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CONTENTS

S.No	Titles	Page No.
1	New Woman in Quest of An Identity in Shobha <i>De's Second Thoughts</i> Jijoy I S	1
2	Neuro - Perspectives in Farmers Decision Architecture Prof. Bineeta Satpathy, Ms. Pritika Patri, Prof. Lipsa Mishra & Col Prof J Satpathy	6
3	Longing for Love in Shashi Deshpande's "My Beloved Charioteer" Dr. A. Kayalvizhi	32
4	A Gardener in Wasteland as a Protest Narrative: Reading Visual Politics and Aesthetics in Graphical Representation of Dalits Ms. R. Kalaierasi	36
5	Redesigning Social Change in 21st Century India Dr. Avkash Jadhav	44
6	Training at Young Age Plays a Crucial Role in Curbing Violence Against Women Rev. Fr. T. Amala Arockia Raj S.J, Dr. B. Rameeja, Y. Kalyani & Dr. S. Venkata Subbamma	51
7	Efficacy and Potentiality of Female Characters in Amish Tripathi's Shiva Trilogy Abhila V K & Dr. Subramania Pillai R	56

8	The Study of Self Cognizance: A Select Study of India Alka Srivastava Gaur & (Dr.) Gunjan Agarwal	60
9	Major Challenges and their Rectifications of Environmental Education among Graduate Students S. Jegan Christ & M.S. Sreeram	65
10	Task Based Language Learning; Teaching Methods and Paradigms R. Serabin Vetri	70
11	Indigenous Literature is a Powerful Tool for Exploring Environmental Justice Mrs. Shankareswari .A & Dr. S. Bhuvaneswari	72
12	Pedagogical Psychology: Concepts and Concerns in Learning English Binny Binoy & Dr. Subramania Pillai R.	77
13	Effects of Displacement in Pearl.S.Buck's <i>The Refugees</i> Dr. J. Mercy Vijetha	81
14	The Digital Revolution of Indigenous Activism: Reflections on Social Media and Networked Movements L. Nestricia Mary & Dr. A. Roselin Mary	84
15	Complexities in Ophthalmic - Based Business Decisions Col Prof. Dr. J Satpathy, Prof. Dr. Roza Jumabekova, Prof. Dr. D Chowdhury & Prof. Dr. Lipsa Misra	91

NEW WOMAN IN QUEST OF AN IDENTITY IN SHOBHA DE'S SECOND THOUGHTS

JIOY I S

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Abstract

The paper titled "New Woman in Quest of an Identity in Shobha De's Second Thoughts" traces De's perception on Feminism. Ever since antiquity, there has been women fighting to free their half of the total population of the world from male oppression. Feminism is neither a fad nor a logical extension of the Civil Rights movement. It is rather a protest against the legal, economic and social restrictions placed on the basic rights of women and has existed throughout history in all civilisations. Shobha De is one of the feminist writers of the modern era, whose work offers a bold and frank depiction of the fair sex and feminine attitude. Her novels can be termed as 'protest writing' as they raise awkward questions that a male-dominated Indian society finds difficult to answer. Though De claims to be a non-feminist Second Thoughts abounds in feminist elements. This paper traces how feminist elements abound in the novel despite De's objection to it.

Keywords: *Feminism, Shobha De, Second Thoughts*

Shobha De may rightly be described as a realistic writer portraying without any inhibition, the world of glamour in the rising middle class Indian milieu. Most of the women characters depicted by Shobha De are economically independent and socially uninhibited, and are conscious of their self-respect because they are competent professionals working shoulder to shoulder with their male counterparts. Her writings have always provoked reaction because of her capacity to expose the rawness of elite society but she defends herself by saying that it is important for her to present this vision of a world which very few people know about. Women in her world are enterprising, bold, innovative and ever ready to face challenges. She is frank enough to reveal the way girls think, fantasize and converse with each other about tabooed subjects when they are alone and discusses without prejudice the problems, desires and aspirations of career women. She says, "The women in my books are definitely not doormats. They are not willing to be kicked around" (8).

True to her belief, Shobha De merely introduces the readers to the inner lives of the elite woman of

Bombay. She shatters the myth that these women have a life full of happiness and contentment. On the contrary, she probes the psyche of her women characters to reveal the trauma, insecurity and agony that lies beneath the gloss and glitter. The psychological problems of women are the same, so far as human relationships are concerned, whether they belong to the upper strata or the lower class of society, whether they are economically dependent or independent.

Shobha De, the novelist fought spiritedly against all the traditional beliefs and moral values. In her *Second Thoughts*, Shobha De attempts to place women as the central figure and presents the predicament of urban modern women with extraordinary ability and critical acumen. A woman, like man, is born to be free but in reality she is controlled by many man-made norms and factors, victimizing and subjugating her in many ways. This restricts her essential free spirit and makes her ready for a rebellion. Maya of *Second Thoughts* is so handicapped by domestic tension that she is incapable of reaching out to a wider world due to

domestic hurdles. The dark domestic atmosphere suffocates her. Maya, pretty and young, is eager to escape her dull and middle class home in Calcutta and plunge into the whirl of Bombay, where she moves after her marriage. Ranjan, handsome, hard-driving and ambitious, has all the glamour of an American University degree and a wealthy family background. But soon she finds herself trapped and stifled by the confines of an arranged marriage to a man who, she discovers is rigidly, conservative and indifferent to her desires and does not respect her feelings. She begins to experience utter loneliness. She then strikes a friendship with Nikhil, her charming college going neighbour and the stage is set for an explosive tale of love, betrayal and the paths not taken.

Maya, whose name itself symbolically presents a fascination, is not a typical traditional Indian woman. She is a very attractive young girl, trained as a textile designer and interested to pursue her career in future. Ranjan is equally handsome and ambitious. He has "thick dark hair, the intense large eyes," "strong chest and shoulders" (51). In their first arranged meeting, Maya and Ranjan liked each other. Mrs. Malik, Ranjan's mother, also realises that they have made the right choice in Maya.

Well, but in the case of Maya and Ranjan, the well-planned and chosen match is in fact a mismatch. Maya is a romantic girl, wants romance and excitement in her life. When she met Ranjan, she was more excited at the prospect of settling in Bombay—the city of her dreams. Ranjan has a certain mental picture of a wife. His responsibility towards Maya is nothing beyond providing her financial support, a decent house and four square meals a day. He is completely indifferent to Maya's emotional desires. And it is this detached attitude of Ranjan that hurts Maya immensely. Ranjan constantly reminds Maya of her duties as a married woman. Soon Maya realizes that her life has a bitter taste. There is no any choice to get individual's

dream-world in real life as everyone is bound with life's duty. A person has to make sacrifice of her /his dream to survive her/his existence. So, here the matter is about "existence", not an "identity." Maya wants to make her free "identity," but succeeds to make her "existence" only. Maya awakes from her dreams just after her marriage.

Maya is also a victim of the age-old Indian tradition. It is the great tragedy of an Indian girl who has been trained and treated as someone else's property from the very beginning at her parental home. Maya experienced the same. It is the paradox of living in a hypocritical society where a woman is worshipped like a Goddess in the form of *Shakti*, but also treated as unwanted, and an inferior being. A girl is considered a liability in her parental home. As the girl child attains puberty, she becomes sexually vulnerable and requires protection.

Shobha De's *Second Thoughts* is a successful attempt to highlight the plight of the New Woman who is caught in the maze of domestic chores which challenge her "individuality", her "self-esteem." Ranjan opposes the proposal of Maya's taking up a career as textile designer on the grounds that he is "earning well enough to support a family" (8). "I believe it is a woman's duty to run a good home" (11), he declares.

Maya is first and foremost a human being than a woman. Indian society needs to have second thoughts that if it does not give up its hollowness and hypocrisy, a number of women like Maya will cross the sacred threshold. Ranjan is the best example of a traditional upbringing, a man entirely devoted to his mother and there is nothing in him to give Maya. But society never puts trial on a man whether he is right or wrong, whether he is Ranjan or Nikhil. Woman is its favorite subject. So, Indian Society needs to have second thoughts about women and change its double-standards, attitudes towards woman. However, marriage is one of the most serious institutes of society, and both man as well as

woman's contribution is important in it. No one is superior or inferior. Both are equal. Both should complement each other. If a woman gets her rightful place, she need not have second thoughts.

Shobha De has dared to explore the hidden realities of the cosmopolitan life. She challenges the age-old traditions in her works. In fact, her popularity as a writer chiefly rests on her intimate understanding of the psyche of woman and her problems. Her treatment of the contemporary urban woman's position and the challenges she faces is significant. Traditionally man has been regarded as a protector, a master and a guardian of woman. The very relationship between man and woman, evolved through centuries is based on a set pattern, it means man to rule and woman to obey, man, the master, and woman, the slave, man, the god and woman, the devout, man for the field and woman for the hearth. This centuries old mutely followed relationship has now been challenged by the modern educated woman. She has realized that now she is not as helpless and dependent as a child. Instead, she is as much competent as man. There is a tremendous change in her psyche. The women characters in Shobha De's novels evince this transformation because they are no more passive and submissive protagonists accepting all the burden of the family mutely. They have realized their strength; so, despite facing dire problems, they overcome them on their own.

