19.55%) when compared to group A (Fig.15).

DISCUSSION

Brain is considered highly vulnerable to oxidative stress than other organ of the body as it consumes high amount of oxygen, contains high amounts of PUFA and low level of antioxidative enzymes. Lipid peroxidation refers to the oxidative degradation of lipids. It is the process whereby free radicals "steal" electrons from the lipid in cell membranes, results cell rupture. Lipid peroxidation is a chain reaction providing a continuous supply of free radicals that initiate further peroxidation. It is a branching chain reaction with

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potentially devastating effects. The most notable initiators in living cells are reactive oxygen species (ROS), such as OH· and H_2O_2, which combines with a hydrogen atom to make water and a fatty acid radical. In the present study, LPO level increased after exposure (cypermethrin) as compared Control Group. The increased in LPO level may be due increase in ROS. The increased level and generation of ROS may reduce cell viability or may be inhibition of antioxidant molecules and antioxidant enzymes which is supported by similar findings that lindane reduces antioxidant molecules and antioxidant enzymes (Samanta and Chainy, 2002; Sharma and singh, 2010). The increased level of LPO has also been reported by (Sahoo *et al*., 2000; Mogda *et al*., 2009) in rat brain exposed to pesticide lindane and profenofos respectively. LPO level was elevated in the studies conducted by (Maldenovic *et al*., 2010; Bist *et al*., 2010) in brain of rats and mice exposed to pesticide.

Glutathione (GSH) is a tri-peptide that contains an unusual peptide linkage between the amine group of cysteine (which is attached by normal peptide linkage to a glycine) and the carboxyl group of the glutamate side-chain. It is an antioxidant, preventing damage to important cellular components caused by reactive oxygen species such as free radicals and peroxides (Pompella *et al.*, 2003). GSH plays an important role in the detoxification and metabolism as a cofactor or a substrate for enzymes GPx and GST. The regulation of GSH/GSSG ratio is an important function for both enzymes and it is very high in detoxification organs such as liver, kidney, intestines, which sustains also the integrity of the cell membranes against peroxide effects (Al-Farra *et al.*, 1997). In the present study, GSH level decreased after exposure (cypermethrin) as compared with Control Group. The decrease in GSH level may be due increased utilization of GSH for metabolism of lipid hydroperoxides by GPx or interaction of GSH with the free radicals. Similar findings was also drawn in the earlier report by (Flohe, 1982 and Porting *et al.*, 1979). This result consistent with previous investigations on Ops like Profenofos in rat brain (Sahoo *et al*., 2000) and in mice brain (Bano and Bhatt, 2007).

The enzymatic antioxidant defense system mechanism contains various mechanism contains various forms of SOD, CAT, GPx, GR and GST.

Superoxide dismutases are enzyme that catalyse the dismutation of superoxide into the oxygen and hydrogen peroxide. Superoxide is one of the main reactive oxygen species in the cell. Super oxide dismutase (SOD) serves a key antioxidant role. They are an important antioxidant defense in nearly all cells exposed to oxygen.

$$2O_2^{\bullet-} + 2H^+ \longrightarrow H_2O_2 + O_2$$

SOD is the main enzymatic defense against the superoxide anion. Also it is the major antioxidative enzyme of the brain. In the present study, Superoxide Dismutase level decreased after exposure (cypermethrin) as compared with Control Group. The decrease in SOD level may be due to as a result of imbalance between oxidants and antioxidants level in favour of the oxidants. In the support of present findings (Otitoju *et al.*, 2008) also reported in brain of rats when fed with diet containing permethrin. Our result is supported by study on dichlorvos in rat blood by (Yarsan and Ciken, 2006) in rat brain (Sahoo *et al*., 2000).

Catalase is a common enzyme found in nearly all living organisms that are exposed to oxygen, where it catalyzes the decomposition of hydrogen peroxide to water and oxygen (Chelikani *et al.*,2004). Catalase is a tetramer of four polypeptide chains, each over 500 amino acids long. It contains four porphyrin heme (iron) groups that allow the enzyme to react with the hydrogen peroxide. Catalyses of many organisms are mainly heme-containing enzymes (Aebi *et al.*,1974).

$$2H_2O_2 \longrightarrow O_2 + 2H_2O$$

In the present study, Catalase level decreased after exposure (cypermethrin) as compared with Control Group. The decrease in Catalase level may be due to increase in the lipid peroxidation product, malondialdehyde which can form cross links, thereby inactivating several membrane bound enzymes (Kikugawa *et al.*, 1984; Pfafferott *et al.*, 1982). The antioxidant enzymes, SOD and CAT, widely distributed in all cells, are present in high amounts in erythrocytes (Speranza *et al.*, 1993). SOD and CAT activities significantly decreased in the erythrocyte of rats respectively that were treated with CPF.