In *Second Thoughts* we find Maya dependent on her husband. The man-woman relation is presented as almost hollow, ineffectual and compromising, resulting in the shattered man-woman image. But even then, the woman needs the companionship of a man in order to satisfy her natural urge. So, De's daring women establish extra-marital relations in order to escape from their rigid and orthodox marital frame work. These women are not hesitant in using sex as calculated strategy to gain social and financial benefits. They easily outplay their male counterparts

with a better control in their attitude, desire and expression.

Shobha De's women struggle to find certain ways in order to make their protest effective, their presence felt, and to save them from complete surrender and silence. In spite of this, these women fail to win a respectable position in society. But their failure is not due to some inner flaw. Instead, it is the result of the superiority claimed by men and mind set of the people due to the prevalence of patriarchy.

De is a feminist novelist with a serious purpose. Her novels are not only thrillers or entertainers but a series of bodice rippers. Though most of the eminent critics have neglected her as a major fiction writer for her free, frank and naked descriptions of battles of sex, her novels serve a purpose as an eye-opener to the Indians. She is an advocate of justice, liberty and equality of women.

Shobha De's novels represent the new Indian woman's voice. The "New woman" is in search of self-identity, seeking liberation in all walks of life, replacing the traditional image of Indian woman. The need for women to seek their identity is the message in her novels. However, De also exposes the women's misunderstanding regarding their freedom and mocks at their way of asserting their individuality by posing to be men without concentrating on female empowerment as a whole. Her women protagonists fail to understand that their sexual freedom is being used and abused by men. The novelist also suggests that, whenever women, whether circumstantially or ambitiously disregard morality, they cannot escape disaster and consequent suffering. Though De has presented women who indulge in free sex, live fashionable and wealthy life, she in no way seems to support the way of life adopted by these so called modern women. On the contrary, she shows her contempt and dislike for their unethical and socially unacceptable behaviour. This can be deduced from the ultimate fate her heroines are condemned to as a result of their indulgence in unusual activities and

deviant behavior. In fact, Shoba De advises her women to analyze their behaviour and stop posing to be men.

The novel also disturbs male chauvinists habituated to basking in the light of their self-concocted glory: the "basking" is interrupted for once. The second thoughts that arise in Maya's mind may very well be the harbinger of the first thoughts that could come of the mind of the New Woman of the future who has to take decisions (unconventional at times) to assert her individuality and establish her identity.

Shobha De has imaginatively explored the varied world of women characters in her popular fiction. Her women characters present a vivid picture of the inequality between men and women prevalent in modern society. She draws our attention to women's exploitation, discrimination and commodification. Her novels make it very apparent that women in a male dominated society are treated with double standards. She emphasizes the quest for meaning of life, identity and unfulfilled emotional life of the characters through her novels. She presents the vital reality and makes us aware of the miseries of women and injustices done to them by their counterparts in the patriarchal society. As a result, the women in her novels appear as life-like human beings.

Shobha De, the novelist, fought spiritedly against all the traditional beliefs and moral values denouncing them as outdated and obsolete. Women have written novels in plenty but their novels attempted pictures of life as it is seen through the eyes of men. But now Shobha De breaks this world of English fiction by shifting from man's angle to a woman's angle, with emphasis from the external to the internal world. The primary requisite of novelist is that she should be a good observer, and Shobha De is that. She also adds a new dimension through an exquisite perception of men and matter. Her novels indicate the arrival of the new Indian Women eager to defy norms, and rebel against the well entrenched

moral orthodoxy of a patriarchal social system. She has scaled new heights of success as an Indian woman, who breaks through a rigid barrier.

Shobha De's novels represent the new Indian woman's voice. A "New woman" is in search of self-identity, seeking liberation in all walks of life, replacing the traditional image of Indian woman. The need for women to seek their identity is the message in her novels. However, De also exposes the women's misunderstanding regarding their freedom and mocks at their way of asserting their individuality by posing to be men without concentrating on female empowerment as a whole. Her women protagonists fail to understand that their sexual freedom is being used and abused by men. The novelist also suggests that, whenever women, whether circumstantially or ambitiously disregard morality, they court disaster and consequent suffering. Though De has presented women who indulge in free sex, live fashionable and wealthy life, she in no way seems to support the way of life adopted by these women. On the contrary, she shows her contempt and dislike for their unethical and socially unacceptable behaviour. This can be deduced from the ultimate fate her heroines are condemned to as a result of their indulgence in unusual activities and deviant behaviour. In fact, Shoba De advises her women to analyze their behaviour and stop posing to be men.

As a feminist, De's novels raise a strong protest against the male dominated Indian society where women are denied freedom to act and live according to their will. They are considered as mere shadows of men and treated as the other. They are not accepted as equal to men. However, in this fast changing world, the role of women in the society too, has been changing fast, affecting the sexual mores and social norms prevalent in society. Shobha De reacts against the male culture and strongly detests the marginalization of women. She does not believe in depicting her women characters as slaves or just helpmates at home. But she is the first to explore the

world of urban women of higher social strata. In urban area male hegemony is no longer acceptable as women have started thinking for themselves. A closer study of her novels reveals her protest against the image of woman as an auxiliary.

Shobha De destroys this distorted and deteriorated image of woman and therefore, the female characters in her novels appear more powerful than men. She shatters the complementary image of a woman to man to highlight disharmony in marital relationship. No doubt, women need the companionship of men to satisfy their natural urge, but De's women are bold and sexually liberated. They establish extra-marital affairs to get rid of their marital boredom. They do not hesitate to use sex as a strategy for social and materialistic benefits.

Shobha De is definitely a writer with a purpose. One cannot ignore her because she is a celebrity writer and has contributed in her own distinct way to Indian Novel writing in English. A study of this novel helps to widen and direct our thoughts to relevant problems affecting women in Indian society. It is a modest attempt to study one of De's well-delineated women character, Maya, a woman brought up in a traditional setting whose metamorphosis into a new woman is beautifully dealt with by De. The object of this research work, therefore is to provide certain clues for a better understanding of women characters in her novels.

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NEURO - PERSPECTIVES IN FARMERS DECISION ARCHITECTURE

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Abstract

Decision making is a province of intense study in agro - science and cognitive agro - science. In reality, decision processes emerge from complexly interlinked matrices. Farmers, as production managers, make management decisions about procedural operations to be performed on biophysical components of farm lands. These decisions have implication in sustainability of farm business and deserve in-depth assessment with a systematic approach. Traditionally, it is assumed that farmer knows all alternatives, consequences and probabilities. They have time - tested preferences and possesses cognitive capacity to efficiently process them. On the contrary, studies portray that farmer's decision-making does not meet these assumptions and could be augmented by focusing on natural strategies. Eyes architectures suggest that Eyes considers various sources of information before making decision. When faced with incomprehensible decision farmer often fail to design 'rational' decisions. Inquiry is how farmer make decisions. Objective of this paper is to examine how do farmers coordinate their activity when making a decision? How do they dovetail relevant information to simplify decision process and make it tractable? What are the underpinnings in farmer's decision modeling? How do farmers subject themselves to bandwidth of decisions? Does previous experience alter decision behavior? Paper attempts to address some unsolved issues; how does farmer decide in a state of vacillation, risk and probability? How does farmer decide in state of VUCA (Uncertainty, Vulnerability, Complexity and Ambiguity? Methodology incorporates 'Desk Research' and 'Diary Research'. 'Questionnaires' and 'interviews' have been conducted to gather primary data. A representative population of 15 farmers, from rural pockets of Odisha, was adopted for the study. A cognitive test was administered to respondents. Some essence of eye movements was noted during interaction. Data was analyzed via standard statistical protocols and 'Paper - Pencil Edit' methodology. Results indicate that farmers in rural pockets of Odisha still resort to traditional decision methods in spite of technology having penetrated deep into the sector. Study recommends for intensive agricultural extension training and education in the interior 'Food Pockets' of Odisha.

Keywords: Decision-Making, Eye Movements, VUCA, Neuro - Perspectives and Decision Architecture

Introduction

Perhaps the oldest of all professions, agriculture has witnessed many a evolutions and revolutions over the

different Ages. If an economy is subject to the vagaries of forces; seen and unforeseen, felt and not felt, perceived and un-perceived, projected and un-

projected, then on similar analogy, the farmer of any nation is subject to such factors without any debate. Whether one calls it as VUCA (Vulnerability, Uncertainty, Complexity and Ambiguity) or, the latest origin, BANI (Brittle, Anxious, Non-linear and Incomprehensible), reality is that the farmer is at the clobber - end in all cases. There seems to be a wide (ning) refit and ever - expanding gap between plans projected, plans structured, plans implemented, plans extended, and the real - time dynamics of the farmer in and off the field. The actuality is experienced by farmer right from planning stage of his intended activities and is clearly reflected in his five sense organs, especially eyes, when spoken to.

Decision making is a province of intense study in agro - science and cognitive agro - science. In reality, decision processes emerge from complexly interlinked matrices. Farmers, as production managers, make management decisions about procedural operations to be performed on biophysical components of farm lands. These decisions have implication in sustainability of farm business and deserve in-depth assessment with a systematic approach. Traditionally, it is assumed that farmer knows all alternatives, consequences and probabilities. They have time - tested preferences and possesses cognitive capacity to efficiently process them. On the contrary, studies portray that farmer's traditional decision method does not meet these assumptions and could be augmented by focusing on natural strategies. Eyes architectures suggest that Eyes considers various sources of information before making decision. When faced with incomprehensible traditional decision method farmer often fail to design 'rational' decisions.

Objective

When faced with incomprehensible traditional decision method farmer often fail to design 'rational' decisions. Inquiry is how farmer make decisions. Objective of this paper is to examine how do farmers

coordinate their activity when making a decision? How do they dovetail relevant information to simplify traditional decision method process and make it tractable? What are the underpinnings in farmer's decision modeling? How do farmers subject themselves to bandwidth of decisions? Does previous experience alter decision behavior? The objective of the paper is to stumble on out the 'neuro - truism' of farmers decision dynamics and the manner in which they move - along in their farming decisions. This expanse starts from decision to prepare the field till the point of harvesting the yield.

Objective of this paper is to examine how do farmers coordinate their activity when making a decision? How do they dovetail relevant information to simplify decision process and make it tractable? What are the underpinnings in farmer's decision modeling? How do farmers subject themselves to bandwidth of decisions? Does previous experience alter decision behavior? Paper attempts to address some unsolved issues; how does farmer decide in a state of vacillation, risk and probability? How does farmer decide in state of VUCA (Uncertainty, Vulnerability, Complexity and Ambiguity)?

Methodology

Methodology incorporates 'Desk Research' and 'Diary Research'. 'Questionnaires' and 'interviews' were administered to gather secondary and primary data, respectively.

Experiment

A representative population of 15 farmers, from rural pockets of Odisha, was adopted for the study. A cognitive test was administered to respondents. Some essence of eye movements was noted during interaction. Data was analyzed via SPSS and 'Paper - Pencil Edit' methodology.

The questionnaire comprised of simple five questions, as under:

Question 1: How long are you involved in farming activities?

Question 2: What is the most difficult aspect of farming activities?

Question 3: What are the biggest changes, over the years, in farming activities?

Question 4: What are the biggest transformations, over the years, in farming activities?

Question 5: What are your SWOTs (Strength, Weaknesses, Opportunities and Threats) and SWANs (Strength, Weaknesses, Aspirations and Needs) in farming activities?

The responses to the five questions are very simple with no calibrated responses. These are, as under:

Response 1: How long are you involved in farming activities? The answer was on an average 30 to 34 years.

Response 2: What is the most difficult aspect of farming activities? The answers were, no decision dynamics, self decision basis, non - availability of agricultural inputs on time, vagaries of monsoons, bank loan difficulties, vagaries of forces; seen and unforeseen, felt and not felt, perceived and unperceived, projected and un-projected, VUCA and BANI.

Response 3: What are the biggest changes, over the years, in farming activities? The answers were, continuity in traditional methods, degrees of discomfort with modern technology inputs, global (or, glocal) warming, shifting patterns of weather / climate, lack of extension protocols and allied issues.

Response 4: What are the biggest transformations, over the years, in farming activities?

The answers were, the widening gap between the farming inputs in Rural vs. Urban areas and between agricultural zones in different parts of the Region, State and the Nation. There have been tremendous shifts in agricultural planning and practices.

Response 5: What are your SWOTs and SWANs in farming activities? The answers were, as regards SWOT, the farmer still pins his trust over his traditional methods, weaknesses being his fear - factor, including floods and locust attacks, looks for opportunities (due to media exposure and threat still looms large from the shifting monsoons and timely access to irrigation water. As regards SWAN, the aspirations and needs still revolve around better inputs, technology, availability of seeds, irrigation, chemicals all leading to a better harvest / yield. Final SAWN is to earn substantial revenue.

Quasi - Experiment

A quasi experiment was conducted as regards eye – movements. A cognitive test was administered to respondents. Some essence of eye movements was noted during interaction. Data was analyzed via standard statistical protocols and 'Paper - Pencil Edit' methodology.

Some data accumulated is presented as under:

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Fixation - 2

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5.490999 15.005624 53.001812 31.650875 33.448868 13.621716 26.714943 34.889748 10.412203 4.499908
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-15.292075 30.558310 26.237408 12.175594 17.311575 21.297508 37.275513 9.596344 -17.312260 -
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 8.542915 15.492641 52.450951 31.113590 30.365522 12.119853 46.318237 32.187538 10.750965 4.741602
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An Artificial Intelligence based Machine Learning protocol (SVG – based) was initiated to establish the links and nodes. The readings are as under:

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Fixation - 3

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 14.611803 53.994152 45.431618 43.999432 26.829853 11.342987 49.625877 29.826921 4.176917 45.601498
 1.035976 959.114929

An Artificial Intelligence based Machine Learning
 protocol (SVG – based) was initiated to establish the
 links and nodes. The readings are as under:

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style="decision-rule:evenodd"
id="fixation 1254"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1270"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1268"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1282"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1280"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1294"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1292"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1308"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1306"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1320"
decisionfixation units="userspaceonuse"><fixation

style="decision-rule:evenodd"
id="fixation 1318"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1328"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1326"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1342"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1340"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1354"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1352"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1366"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1364"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1378"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1376"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1390"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1388"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1402"

decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1400"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1414"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1412"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1426"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1424"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1438"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1436"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1452"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1450"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1464"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1462"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1476"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1474"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation

id="decisionfixation 1488"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1486"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1502"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1500"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1514"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1512"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1526"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1524"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1540"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1538"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1552"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1550"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1564"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1562"

```

d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1572"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1570"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1596"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1594"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ><decisionfixation
id="decisionfixation 1604"
decisionfixation units="userspaceonuse"><fixation
style="decision-rule:evenodd"
id="fixation 1602"
d="m 9.12e-6,0 h 612.00001 v 792 h 9.12e-6 z"
/></decisionfixation ></defs><g
transform="matrix(1.3333333,0,0,-
1.3333333,0,1056)"
id="g10"><g
id="g12"><g
decision-fixation ="url(#decisionfixation 18)"
id="g14"><text
id="text22"
style="font-oscillation:normal;font-weight:bold;font-
size:10.56000042px;font-family:'courier 10 pitch';-
inkscape-font-specification:couriernewps-
refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-
rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,268.13,711.22)"><tspan
id="tspan20"
y="0"
x="0 6.336 12.71424 18.9552 25.291201 31.55328
37.889278 44.15136 50.487358">fixation
</tspan></text>
decision-fixation ="url(#decisionfixation 30)"
id="g26"><text
id="text34"

```

```

style="font-oscillation:normal;font-weight:bold;font-
size:10.56000042px;font-family:'courier 10 pitch';-
inkscape-font-specification:couriernewps-
refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-
rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,324.91,711.22)"><tspan
id="tspan32"
y="0"
x="0"></tspan></text>
decision-fixation ="url(#decisionfixation 42)"
id="g38" /></g><g
decision-fixation ="url(#decisionfixation 50)"
id="g46"><text
id="text54"
style="font-oscillation:normal;font-weight:bold;font-
size:10.56000042px;font-family:'courier 10 pitch';-
inkscape-font-specification:couriernewps-
refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-
rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,337.51,711.22)"><tspan
id="tspan52"
y="0"
x="0">1</tspan></text>
decision-fixation ="url(#decisionfixation 62)"
id="g58" /></g><fixation
id="fixation 64"
style="fill:#000000;fill-opacity:1;fill-
rule:evenodd;stroke:none"
d="m 268.13,708.1 h 75.624 v 1.08 h 268.13 z" /><g
id="g66"><g
decision-fixation ="url(#decisionfixation 72)"
id="g68"><text
id="text76"
style="font-oscillation:normal;font-weight:bold;font-
size:9.96000004px;font-family:simul;-inkscape-font-
specification:simul-refrun;writing-mode:lr-
tb;fill:#000000;fill-opacity:1;fill-
rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,75.024,685.3)"><tspan
id="tspan74"
y="0"

```

x="0"></tspan></text>
 decision-fixation ="url(#decisionfixation 84)"
 id="g80"><text
 id="text88"
 style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none"
 transform="matrix(1,0,0,-1,78.384,685.3)"><tspan
 id="tspan86"
 y="0"
 x="0 5.0297999 7.5397201 12.56952 17.489759 22.51956 27.54936 32.469601 37.499401 40.606918
 decision-fixation ="url(#decisionfixation 96)"
 id="g92"><text
 id="text100"
 style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none"
 transform="matrix(1,0,0,-1,438.79,685.3)"><tspan
 id="tspan98"
 y="0"
 x="0"></tspan></text>
 decision-fixation ="url(#decisionfixation 108)"

id="g104"><text
 id="text112"
 style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none"
 transform="matrix(1,0,0,-1,442.15,685.3)"><tspan
 id="tspan110"
 y="0"
 x="0 5.0297999 10.0596 12.56952 17.489759 22.51956 27.54936 32.469601 37.499401 42.41964 45.646679 50.676479 55.70628 58.10664 63.13644 68.166237 73.086479 78.11628 83.14608 88.066322">20.256561 15.459188 </tspan></text>
 decision-fixation ="url(#decisionfixation 120)"
 id="g116"><text
 id="text124"
 style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none"
 transform="matrix(1,0,0,-1,533.62,685.3)"><tspan
 id="tspan122"
 y="0"