Glutathione Peroxidase is the general name of an enzyme family with Peroxidase activity whose main biological role is to protect the organism from oxidative damage. The biochemical function of GPx is to reduce lipid hydro peroxides to their corresponding alcohols and to reduce free H_2O_2 to water (Khan *et al.*, 2010). GPx provides a second line of defense against peroxides before they can propagate in chain reaction, damaging membranes and other cell components. The selenium-containing enzyme GPx will also act on reduced glutathione and H_2O_2 to produce oxidized glutathione (GSSH) and H_2O. In the present study, GPx level decreased after exposure (cypermethrin) as compared with Control Group. The decrease in GPx level may be due which may be due to the depleted level of GSH. Similar findings was reported in Wistar rats exposed to

Dichlorvos and lindane (Sharma and Singh, 2012). GPx is an important GSH using enzyme and plays an important role in maintaining GSH homeostasis and tissue detoxification. Reduced GPx level might be due to the depleted level of GSH because GPx uses GSH as a substrate (Sultana *et al.,* 2007).

GSTs are present in eukaryotes and in prokaryotes, where they catalyze a variety of reactions and accept endogenous and xenobiotics substrates (Allocati *et al.,* 2009). GSTs may also bind toxins and function as transport proteins. GST is considered a biomarker due its change by exposure to xenobiotics; furthermore, it is a phase II enzyme that conjugates and detoxifies metabolites formed by phase I enzymes of the cytochrome P_{450} mono-oxygenase system. GST level decreased after exposure (cypermethrin) as compared with Control Group. The decrease in GST level may be due activity in the present study may be due to the fact that GSH through a detoxification reaction and/or that GST catalyzes this reaction (Ranjbar *et al.*). Activities of many enzymes were reported to be inhibited by xenobiotics in different tissue organs (Alsahhaf *et al.,* 2006; El-Demerdash *et al.,* 2004).

Glutathione reductase is a key enzyme of the antioxidative system that protects cells against free radicals. GR is involved in the defense mechanism of the cell and protects it from the harmful effects of endogenous and exogenous hydroperoxides (Ulusu *et al.,* 2000).Alterations in the activities of antioxidant enzymes GR, glutathione Peroxidase (GPx), glutathione-S-transferase (GST). A decrease in GR activity is already reported in rat brain,(Verma *et al.*,2003) and tests exposed to methoxychlor (Latchoumycandane *et al*., 2002).A decrease in activities of antioxidant enzymes was not specific to any sex.

Acetyl cholinesterase, also known as AChE, is an enzyme that degrades (through its hydrolytic activity) the neurotransmitter acetylcholine, producing choline and acetate group. AChE is a key component of cholinergic brain synapses and neuromuscular junctions. The major biological role of this enzyme is the termination of impulse transmission by rapid hydrolysis of the cationic neurotransmitter acetylcholine. Therefore, the observation of present study of cypermethrin reduced neurotoxicity was decreased in the brain of experimental animals; it was accordance with the earlier findings, where administration of pesticide was observed. Same results were shown by (C.S Yadav *et al.,* 2010).

In pre-treatment and post-treatment group we observed the activity of ginger against the cypermethrin exposure. The pre-treatment and combination group shows better results than post-treatment group, means if our cells would be already treated with antioxidant, we will be healthier than the comparison to after treatment of any disturbance.

The present findings suggest that cypermethrin induced changes in brain and serum may be mediated through free radicals formation, reduced antioxidant defense mechanism which can be significantly attenuated by the administration of exogenous antioxidants. The exogenous supplement of ginger could delay xenobiotic induced biochemical changes in the present study.

CONCLUSIONS

Our results strongly suggest that exposure to the pesticide cypermethrin have adverse effects on lipid per oxidation, non-enzymatic antioxidant, enzymatic antioxidants, Acetylthiocholine esterase activity and histology of brain in female Wistar rats. Treatment with *ginger* helped in normalizing most of the parameters indicating protective effect of this plant on neurotoxicity induced by cypermethrin. Our study suggested that *Ginger rhizome* possess neuroprotective activity and the plant may be explored further for isolation of active compound(s).