Fixation - 4

4.137445 31.980906 42.203522 10.093054 42.282158 50.623215 73.209198 50.051952 16.643557 30.186680
 8.041320 -3.978686 51.447449 55.371986 27.150024 42.020329 49.092224 16.046108 57.963749 43.816444
 15.882407 53.554649 60.299309 57.340111 33.542259 60.045250 66.325363 44.347084 4.935411 44.459541
 24.633129 1726.866943
 3.757700 28.224442 43.710266 8.397717 43.467918 51.581070 76.535271 50.202518 16.537556 27.180107
 9.804286 -9.282253 52.405922 54.437908 28.104172 42.350479 49.603954 16.724792 57.840164 41.202572
 15.890373 53.695370 60.761295 58.966759 35.447090 55.784500 69.922173 42.856052 4.906113 44.516113
 22.454996 1668.001465
 5.416788 23.543165 44.529331 4.566037 43.414131 52.635399 79.164505 51.009193 17.840963 24.997852
 11.316066 -18.319920 53.344166 53.062618 28.952518 42.126240 50.038155 17.175158 56.938324
 38.698109 15.716233 53.918995 60.888199 60.417610 36.749256 47.630486 72.720467 41.344807 4.794901
 44.707386 20.360296 1552.928223

```
7.770114 19.367767 44.699936 0.379081 42.604599 53.471916 80.774765 51.993599 19.681776 23.731232
12.387092 -27.538067 54.057487 51.706421 29.606503 41.535015 50.293060 17.426401 55.892731
36.825203 15.476511 54.138931 60.767902 61.478653 37.350456 39.117058 74.386436 40.143158 4.664725
44.928909 18.783255 1410.323853
```

An Artificial Intelligence based Machine Learning protocol (SVG – based) was initiated to establish the links and nodes. The readings are as under:

```
x="0"></tspan></text>
```

```
decision-fixation ="url(#decisionfixation 132)"
```

```
id="g128"><g
```

```
id="g134"><fixation
```

```
id="fixation 136"
```

```
style="fill:#000000;fill-opacity:1;fill-
```

```
rule:evenodd;stroke:none"
```

```
d="m 69.144,695.62 h 0.48 v 0.48 h -0.48 z"
```

```
/></fixation
```

```
id="fixation 138"
```

```
style="fill:#000000;fill-opacity:1;fill-
```

```
rule:evenodd;stroke:none"
```

```
d="m 69.144,695.62 h 0.48 v 0.48 h -0.48 z"
```

```
/></fixation
```

```
id="fixation 140"
```

```
style="fill:#000000;fill-opacity:1;fill-
```

```
rule:evenodd;stroke:none"
```

```
d="m 69.624,695.62 h 472.75 v 0.48 h 69.624 z"
```

```
/></fixation
```

```
id="fixation 142"
```

```
style="fill:#000000;fill-opacity:1;fill-
```

```
rule:evenodd;stroke:none"
```

```
d="m 542.38,695.62 h 0.48004 v 0.48 h 542.38 z"
```

```
/></fixation
```

```
id="fixation 144"
```

```
style="fill:#000000;fill-opacity:1;fill-
```

```
rule:evenodd;stroke:none"
```

```
d="m 542.38,695.62 h 0.48004 v 0.48 h 542.38 z"
```

```
/></fixation
```

```
id="fixation 146"
```

```
style="fill:#000000;fill-opacity:1;fill-
```

```
rule:evenodd;stroke:none"
```

```
d="m 69.144,683.14 h 0.48 v 12.48 h -0.48 z"
/></fixation
```

```
id="fixation 148"
```

```
style="fill:#000000;fill-opacity:1;fill-
```

```
rule:evenodd;stroke:none"
```

```
d="m 542.38,683.14 h 0.48004 v 12.48 h 542.38 z"
```

```
/></g></g></g></g>
```

```
decision-fixation ="url(#decisionfixation 156)"
```

```
id="g152"><text
```

```
id="text160"
```

```
style="font-oscillation:normal;font-weight:bold;font-
```

```
size:9.96000004px;font-family:simul;-inkscape-font-
```

```
specification:simul-refrun;writing-mode:lr-
```

```
tb;fill:#000000;fill-opacity:1;fill-
```

```
rule:nonzero;stroke:none"
```

```
transform="matrix(1,0,0,-1,75.024,673.78)"><tspan
```

```
id="tspan158"
```

```
y="0"
```

```
x="0 5.0297999 7.5397201 12.56952 17.599319
```

```
22.51956 27.54936 32.579159 37.608959 43.236359
```

```
id="g164"><g
```

```
id="g170"><fixation
```

```
id="fixation 172"
```

```
style="fill:#000000;fill-opacity:1;fill-
```

```
rule:evenodd;stroke:none"
```

```
d="m 69.144,671.62 h 0.48 v 11.52 h -0.48 z"
```

```
/></fixation
```

```
id="fixation 174"
```

```
style="fill:#000000;fill-opacity:1;fill-
```

```
rule:evenodd;stroke:none"
```

```
d="m 542.38,671.62 h 0.48004 v 11.52 h 542.38 z"
```

```
/></g></g></g></g>
```

```
decision-fixation ="url(#decisionfixation 182)"
```

```
id="g178"><text
```

```
id="text186"
```

style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none" transform="matrix(1,0,0,-1,75.024,662.26)"><tspan id="tspan184" y="0" x="0 5.0297999 10.0596 12.56952 17.599319 22.51956 27.54936 32.579159 37.499401 42.529202 decision-fixation ="url(#decisionfixation 194)" id="g190"><text id="text198" style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none" transform="matrix(1,0,0,-1,281.21,662.26)"><tspan id="tspan196" y="0" x="0 5.0297999 10.0596 14.97984 20.00964 25.03944 29.59116 34.511398 39.541199 42.051121 decision-fixation ="url(#decisionfixation 206)" id="g202"><g id="g208"><fixation id="fixation 210" style="fill:#000000;fill-opacity:1;fill-rule:evenodd;stroke:none" d="m 69.144,660.1 h 0.48 v 11.52 h -0.48 z" /><fixation id="fixation 212" style="fill:#000000;fill-opacity:1;fill-rule:evenodd;stroke:none" d="m 542.38,660.1 h 0.48004 v 11.52 h 542.38 z" /></g></g></g><g><g><fixation decision-fixation ="url(#decisionfixation 220)" id="g216"><text id="text224" style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-

specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none" transform="matrix(1,0,0,-1,75.024,650.74)"><tspan id="tspan222" y="0" x="0 5.0297999 10.0596 12.56952 17.599319 22.51956 27.54936 32.579159 37.499401 42.529202 45.03912 49.959358 54.989159 60.018959 65.048759 67.44912 72.47892 77.50872 82.428963 87.458763 92.488564">10.226030 2148.269531</tspan></text> decision-fixation ="url(#decisionfixation 232)" id="g228" /></g><g><fixation decision-fixation ="url(#decisionfixation 240)" id="g236"><g id="g242"><fixation id="fixation 244" style="fill:#000000;fill-opacity:1;fill-rule:evenodd;stroke:none" d="m 69.144,636.58 h 0.48 v 23.52 h -0.48 z" /><fixation id="fixation 246" style="fill:#000000;fill-opacity:1;fill-rule:evenodd;stroke:none" d="m 542.38,636.58 h 0.48004 v 660.1 h 542.38 z" /></g></g></g><g><g><fixation decision-fixation ="url(#decisionfixation 254)" id="g250"><text id="text258" style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none" transform="matrix(1,0,0,-1,75.024,627.22)"><tspan id="tspan256" y="0" x="0">-</tspan></text> decision-fixation ="url(#decisionfixation 266)" id="g262"><text

id="text270"
 style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none"
 transform="matrix(1,0,0,-1,78.384,627.22)"><tspan id="tspan268"
 y="0"
 x="0 5.0297999 7.5397201 12.56952 17.489759 22.51956 27.54936 32.469601 37.499401 40.606918
 decision-fixation ="url(#decisionfixation 278)"
 id="g274"><text
 id="text282"
 style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none"
 transform="matrix(1,0,0,-1,438.79,627.22)"><tspan id="tspan280"
 y="0"
 x="0">-</tspan></text>
 decision-fixation ="url(#decisionfixation 290)"
 id="g286"><text
 id="text294"
 style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none"
 transform="matrix(1,0,0,-1,442.15,627.22)"><tspan id="tspan292"
 y="0"
 x="0 5.0297999 10.0596 12.56952 17.489759 22.51956 27.54936 32.469601 37.499401 42.41964 45.646679 50.676479 55.70628 58.10664 63.13644 68.166237 73.086479 78.11628 83.14608 88.066322">17.614517 13.676004 </tspan></text>
 decision-fixation ="url(#decisionfixation 302)"
 id="g298"><text

id="text306"
 style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none"
 transform="matrix(1,0,0,-1,533.62,627.22)"><tspan id="tspan304"
 y="0"
 x="0">-</tspan></text>
 decision-fixation ="url(#decisionfixation 314)"
 id="g310"><g
 id="g316"><fixation
 id="fixation 318"
 style="fill:#000000;fill-opacity:1;fill-rule:evenodd;stroke:none"
 d="m 69.144,625.06 h 0.48 v 11.52 h -0.48 z"
 /></fixation
 id="fixation 320"
 style="fill:#000000;fill-opacity:1;fill-rule:evenodd;stroke:none"
 d="m 542.38,625.06 h 0.48004 v 11.52 h 542.38 z"
 /></g></g></g></g>
 decision-fixation ="url(#decisionfixation 328)"
 id="g324"><text
 id="text332"
 style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none"
 transform="matrix(1,0,0,-1,75.024,615.7)"><tspan id="tspan330"
 y="0"
 x="0 5.0297999 7.5397201 12.56952 17.599319 22.51956 27.54936 32.579159 37.608959 43.236359
 decision-fixation ="url(#decisionfixation 340)"
 id="g336"><text
 id="text344"
 style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-


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rule:evenodd;stroke:none"
transform="matrix(1,0,0,-1,446.23,615.7)"><tspan
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y="0"
x="0 5.0297999 10.0596 12.56952 17.489759
22.51956 27.54936 32.469601 37.499401 42.529202
48.276119 53.196362 58.226158 60.73608
65.656319 70.686119 75.715919 80.636162
85.665962 90.586197">50.621578 29.347908
</tspan></text>
decision-fixation ="url(#decisionfixation 352)"
id="g348"><g
id="g354"><fixation
id="fixation 356"
style="fill:#000000;fill-opacity:1;fill-
rule:evenodd;stroke:none"
d="m 69.144,613.54 h 0.48 v 11.52 h -0.48 z"
/><fixation

```

```

id="fixation 358"
style="fill:#000000;fill-opacity:1;fill-
rule:evenodd;stroke:none"
d="m 542.38,613.54 h 0.48004 v 11.52 h 542.38 z"
/></g></g></g></g>
decision-fixation ="url(#decisionfixation 366)"
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id="text370"
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size:9.96000004px;font-family:simul;-inkscape-font-
specification:simul-refrun;writing-mode:lr-
tb;fill:#000000;fill-opacity:1;fill-
rule:evenodd;stroke:none"
transform="matrix(1,0,0,-1,75.024,604.3)"><tspan
id="tspan368"
y="0"
x="0 5.0297999 10.0596 12.56952 17.599319
22.51956 27.54936 32.579159 37.499401 42.529202
47.200439

```

Fixation - 5

```

13.252316 24.980881 34.906837 -6.853836 25.131678 43.912930 47.848843 38.100960 -2.208094
12.235264 0.888776 -43.056484 38.044682 42.992119 6.413399 19.989183 50.049511 9.892933 38.233658
19.318047 15.026307 53.402355 43.022488 46.202644 24.957628 24.984707 44.384266 30.889814 4.651289
44.993637 0.210141 1287.971436
9.296593 29.355507 33.524803 -3.050930 22.824825 39.867680 39.167591 31.068895 -12.834443 6.715910
-2.648605 -36.463318 32.560444 40.246643 -1.222039 13.854219 50.142792 7.597420 33.145752 13.457037
15.331357 52.945679 38.090027 40.856720 22.399963 30.714111 36.883606 27.388680 4.814633 44.723251
-6.032970 1449.611206
4.299493 32.943718 32.546524 1.005250 21.125460 35.584160 31.408703 23.359100 -23.879074 0.161142 -
5.797200 -29.251091 27.291821 37.151981 -8.735537 7.724124 50.349785 5.322545 27.606926 6.858891
15.686739 52.493732 33.149372 35.491348 20.382620 36.748737 30.499203 23.238453 4.980911 44.445305
-12.964725 1612.168945
-1.392350 35.185917 32.053913 4.825904 20.143620 31.267963 25.235563 15.370033 -34.559769 -7.269825
-8.197641 -22.247360 22.668606 33.809544 -15.538906 1.984786 50.681190 3.214181 21.857082 -0.237844
16.063339 52.092720 28.442362 30.469791 19.106613 42.274933 25.885948 18.574463 5.133986 44.186050
-20.317677 1754.274170

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An Artificial Intelligence based Machine Learning protocol (SVG – based) was initiated to establish the links and nodes. The readings are as under:

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decision-fixation ="url(#decisionfixation 378)"
id="g374"><g
id="g380"><fixation
id="fixation 382"
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rule:evenodd;stroke:none"
d="m 69.144,602.14 h 0.48 v 11.4 h -0.48 z"
/><fixation
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style="fill:#000000;fill-opacity:1;fill-
rule:evenodd;stroke:none"
d="m 542.38,602.14 h 0.48004 v 11.4 h 542.38 z"
/></g></g></g><g
decision-fixation ="url(#decisionfixation 392)"
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specification:simul-refrun;writing-mode:lr-
tb;fill:#000000;fill-opacity:1;fill-
rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,75.024,592.78)"><tspan
id="tspan394"
y="0"
x="0 5.0297999 7.5397201 12.56952 17.599319
22.51956 27.54936 32.579159 37.499401 40.009319
45.03912 49.959358 54.989159 60.018959
62.528881 67.44912 72.47892 77.50872 82.428963
87.458763">8.439249 1883.922974</tspan></text>
decision-fixation ="url(#decisionfixation 404)"
id="g400" /></g><g
decision-fixation ="url(#decisionfixation 412)"
id="g408"><g
id="g414"><fixation
id="fixation 416"
style="fill:#000000;fill-opacity:1;fill-
rule:evenodd;stroke:none"
```