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PRODUCTION OF DEXTRAN FROM DEXTRANSUCRASE PRODUCING Leuconostoc sp. AND ITS APPLICATION IN FORMATION OF DEXTRAN COATED IRON-OXIDE NANOPARTICLES

Kirandeep Kaur[1] and Jaspreet Singh[2]
Assistant Professor[1], Department of Agriculture, Punjab College of Commerce and Agriculture, Chunni kalan
Reasearch Scholar[2], Management Marketing, Punjabi University, Patiala

ABSTRACT
Dextrans are water-soluble polymers that have gained an industrial importance over the past few years. The Leuconostoc sp. converts sucrose into dextran with the help of dextransucrase. The study was planned to isolate dextransucrase producing bacteria from fruits, vegetables and soil samples. All the isolates were Gram +ve and were found to belong to Leuconostoc sp. All the isolates were screened for dextransucrase production. Maximum dextransucrase production was observed at temperature 250C, pH 7.5 and sucrose concentration of 10%. The optimum time for incubation between enzyme and sucrose was found to be 80 mins. The enzyme was immobilized in calcium alginate beads. Then the production of dextran was done from free cells and immobilized dextransucrase. The yield of dextran from immobilized enzyme was higher than free cells. This dextran was then used to produce dextran coated iron oxide nanoparticles. The yield of synthesis of nanoparticles was 71.5 g and dextran content was 10.5. Magnetic iron oxide nanoparticles (MION) are the subject of many current researches in particular because of their possible application in several areas such as biomedical applications and diagnostics.

Keywords: Dextran, Dextransucrase, Leuconostoc, MION

INTRODUCTION

Dextran, (C6H10O5) n is a polysaccharide consisting of glucose monomers linked mainly (95%) by α (1–6) bonds. (Moosavi-Nasab et al., 2010).

Glycosyl Transferases are enzymes that synthesize glucans from sucrose. According to the chemical nature of the linkages between glucosyl units in the synthesized products, these enzymes are known to be dextransucrases (EC 2.4.1.5) synthesizing dextran with α (1, 6) linkages (Bivolarski et al., 2012). Dextransucrase is an extracellular enzyme belonging to glycoside hydrolase family 70, is of immense industrial importance owing to its dextran and prebiotic oligosaccharide synthesizing properties (Patel et al., 2011). It has been reported that the dextransucrase of L. mesenteroides is also expressed in the presence of carbon sources other than sucrose, but at very low levels (Moosavi-Nasab et al., 2009). This enzyme cleaves its substrate sucrose to release glucose and fructose. The free glucosyl moieties are polymerized to form a homo polysaccharide dextran (Patel et al., 2011).

Dextran is a suitable polymer to be developed as hydrogels, which are becoming increasingly important in biomedical applications, such as carriers for drug delivery and scaffolds for cell and tissue culture (Shawki et al., 2010). Dextrans can have a comb-like, laminated or ramified structure (Maina, 2012).

The genus Leuconostoc is mostly associated with the sliminess of sugar syrup which can occur during sugar production. Dextrans have found very wide application in laboratory work because they are particularly free from positive interactions with proteins. (Morris and Harding,

It finds various other industrial applications in food, pharmaceutical and chemical industries as adjuvant, emulsifier, carrier and stabilizer. Cross linked dextran known as sephadex are widely used for separation and purification of various products like protein in research and industry (Ul-Qader et al., 2006). Dextran sulfate can be used as a substitute for heparin (Lacaze et al., 2007). Dextran derivatives include cross- linked dextrans used in the production of sephadex columns and bioactive dextran derivatives such as dextran sulfates and phosphates (Maina, 2012). For applications in numerous fields such as nucleating agent, nanoreactors, drug delivery etc., nanoparticles have attracted a rapidly growing interest.

Iron oxide nanoparticles are generally coated to reduce aggregation and cytotoxicity. Dextran is commonly used to coat nanoparticles. In solution, dextran interacts with the metal nanoparticle surface to form 20 to 150 nm coated aggregates. Dextran coated iron oxide nanoparticles have been used for many purposes, including as MRI contrast agents, to investigate nanoparticle accumulation and cellular uptake in malignant neoplasms in vivo, and to transform nanoparticles into active, targeted probes (Yu et al., 2012). The nano size (<100nm) of these particles enables conjugation with many molecular markers, which can interact at molecular and cellular levels, thereby offering an ever increasing range of disease targets for molecular imaging (Lodhia et al., 2010).

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Dextran has excellent physiochemical features such as high aqueous solubility, numerous hydroxyl groups for conjugation and availability in a wide range of molecular weights. Dextran has been used in clinical practice due to its low toxicity (Vyas et al., 2009).

The isolation and screening of microorganism from natural sources has always been the most powerful means for obtaining useful and genetically stable strain for industrially important products.

MATERIAL AND METHODS

1. Sample

Thirty samples from different sources such as soil, vegetables and fruits were collected in sterile bags and immediately transferred to Biotechnology Laboratory of Shaheed Udham Singh College of Research and Technology, Tangori to isolate dextransucrase for further processing. 10 g of each sample was suspended into liquid medium containing sucrose (100 g/l), yeast extract (2.5 g/l), K2HPO4 (5 g/l), (NH4)2SO4 (0.2 g/l), MgSO4.7H2O (0.2 g/l) and NaCl (0.6 g/l) and incubated for 48 h at 250C. The media showing microbial growth after incubation were subcultured on solidified above mentioned media containing 1.5 % agar. Isolated colonies obtained thereafter were purified and stored on sucrose agar slants for further processing. 1 % sodium azide was autoclaved and added separately to the medium for selective isolation of Leuconostoc sp.

Characterization of isolates The bacterial isolates were examined for colony morphology, cell shape as per standard procedures. A series of biochemical tests were performed for characterization of bacterial strain.

Production of dextransucrase

Production of dextransucrase enzyme by each isolate was done by the method as suggested by Ul-Qader (2005). Each isolate was inoculated into 10 ml sucrose broth. The media was inoculated with culture and incubated at 250C for 24 h. After 24 h inoculated culture was then transferred to 90 ml sterile sucrose broth medium and incubated again for 18 hours at 260C. This 100 ml inoculum was then transferred to 900 ml sucrose broth medium and again incubated for 24 h. The broth was taken out after different time intervals i.e. 24 h, 48 h, and 72 h to check bacterial growth, protein count and presence of dextransucrase enzyme. Cells were harvested by centrifugation. The culture broth after 24 hours of fermentation at 250C was centrifuged at 15000 r p m for 15 mins at 00C. The clear supernatant was checked for the presence of dextransucrase enzyme.

5. SCREENING OF ISOLATES FOR DEXTRANSUCRASE PRODUCTION

1) Determination of bacterial growth

The bacterial growth was determined by recording the absorbance for samples at 600 nm at intervals of 24, 48 and 72 hours.

2) Protein estimation

The samples were centrifuged at 5000 rpm for 30 mins to obtain the supernatant and was used for determining amount of reducing sugars in order to isolate the best growing dextransucrase producing microorganisms. The protein concentration of the cell free extract and purified enzyme was estimated by the method of Lowry et al, (1951). First the proteins are pre-treated with copper ion in alkali solution, and then the aromatic amino acids in the treated sample reduce the phosphomolybdatephosphotungstic acid present in the folin reagent. The end product of this reaction has a blue colour (Lowry et al., 1951). Commercially available Folin-Ciocalteau reagent diluted with distilled water in the ratio of 1:1 just before use. The stock solution of BSA (500 µg/ml) was prepared and series of dilutions were set up along with blank and unknown protein sample. The final volume in all test tubes was made 1 ml. To 1 ml of sample, 5.5 ml of solution C was added and tubes were incubated for 10 mins at room temperature. 0.5 ml Folin's reagent was added to each tube, mixed well and incubated in the dark for 30 mins. The absorbance of the samples was recorded at 660 nm.

3) Estimation of dextransucrase

The assay of dextransucrase was done by the method as suggested by Patel et al. (2011). was conducted in 1 ml of a reaction mixture containing 20 mM sodium acetate buffer (pH=5.4), 5 % sucrose and 20 m of cell-free supernatant as the enzyme source. The reaction mixture was incubated at 30 °C for 15 min. The enzyme activity was analyzed by estimating the reducing sugar following the DNS method.

Concentration of reducing sugars in the supernatant was determined using the dinitrosalicylic acid (DNS) method. Dextransucrase hydrolyses starch for production of reducing sugars. For determining the amount of reducing sugars 1.0 ml of supernatant was mixed with 1.0 ml DNS reagent and two drops of NaOH (0.1M) and solution was boiled for 5 minutes to develop red brown colour and then cooled. 10 ml of distilled water was added and mixed properly. The absorbance of solution was recorded with UV spectrophotometer at 540 nm. The enzyme was assayed by DNS method after interval of 24 h, 48 h, and 72 h.

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7. IMMOBILIZATION OF DEXTRANSUCRASE IN CALCIUM ALGINATE BEADS

Isolates showing higher enzyme production were used for immobilization. The production of dextran was compared by free and immobilized cells. Alginate immobilization is the only method giving rise to high immobilization yields (up to 90%). Alginate immobilized dextransucrase can only be used for the production of oligosaccharides due to the fact that high molecular weight of dextran. 2 ml of enzyme sample was added to 3% calcium alginate gel containing agar (1-3%) and this solution was added drop wise through a syringe to 100 ml of 2% $CaCl_2$ solution prepared in calcium acetate buffer. After solidification, the mixture was cut into 1 mm^3 fragments and washed with acetate buffer (0.02 M, pH 5.4) to remove the unbound enzyme.