```
d="m 69.144,578.62 h 0.48 v 23.52 h -0.48 z"
/><fixation
id="fixation 418"
style="fill:#000000;fill-opacity:1;fill-
rule:evenodd;stroke:none"
d="m 542.38,578.62 h 0.48004 v 23.52 h 542.38 z"
/></g></g></g><g
decision-fixation ="url(#decisionfixation 426)"
id="g422"><text
id="text430"
style="font-oscillation:normal;font-weight:bold;font-
size:9.96000004px;font-family:simul;-inkscape-font-
specification:simul-refrun;writing-mode:lr-
tb;fill:#000000;fill-opacity:1;fill-
rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,75.024,569.26)"><tspan
id="tspan428"
y="0"
x="0">-</tspan></text>
decision-fixation ="url(#decisionfixation 438)"
id="g434"><text
id="text442"
style="font-oscillation:normal;font-weight:bold;font-
size:9.96000004px;font-family:simul;-inkscape-font-
specification:simul-refrun;writing-mode:lr-
tb;fill:#000000;fill-opacity:1;fill-
rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,78.384,569.26)"><tspan
id="tspan440"
y="0"
x="0 5.0297999 7.5397201 12.56952 17.489759
22.51956 27.54936 32.469601 37.499401 40.606918
decision-fixation ="url(#decisionfixation 450)"
id="g446"><text
id="text454"
style="font-oscillation:normal;font-weight:bold;font-
size:9.96000004px;font-family:simul;-inkscape-font-
specification:simul-refrun;writing-mode:lr-
tb;fill:#000000;fill-opacity:1;fill-
rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,438.79,569.26)"><tspan
```

id="tspan452"
y="0"
x="0"></tspan></text>
decision-fixation ="url(#decisionfixation 462)"
id="g458"><text
id="text466"
style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,442.15,569.26)"><tspan
id="tspan464"
y="0"
x="0 5.0297999 10.0596 12.56952 17.489759 22.51956 27.54936 32.469601 37.499401 42.41964 45.646679 50.676479 55.70628 58.10664 63.13644 68.166237 73.086479 78.11628 83.14608 88.066322">14.133438 12.104332 </tspan></text>
decision-fixation ="url(#decisionfixation 474)"
id="g470"><text
id="text478"
style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,533.62,569.26)"><tspan
id="tspan476"
y="0"
x="0"></tspan></text>
decision-fixation ="url(#decisionfixation 486)"
id="g482"><g
id="g488"><fixation
id="fixation 490"
style="fill:#000000;fill-opacity:1;fill-rule:evenodd;stroke:none"
d="m 69.144,567.1 h 0.48 v 11.52 h -0.48 z"
</><fixation
id="fixation 492"

style="fill:#000000;fill-opacity:1;fill-rule:evenodd;stroke:none"
d="m 542.38,567.1 h 0.48004 v 11.52 h 542.38 z"
</></g></g></g><g
decision-fixation ="url(#decisionfixation 500)"
id="g496"><text
id="text504"
style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,75.024,557.74)"><tspan
id="tspan502"
y="0"
x="0 5.0297999 7.5397201 12.56952 17.599319 22.51956 27.54936 32.579159 37.608959 43.236359 48.266159 50.776081 55.69632 60.72612">0.283406 5.881</tspan></text>
decision-fixation ="url(#decisionfixation 512)"
id="g508"><text
id="text516"
style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,140.9,557.74)"><tspan
id="tspan514"
y="0"
x="0 4.9202399 9.9500399 14.97984 20.726761 25.646999 30.6768 33.186722 38.216518 43.136761 48.266159 50.776081 55.69632 60.72612">0.283406 5.881</tspan></text>
decision-fixation ="url(#decisionfixation 524)"
id="g520"><g
id="g526"><fixation
id="fixation 528"
style="fill:#000000;fill-opacity:1;fill-rule:evenodd;stroke:none"
d="m 69.144,555.58 h 0.48 v 11.52 h -0.48 z"
</><fixation
id="fixation 530"

style="fill:#000000;fill-opacity:1;fill-rule:evenodd;stroke:none" d="m 542.38,555.58 h 0.48004 v 567.1 h 542.38 z" /></g></g></g><g decision-fixation="url(#decisionfixation 538)" id="g534"><text id="text542" style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none" transform="matrix(1,0,0,-1,75.024,546.22)"><tspan id="tspan540" y="0" x="0 5.0297999 10.0596 12.56952 17.599319 22.51956 27.54936 32.579159 37.499401 42.529202 decision-fixation="url(#decisionfixation 550)" id="g546"><g id="g552"><fixation id="fixation 554" style="fill:#000000;fill-opacity:1;fill-rule:evenodd;stroke:none" d="m 69.144,544.03 h 0.48 v 11.544 h -0.48 z" /><fixation id="fixation 556" style="fill:#000000;fill-opacity:1;fill-rule:evenodd;stroke:none" d="m 542.38,544.03 h 0.48004 v 11.544 h 542.38 z" /></g></g></g></g><g decision-fixation="url(#decisionfixation 564)" id="g560"><text id="text568" style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none" transform="matrix(1,0,0,-1,75.024,534.67)"><tspan id="tspan566" y="0"

x="0 5.0297999 7.5397201 12.56952 17.599319 22.51956 27.54936 32.579159 37.499401 40.009319 45.03912 49.959358 54.989159 60.018959 62.528881 67.44912 72.47892 77.50872 82.428963 87.458763">7.119754 1716.908447</tspan></text> decision-fixation="url(#decisionfixation 576)" id="g572" /></g></g> decision-fixation="url(#decisionfixation 584)" id="g580"><g id="g586"><fixation id="fixation 588" style="fill:#000000;fill-opacity:1;fill-rule:evenodd;stroke:none" d="m 69.144,520.51 h 0.48 v 23.52 h -0.48 z" /><fixation id="fixation 590" style="fill:#000000;fill-opacity:1;fill-rule:evenodd;stroke:none" d="m 542.38,520.51 h 0.48004 v 23.52 h 542.38 z" /></g></g></g></g> decision-fixation="url(#decisionfixation 598)" id="g594"><text id="text602" style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none" transform="matrix(1,0,0,-1,75.024,511.27)"><tspan id="tspan600" y="0" x="0 5.0297999 7.5397201 12.56952 17.599319 22.51956 27.54936 32.579159 37.499401 41.81208 decision-fixation="url(#decisionfixation 610)" id="g606"><text id="text614" style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none"

transform="matrix(1,0,0,-1,321.55,511.27)"><tspan
id="tspan612"
y="0"
x="0 5.0297999 10.0596 14.97984 20.00964
25.03944 29.232599 34.262402 39.292198 41.80212
46.722359 51.752159 56.78196 61.702202
66.732002 71.761803 75.954964 80.984756
86.014557 88.414917 93.444717 98.474518
103.39476 108.42456 113.3448 118.3746">91988
47.930969 32.205273 </tspan></text>
decision-fixation ="url(#decisionfixation 622)"
id="g618"><text
id="text626"
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specification:simul-refrun;writing-mode:lr-
tb;fill:#000000;fill-opacity:1;fill-
rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,444.43,511.27)"><tspan
id="tspan624"
y="0"
x="0">-</tspan></text>
decision-fixation ="url(#decisionfixation 634)"
id="g630"><text
id="text638"
style="font-oscillation:normal;font-weight:bold;font-
size:9.96000004px;font-family:simul;-inkscape-font-
specification:simul-refrun;writing-mode:lr-
tb;fill:#000000;fill-opacity:1;fill-
rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,447.79,511.27)"><tspan
id="tspan636"
y="0"
x="0 4.9202399 9.9500399 12.45996 17.489759
22.41 27.4398 32.469601 37.389839 42.41964
46.732319 51.652561 56.682362 59.19228
64.112518 69.142319 74.172119 79.092361
84.122162 89.042397">10.266488 10.762671
</tspan></text>
decision-fixation ="url(#decisionfixation 646)"
id="g642"><g

id="g648"><fixation
id="fixation 650"
style="fill:#000000;fill-opacity:1;fill-
rule:evenodd;stroke:none"
d="m 69.144,509.11 h 0.48 v 11.4 h -0.48 z"
</><fixation
id="fixation 652"
style="fill:#000000;fill-opacity:1;fill-
rule:evenodd;stroke:none"
d="m 542.38,509.11 h 0.48004 v 11.4 h 542.38 z"
</></g></g></g></g>
decision-fixation ="url(#decisionfixation 660)"
id="g656"><text
id="text664"
style="font-oscillation:normal;font-weight:bold;font-
size:9.96000004px;font-family:simul;-inkscape-font-
specification:simul-refrun;writing-mode:lr-
tb;fill:#000000;fill-opacity:1;fill-
rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,75.024,499.75)"><tspan
id="tspan662"
y="0"
x="0 5.0297999 7.5397201 12.56952 17.599319
22.51956 27.54936 32.579159 37.608959">2.162234
</tspan></text>
decision-fixation ="url(#decisionfixation 672)"
id="g668"><text
id="text676"
style="font-oscillation:normal;font-weight:bold;font-
size:9.96000004px;font-family:simul;-inkscape-font-
specification:simul-refrun;writing-mode:lr-
tb;fill:#000000;fill-opacity:1;fill-
rule:nonzero;stroke:none"
transform="matrix(1,0,0,-1,117.5,499.75)"><tspan
id="tspan674"
y="0"
x="0">-</tspan></text>
decision-fixation ="url(#decisionfixation 684)"
id="g680"><text
id="text688"

style="font-oscillation:normal;font-weight:bold;font-size:9.96000004px;font-family:simul;-inkscape-font-specification:simul-refrun;writing-mode:lr-tb;fill:#000000;fill-opacity:1;fill-rule:nonzero;stroke:none" transform="matrix(1,0,0,-1,120.74,499.75)"><tspan id="tspan686" y="0"

Discussion and Conclusions

Decision making is as old as civilization. But, it is inferred that decision making for a farmer is still in a primitive format in different zones (Odisha: the case study).

When faced with incomprehensible traditional decision method farmer often fail to design 'rational' decisions. In the above five tables and their interpretations thereto, it is observed that there is no perfect co-relation (=1) between the variables. Issue now is why? It is evinced that the farmers, in this case study, have not been able to attempt coordination of their activity when making a decision. Do they dovetail relevant information to simplify traditional decision method process and make it tractable? Perhaps, no. May be they have inaccessibility to agricultural research and extension centers. May be they are still embedded to traditional practices and protocols. What are the underpinnings in farmer's decision modeling? The traditional and not so updated information based and non - realistic underpinnings are playing spoilsport. How do farmers subject themselves to bandwidth of decisions? There is an unavoidable need for information based technology to seep into the inaccessible rural sector. Does previous experience alter decision behavior? The answer is yes. The objective of the paper that was to stumble on the 'neuro - truism' of farmers decision dynamics and the manner in which they move - along in their farming decisions stands uncovered. Results indicate that farmers in rural pockets of Odisha still resort to traditional decision

methods in spite of technology having penetrated deep into the sector. Study recommends for intensive agricultural extension training and education in the interior 'Food Pockets' of Odisha.

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LONGING FOR LOVE IN SHASHI DESHPANDE'S "MY BELOVED CHARIOTEER"

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Abstract

It is inherent in human nature to long for love. Right from the birth, a human is in want of affection from different persons like mother, father, siblings, friends, lover, and spouse etc. in various phases of life. All goes well until affectional requirements are fulfilled. But when love is denied from whom it is needed, or loved one is lost due to death or separated for some unsolvable issues, it causes an unendurable damage in the human heart. This sort of human issues in personal life is well analysed by the renowned Indian woman writer Shashi Deshpande in her novels and short stories. "My Beloved Charioteer" is one of such stories that deals with loss of love and denial of love. It is a short story about females of three generations - The narrator, her daughter, and her granddaughter - that discusses two mother-daughter relationships, two marriages, and also the narrator's bond with her granddaughter. As both the marital lives came to an end due to the demises of men, the different perspectives of the two widows about their condition are clearly portrayed. One woman underwent marital strains, and so she feels freed from her agonies. Another woman, who led a blissful life with her husband, is unable to withstand the loss of him. There is no attachment in both the mother-daughter relationships, but the narrator and her granddaughter manage to create a strong bond between them despite the deprivation of other kind of affection in their lives.

Keywords: Marriage, Love, Mother-Daughter Relationship, Marital Relationship

Introduction

It is inherent in human nature to long for love. Right from the birth, a human is in want of affection from different persons like mother, father, siblings, friends, lover, and spouse etc. in various phases of life. All goes well until affectional requirements are fulfilled. But when love is denied from whom it is needed, or loved one is lost due to death or separated for some unsolvable issues, it causes an unendurable damage in the human heart. This sort of human issues in personal life is well analysed by the renowned Indian woman writer Shashi Deshpande in her novels and short stories. "My Beloved Charioteer" is one of such stories that deals with loss of love and denial of love.

About the Author

Shashi Deshpande is a well known Indian contemporary author who has penned novels and short stories about the familial issues and women's

concerns, especially in the middle class Indian society. The major theme of her works is woman's quest for self-identify. She holds a deep insight into the female psyche. The conflict between tradition and modernity is analysed in many of her works. She has also written four Children's books. For her novel *That Long Silence*, she was conferred Sahitya Academy Award in 1990 and Padma Sri Award in 2009.

My Beloved Charioteer

It is a short story about females of three generations - The narrator, her daughter, and her granddaughter - that discusses two mother-daughter relationships, two marriages, and also the narrator's bond with her granddaughter. As both the marital lives came to an end due to the demises of men, the different perspectives of the two widows about their condition are clearly portrayed. One woman underwent marital strains, and so she feels freed from her agonies.

Another woman, who led a blissful life with her husband, is unable to withstand the loss of him. There is no attachment in both the mother-daughter relationships, but the narrator and her granddaughter manage to create a strong bond between them despite the deprivation of other kind of affection in their lives.

The Narrator, a Middle-aged Woman

The writer uses first-person narrative that the story is told from the viewpoint of a middle-aged widow who lives with her widowed daughter and granddaughter. In the opening of the story itself, the narrator expresses her longing for love. "I smile as I hear them at last, the sounds I am waiting for. A rush of footsteps, the slam of the bathroom and then, bare feet running toward me" (148). She refers to the footsteps of her granddaughter Priti in these lines. Usually her mornings start with the expectation of seeing the loveable child and to have tea along with her. She feels, "Happiness can mean different things to different people. For me, it is this - the beginning of a new day with this child." (148-149)

People value certain time as precious only when it is limitedly offered. In the case of the narrator, the quality time that she spends with Priti is not for long because Priti has to leave her to go to school. After she departs, the narrator feels being abandoned in the utter silence of the house though it has another occupant - her daughter Aarti - who has no attachment with her.

The narrator's husband died seven years ago, and she got used to silence and handled it skilfully by recalling the happy memories of her past. So she regards it as a friendly silence. But after the arrival of her widowed daughter, "the friendly ghosts"(149) of memories left her, because of her daughter's prolonged grief for her dead husband that creates gloomy silence.

The concerned mother could not even hold a normal conversation with Aarti like asking "Slept

Well?" The response she once received prevents her from asking anything of that sort again. Some miserable people, naturally, vent their inner pain through words without thinking how it would affect others. Despite the narrator expresses serenely that it was the father whom Aarti loved, her feelings of dejection and rejection could be discerned from her statement. She yearns for intimacy with her daughter who never shares anything with her. In order to avoid bitter thoughts about it, she occupies herself in household chores. This tendency is commonly observed in many womenfolk who try to shun mental agony through physical exertion.

She finds meaning of her life only in her affinity with the child Priti. Her presence alone fills her with pleasure. But their mutual happiness must be maintained in secrecy with guilty feeling because her grieving daughter finds fault with being happy.

One day the narrator opens up to her daughter inadvertently about her past strained marital life which was full of sorrows. She had a husband who had no considerations for her feelings. She declares that he was a good father, but not a good husband. She reveals:

I know he didn't like unstringed beans and hate grit in his rice, I know he liked his tea boiling hot and his bathwater lukewarm. And he hated tears. And so, when your baby brothers died, I wept alone and in secret. I combed my hair before he woke up because he didn't like to see women with untidy, loosened hair. And I went into backyard even then because it made him furious to find stray hairs anywhere. And once a year he bought me two saris, always colours I hated; he never asked me what I liked and I never told him. ...At night,... I scarcely dare to breathe, I was so terrified of disturbing him. ... When he wanted me, he said, "Come here". And I went. And when he finished, if I didn't get out of his bed fast enough, he said, "You can go". And I got out. (154-155)

These lines convey the truth about her piteous plight as a wife. She never had a life of her own while

she lived with her husband. She was exploited by her husband to perform wifely duties, and she received nothing out of that life. It was only her husband who lived her life as well. This is a common disposition of men in general to consider that the creation of woman is only for fulfilling the various needs of men. Seeja and Karunakar write about the wretched condition of the narrator:

In her conversation with her daughter, she tells that her married life has been mere smoke and a bit of ash like the cigarettes that her daughter smoked. This metaphor has layers of significance strung to it. Smoke and ash symbolize harmful, toxic matter which would slowly vanish in thin air and become mere nothing. Smoke doesn't have any defined space to occupy and it just gets dispelled in the air. Such was her existence. Her marital life never bore any fruit. She was always insignificant in the lives of her husband and even her daughter. (88)

The bitterness she underwent in her marriage made her feel envious of her daughter who had an amicable relationship with her husband. Though it sounds odd that a mother feeling jealous of daughter, it is quite natural to feel so when someone is deprived of husbandly love completely. Due to the stifling marital life, she did not feel miserable about her husband's death. In fact she felt as if having offered freedom. She articulates to her daughter, "And when he died I felt like Priti does when school is over and the bell rings." (155)

Despite the narrator was not loved by her husband and ignored by her daughter, she does not lead life in frustration and dejection. "The mother is courageous and never loses hope even though she was in torments. She had a firm determination to endure and rise above her situation rather than bask in the pain of being a victim before the world" (Padder and Khan, 36). She considers the affection of her granddaughter as a compensation and solace. She is shrewd enough to be happy with what she has, disregarding what she lost.

Aarti, the Daughter

Aarti is the daughter of the narrator who was widowed at young age. Unlike her mother, Aarti had a happy contented marital life before the sad demise of her husband. Therefore, the loss of his love cast a traumatic impact on her. Happiness is completely squeezed out of her. Brooding over her plight, she lost her proper sleep at night. She replies to her mother's question. "Slept well? No, I never do that. I haven't slept well since Madhav died. I'll never sleep well again all my life. I have to take something every night so that I can close my eyes for a few hours. Now never ask me again if I slept well." (149)

Aarti lost interest in personal care as well. Her mother feels worried about her health as she has turned skinny and frail. During the period of her grandmother, the appearance of widows was blemished by imposing shaven head, red cotton sari, and shorn of ornaments as per the convention of certain Indian culture. Though nowadays widows are not insisted upon such derogatory changes, Aarti takes no measures even to maintain her ordinary look. Even if she tries to dress up sometimes, the vacant expression still remains on her face. And she has also resorted to the habit of smoking. It is not for getting pleasure, but for venting her heartache. She refuses to go out as suggested by her mother. The reason she states is: "There is nowhere I want to go. Everywhere I see couples. I can't bear to see them. I could murder them when I see them talking and laughing" (151). It is really appalling to see such attitude in a woman. But one should comprehend that loss of love may even turn a tender-hearted person into a devilish beast.

Aarti has not only lost her husband's love, but also her father's affection as he is dead too. Her mother expresses, "Life has been cruel to her. It was her father whom she had loved and he died, while I live. It was her husband she had loved even more than the child, and he died, while Priti is left to her" (150). She spends her time in her father's room, even

after his death. She might be recollecting the good memories she had with her father in the place he lived. The mother feels sadly, "Even after his death, he can give her something I can't." (153)

The character Aarti epitomises the people who forsake the present by clinging to the past. This sort of people should realise that the past occurrences cannot be changed. They should try to forget the past and move on and make life better by feeling contented with what they have currently.

Priti, the Granddaughter

Priti is the little girl whom the narrator fondly mentions as "my beloved charioteer" (154). Her love is treasured as "a gift from heaven, the ray of sunshine God sends even to the darkest corners" (153) by her grandmother.

Though she too, similar to her mother, has lost her father and misses his affection, she does not seem to be reflecting on it dejectedly. This is a good quality that grown-ups should learn from little ones. Despite she has mother with her, she is deprived of maternal affection. She describes to her grandmother about her experience with mother during bedtimes: "But, Ajji, if I try to talk to her, she says - 'Go to sleep, Priti, don't bother me.' And she never sleeps at all, she just reads and smokes. And I don't like that smell." (151)

Even if Priti does not complain openly about lack of parental affection, her yearning for it is obviously perceived from the abandoned look on her face. Her grandmother ruefully observes, "Priti is well-fed and well-dressed, she has her tonics and vitamins and all the other things they give children these days. And yet, a neglected child peeps out of her eyes sometimes, filling me with sadness." (153)

Yet Priti copes with the situation by finding happiness from the bond she has with her grandmother. Her affection for her grandmother is explicit that she searches for the old lady immediately after returning home from school in the end of the story. Their reciprocal relationship keeps both of them in good spirits.

Conclusion

Thus, Shashi Deshpande skilfully portrays the different types of relationships in the family life by comparing and contrasting two marriages and two mother-daughter relationships. The impact of the dead on the alive and the different perspectives of women after the deaths of their spouses are also vividly presented. In all these three characters, one could observe the longing for love and that shows the essentiality of love for humans.

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A GARDENER IN WASTELAND AS A PROTEST NARRATIVE: READING VISUAL POLITICS AND AESTHETICS IN GRAPHICAL REPRESENTATION OF DALITS

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Abstract