8. PRODUCTION OF DEXTRAN FROM FREE AND IMMOBILIZED DEXTRANSUCRASE

The medium used for the production of dextran was sucrose containing media suggested by (Qader, 2005). pH was adjusted to 7.5 before sterilization. The medium was autoclaved at 15 psi for 15 mins. The above sterile sucrose broth medium (900 ml) was inoculated with 100 ml of inoculum (free and immobilized dextransucrase reapectively) and incubated at 26°C for 18 hours. This culture medium became very viscous and pH of the medium dropped from 7.5 to 5.5 during the fermentation. The culture medium after 18 hours of incubation was precipitated by using chilled ethanol. In the first step, equal amount of ethanol was added and stirred well and centrifuged. The supernatant was decanted. In the second step, chilled ethanol was added with constant stirring and precipitates of dextran appeared. It was allowed to stand for 5–10 minutes and supernatant was again decanted. After standing 10 minutes chilled ethanol was added again and dextran was precipitated. The precipitated dextran was dried. In 5 g of dextran 100 ml cold water was added, 50 ml water was added step wise to make a paste of dextran in water. Dextran was precipitated with chilled ethanol. This cycle of redissolving, precipitation and washing was repeated three times.

Production of iron-oxide nanoparticles

According to Iconaru et al. (2012), MION were prepared by co-precipitation. Ferrous chloride tetrahydrate ($FeCl_2•4H_2O$) in 2M HCl and ferric chloride hexahydratate ($FeCl_3•6H_2O$) were mixed at 1000 C. The mixture was dropped into 200 ml of NaOH (2 mol/ l) solution under vigorous stirring for about 30 min. The precipitate of magnetite (black precipitate immediately formed) was oxidised by repeated treatment with HNO_3 (2 mol/l) and $FeNO_3$ (0.3 mol/l) solutions. The acidic precipitate was isolated by decantation on a magnet, separated by centrifugation (6000 rpm), then washed in acetone and dispersed in deionized water at pH=2.5. In a final step, the obtained product was mixed with dextran. Then the mixture was estimated for amount of reducing sugars and iron content.

1) Analysis of yield of synthesis

According to Tang et al, (2005), the yield in the synthesis of nanoparticles was calculated as follows:

Yield Z = Ws ÷Wt × 100 %

Dextran % in the nanoparticles Z = WD÷WS × 100%

Ws: the weight of resultant nanoparticles;

Wt: the total weight of the reagents during synthesis;

WD: the weight of dextran used in the synthesis.

Estimation of sugar content of nanoparticles

Concentration of reducing sugars in the nanoparticles was determined using the dinitrosalicylic acid (DNS) method.

Estimation of iron content

The iron content of the sample was determined by redox titration (Iconaru et al., 2012). 10 ml of MION sample was transferred to Erlenmeyer flask and 10 ml of 1 M H_2SO_4 to it. The burette was filled with $KMnO_4$ solution and upper meniscus was noted carefully. The nanoparticle sample was titrated with the permanganate solution till pink colour appeared. Similarly, the process was repeated with the standard iron solution.

Knowing the molarity of $KMnO_4$ solution and volume used, the molarity of iron solution was calculated as

Molarity (Fe) = 5 × molarity ($KMnO_4$) × volume of $KMnO_4$ used

Volume of iron sample used

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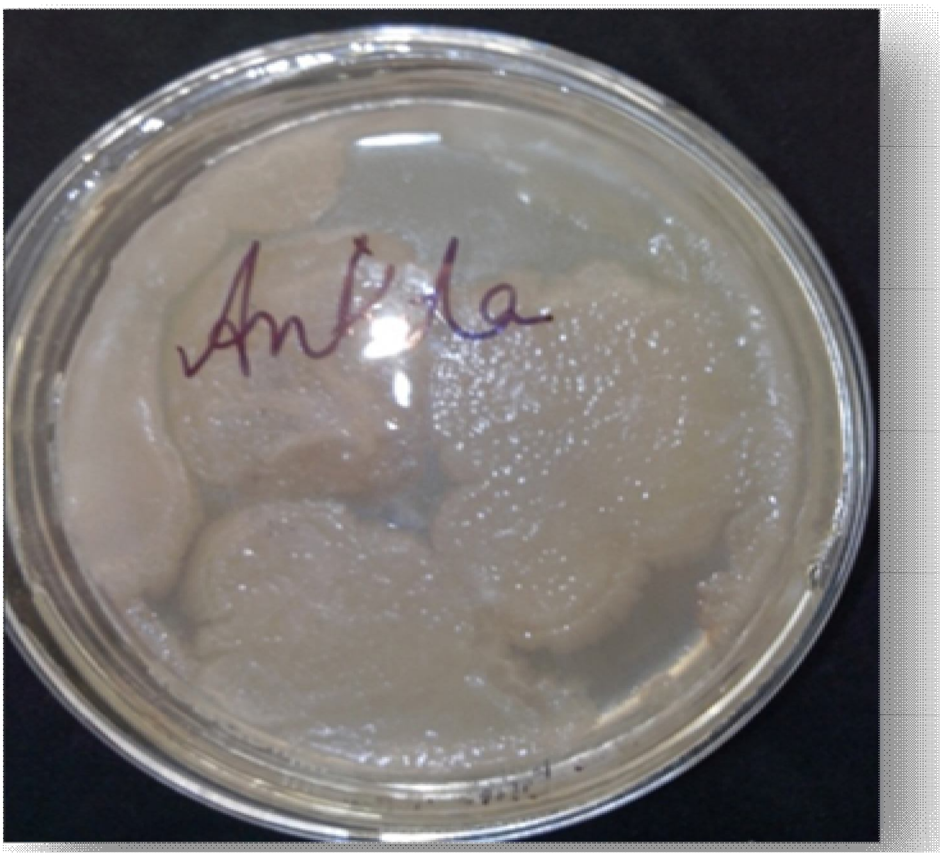
RESULT AND DISCUSSION

A total of 30 samples were processed of which 26 (90 %) isolates showing large slimy colonies were found as shown in Fig. 1. The bacterial colonies obtained were large, slimy and had irregular margins. The presence of slimy colonies as a result of bacterial colonies on the plates containing sucrose agar medium suggests the presence of dextran producing L. mesenteroides (Dimic, 2006). Bacterial colonies showing slimy appearance were selected and streaked on sucrose agar medium to purify the isolates as shown in Fig. 15. The purified isolates were grown on sucrose agar slants and preserved at 40C.



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Samples	Colony colour	Gram reaction	Motility test	Catalase test	Methyl red test	Voges proskauer test	Indole test	Citrate test	Probable identity
DEX 1	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 2	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 3	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 4	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 5	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 6	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 7	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 8	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 9	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 10	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 11	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 12	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 13	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 14	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 15	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 16	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 17	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 18	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 19	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 20	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 21	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 22	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 23	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 24	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 25	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc
DEX 26	White	+ ve	-ve	-ve	+ ve	-ve	-ve	+ ve	Leuconostoc

To obtain the best dextransucrase producing strains, all the isolates were screened for various parameters and these parameters studied at 24 h, 48 h, and 72 h of incubation. The isolate showing maximum dextransucrase production was used for immobilization and dextran production.

After 24 h of incubation period all the samples were studied for bacterial growth at absorbance 600nm. The isolates showed growth in the range of 1.11 to 1.745. The maximum growth was shown by DEX 12 with absorbance of 1.745. After 48 h of incubation, it was observed that the bacterial growth increased by three folds as compared to values of absorbance after 24 h as shown in Fig. 19. DEX 12 still being as the maximum growing bacterial species with maximum absorbance of 2.717 but it decreases after 72 h of incubation.

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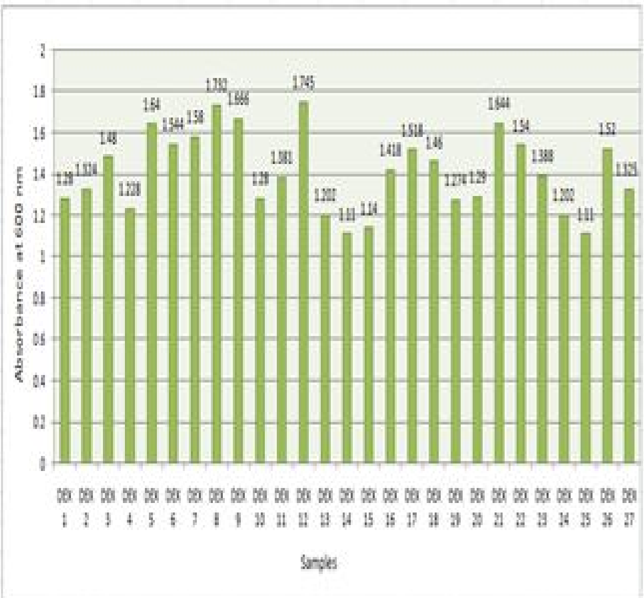
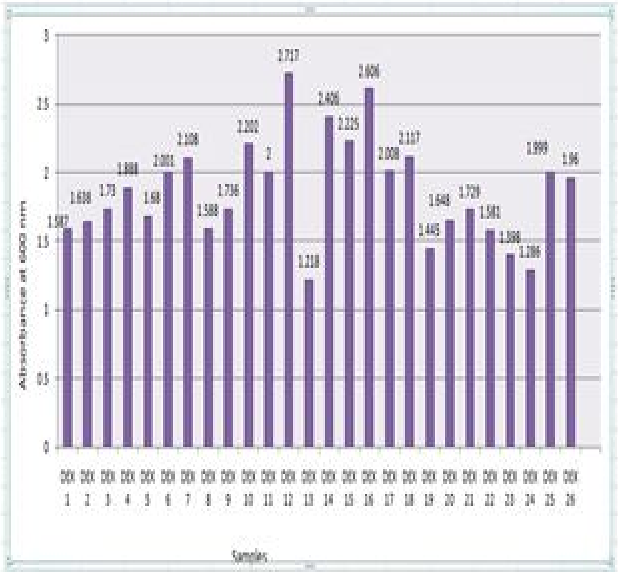
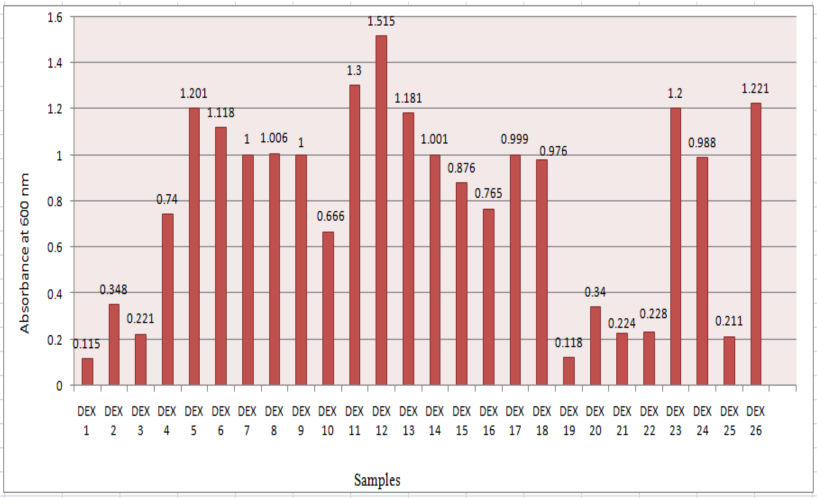




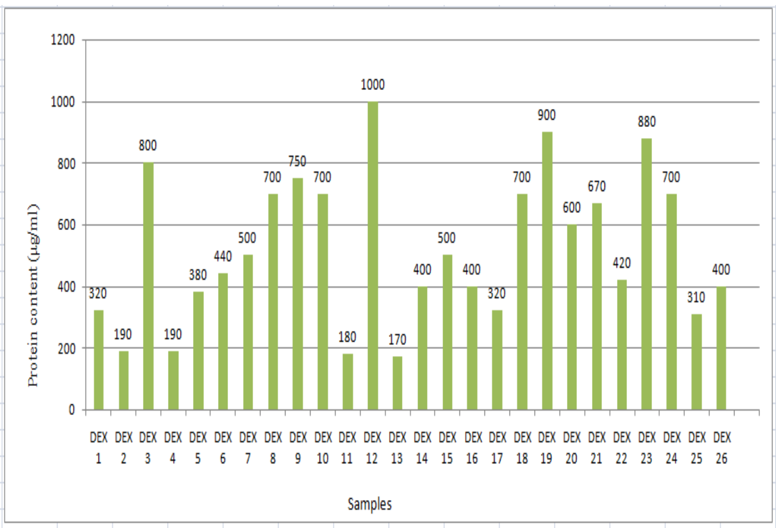
Bacterial Growth after 24 h



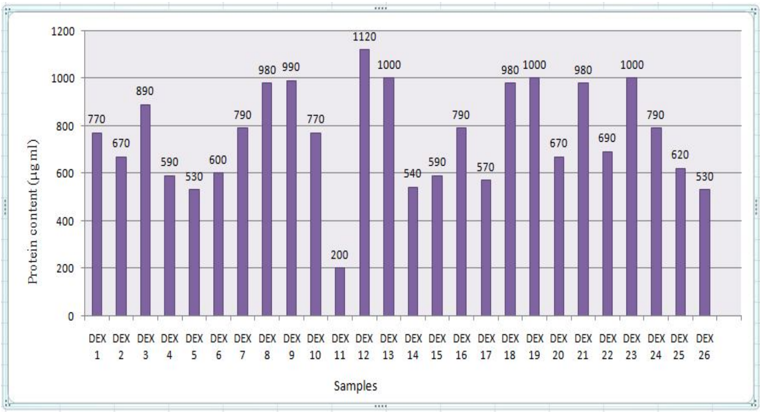
Bacterial Growth after 72 h

Protein Content Estimation

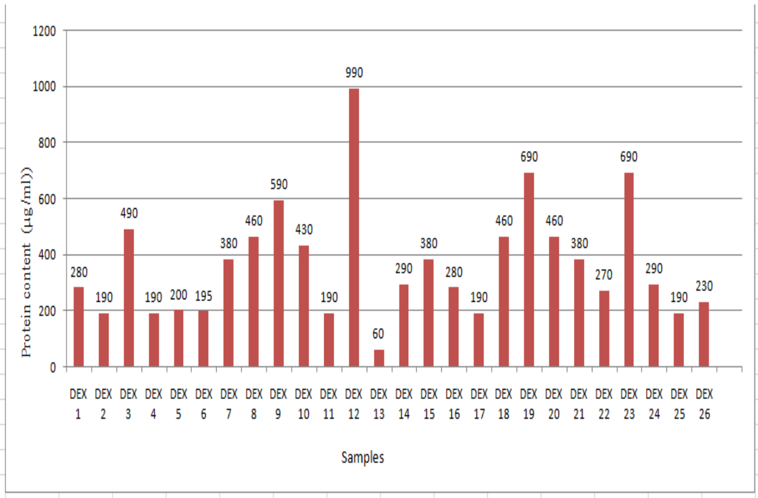
The protein content was calculated for all the samples after 24 h, 48 h, and 72 h. The maximum protein content was shown by DEX 12 which was 1000 µg /ml. After 72 h of incubation, the protein content for all the isolates was found to be less as compared to protein content after 24 and 48 h of incubation.



Bacterial Growth after 48 h



Protein content after 48 h



Protein content after 72 h

Production of dextransucrase

The production of enzyme started during cell growth and the first detectable enzyme activity appeared after 3 h of incubation. The enzyme production reached maximum after 18 h and remained high up to 24 h, thereafter the cell growth started to decline. After incubation for 24 h, the enzyme containing broth was separated from cell extract by centrifugation.

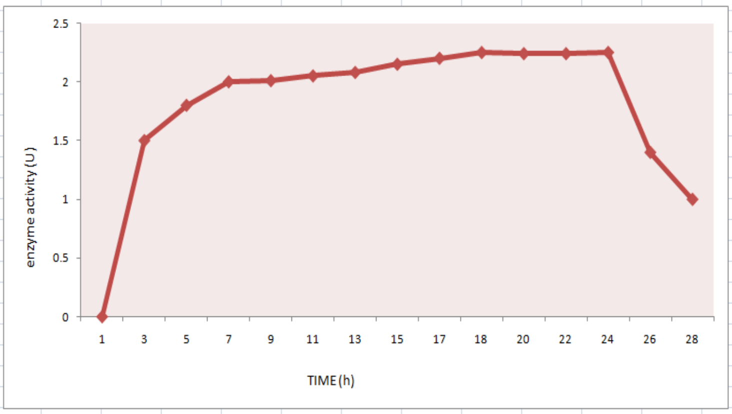


Fig: Production of dextransucrase at different time intervals

CONCLUSION

Dextran is a polysaccharide consisting of glucose monomers linked mainly (95%) by α (1–6) bonds. Dextran is produced by species of Leuconostoc, Streptococcus and Acetobacter. The bacterium is grown in a sucrose-rich media releasing enzyme, dextransucrase, which converts excess sucrose to dextran and fructose. The enzymes that synthesize dextran from sucrose are known by the generic term dextransucrase. The main applications for dextran are in the pharmaceutical and medical sectors. The low molecular weight dextran is used as a blood plasma substitute as solutions containing 6% of these dextrans have viscosity value similar to human blood plasma.

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Thirty samples of vegetables, fruits and soil were processed for the isolation of dextransucrase producing microbes viz. Leuconostoc species. Using sucrose agar, the isolates were characterized morphologically and biochemically. All isolates were screened for dextransucrase production by studying different parameters. The isolate showing highest enzyme activity was used for dextransucrase production. Production of dextran was done from free and immobilized dextransucrase. The dextran, thus, produced was used for the formation of dextran coated iron oxide nanoparticles.

The appearance of large, slimy colonies indicated the presence of dextransucrase producing bacteria. The isolates were found to be non motile cocci. The isolates were negative for catalase, VP and indole test and were positive for methyl red and Citrate test.

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