The Representation of Dalits in mainstream Visual arts is no different from mainstream literature since both glorify the Brahminical cultural heritage. The cultures of minorities and indigenous people do not have adequate space and representation in the mainstream arts and literature, and they get neglected as low forms of art and culture. This social and artistic exclusion of Dalits makes them invisible from the mainstream narratives, even though the lives of Dalits are entwined with arts, music, festivals, rituals and ideology, which is also an integral part of the Indian social and cultural heritage. Like textual representation, Visual Representation of Dalits is vital for creating Dalits an identity and space of their own. Since Indian visual culture is Brahmin-centered, many visual images are Brahminical in nature. Dalits are nowhere in their world; subsequently, to make them visible, it is necessary to debrahmanize Indian visual culture by 'seeing' and 'interpreting' things in the proper light. To understand the complex identities and politics of Indian societies, creating a visual discourse on Caste is crucial. In this context, the paper discusses A Gardner in the Wasteland: Jotiba Phule's Fight for Liberty and analyse show the novel challenges the dogmas of Hinduism and subverts them. This paper will discuss the prerequisites to capture the oppression of Dalits in Visual modes. It will further elaborate on the importance of revisiting Phule's old treatise Slavery and adapting it to contemporary times. Then finally, the paper confers how the novel counters the visual representation of Dalits by the mainstream elite visual artists by deriving its aesthetics.

Keywords: *Visuality, Dalits, Representation, Visual Culture, Brahminism*

Dalits Invisibility

Visual mode is a critical mode of representation; Visual images are the registers of social reality and an instrument for changing society. When Visual enquiry intersects with material culture, they construct new identities. However, in a multicultural country like India, visual exploration is complex; since visual images cannot give a whole picture of India. Though India has a rich visual representation tradition, many groups' identities are still invisible. Its exquisite visual tradition offers us a rich repository of Brahminical imageries and symbols that glorify the culture of Brahmins and other dominant caste groups.

The mainstream visual narratives are preoccupied with portraying the lives of the privileged. Dalits, who constitute one-sixth of the

Indian population (the labour force of the modern nation), are neglected in the depiction. Hence the explicit portrayal of Dalit life and culture is scarce, and Dalits are largely unseen in the big picture of India. Dawson Varghese believes that Indian visual cultures-Hindu and otherwise – enjoy established cultures of reading (decoding) auspicious images through religious or spiritual iconography within everyday spaces of public cultures. He observes that the depiction of gods, buildings of religious or spiritual significance, and portraits of Indian leaders, brave-hearts, freedom fighters and celebrities enjoy the privilege of being depicted positively and affirms their superior societal position.(Varughese105). This results in the invisibility of Dalits in the spheres of Visual Arts.

Dalit invisibility is predominant in all spheres of life; even today, there is a clear sign of restriction in media, arts and culture. The societal environment created around Dalits is the prime reason for the artistic exclusion of Dalits because they are regarded as inauspicious creatures. According to Manu Smriti, a person is polluted by the touch of Dalits, and even the mere sight of the person would make one impure. This idea of 'pollution' getting attached to the institution of Caste makes them socially invisible. Though the cultural life of Dalits is much entwined with art forms, they are artistically marginalised, and their cultural activities, like playing the drums, are often looked down upon and mocked as begging. Nevertheless, the dance forms like Bharatnatyam are celebrated with much enthusiasm as the elite classical Indian art form. This omnipresence of Brahminic hegemony in all spheres of life has sidelined Dalit cultures. Hence, forming a discourse on Casteism is crucial to get dalits out of this invisibility cloak. Such discourses can illustrate how Dalit identity is undermined in the name of the Caste System.

Caste as a Theme in Graphical Representation

Graphic narratives are a compelling style of Visual representation. Though Graphic narratives evolved from Comics, post-millennial Graphic narratives depart from the mainstream narratives in form, content, and aesthetics. These narratives retreat from the apprehension of the sacredness and disturb the Indianness created so far by inviting the readers to see the in auspicious representations. The Graphic Narratives' visual language (image-text) interface reveals the contested identities and their politics.

Comics are one of the forms extensively used in India to transmit Brahminical cultural heritage. Visualisation of Dalit experiences offers an extensive understanding of Caste in contemporary Indian society, and graphical documentation of Casteism and the experiences of Dalits is a critical intervention

in the study of Dalit narratives. This new discourse on Caste in Graphic novels is a significant initiative of Navayana Publishing House, which came up with two gripping graphic narratives, *Bhimayana* (2010) and *A Gardner in the Wasteland* (2011). The novel *A Gardner in the Wasteland* foregrounds an alternative discourse to the mainstream visual narratives by exploiting the mainstream visual representation and subverting its ideals.

A Gardner in the Wasteland is a protest narrative. It is exceptional in its departure from the established tropes (religious legends and epics, historical figures and folk tales) of *Amar Chitra Katha*, whose primary concern is to familiarise 'Indian heritage' among children. Unlike the template created by *Amar Chitra Katha*, comic narratives of contemporary times open up the discussion to broader themes, particularly the voices of the oppressed. The graphical documentation, adding Visual dimensions to the throbbing story of Dalits, enables the readers to visualise the predicaments and painful contours of Dalits without diluting their seriousness. *A Gardner in Wasteland* discloses the painful existence of Dalits in Brahminical society. It is a graphic adaptation of Phule's nineteenth-century work, *Slavery* (1873), and it is loosely a biographical account of Mahatma Phule and Jyotiba Phule.

Dalit Culture as Protest Culture

Raj Gowtham, a Tamil Dalit Critic and writer, defines Dalits are an Ethnic group. He says the culture of Dalits is distinct and opposite to that of the dominant cultures, and he calls it an 'Anti-Podal Culture', which is much more progressive than the so-called 'civilised' cultures of the dominant group. Gowtham further says Dalits must break away from the clutches of the One Nation, Race and Language theory of the Dominant Castes to claim a separate cultural and Social Identity. Besides that, he asserts that protesting against power and authority is the first step to reclaiming their lost spaces. According to Raj

Gowtham, a Tamil Dalit critic and writer, Dalit culture is a protest culture, and so is Dalit literature. He believes that inverting the dominant group's cultures is one crucial aspect of Dalit politics in which the signs and codes of the dominant groups are targeted, criticised, mocked and parodied. (Gowtham29). Ambedkar first initiated this protest culture. He protested against Hinduism by encouraging inter-religious marriage, burning the scriptures of Hindus and encouraging religious conversion. Thus, the progressive thoughts and actions of Phule and Ambedkar educated and motivated Dalits to disentangle themselves from the religious identity which stigmatised Dalits as untouchables. Slavery is one such attempt of Phule to inform slave practices of the Caste system.

Slavery- Critical Treatise to Graphical Adaptation

Phule's *Slavery* is a ground-breaking treatise with the mission to liberate Dalits and to debrahmanize the minds of Dalits. The aim of Phule in writing a critical treatise like *Slavery* (1873) is to inform Dalits about their enslavement and to educate people about how blasphemous the Hindu religion is. Phule uncovers the fraudulency of the faith and its scriptures composed by Brahmins. Phule's *Slavery* attempts to enlighten Dalits about how they are misled in the name of religion. He condemns Hindu Religion and its scriptures to the core since it demands subservience from one particular group to another rather than preaching humility and compassion. Raj Gowtham, in his book *Dalit Panpadu*, articulates that the Hindu religion has no space for equality. One can see binaries like small and big, superior & inferior, pure & impure, Guru & Shishya but not good human beings. (Gowtham12).

Religion is closely ingrained into people's lives and made people forget that the 'sacred' textbooks like Vedas, Puranas, smritis etc., are fictional stories by Brahmins. Raj Gowtham compares Indian mythology with Greek mythology. He observes that

even the much-celebrated mythological tales of Greek are understood by the world as artistic work created by men and appreciated, but in India, mythological characters are worshipped as Gods. This distinction is fundamental in understanding how the minds of the Indians are intensely entrenched in religion and its mythical stories. Ambedkar and Phule understood that to annihilate the caste system, the notion of the sacredness attached to the scriptures must be erased and subject to scientific enquiry. Hence, re-reading and re-interpreting the Hindu scriptures and desacralising the Hindu gods are the seeds to attain a Caste-ridden society.

A Gardner in the Wasteland- An Alternative graphical discourse

A Gardner in the Wasteland is a counter-narrative to the mainstream narratology of values and culture. This graphic narrative discontinues the comical tradition in its visual depiction of its characters, where Dalits have never been a subject of interest. Super hero characters are an indispensable part of comic narratives; similarly, this novel portrays Mahatma Phule and Jyotiba Phule as super heroes safeguarding people from Casteist hypocrites. Deepak Yadav states that the novel *A Gardner in Wasteland* is a step ahead of the Indian classic Amar Chitra Katha in retelling Indian history to bring the 'unpleasant truth' to the mainstream. The Visuality of the novel makes the satire sharper and wittier. The story's first chapter, 'Wasteland of Caste' portrays Casteist society's present and past scenarios. The novel opens in the year 2010, a situation where a group of children playing in the street are attacked by a man who belongs to higher Caste. It immediately shifts back to the 1840s where the narrator breaks the third wall and enters into the panels and makes the readers to see how Savitribai Phule getting attacked by Caste Mobs. Those panels inform readers how casteism continues to exist in the present society.

Panels in Pg10 & 11 depict the unequal distribution of labour and wealth, the poor peasants toiling in the fields, and the brahmin master taking all the wealth. Ambedkar has addressed Brahminical capitalism extensively in his treatise *Annihilation of Caste*; Ambedkar argued that though Caste Hindus often defend the caste system as just a division of labour and civilise the nation, "It is not just the division of labours but also labourers. It is a hierarchy in which the divisions of labourers are graded one above the other" (Pg 234). Besides that, he elaborated how this System of Caste prevents Dalits from enjoying equal liberty and delimits them from having proper education and taking up jobs in the public sector. He further says the division of labour indirectly presses people to take their ancestors' jobs and forces them to do the mean job that upper caste people can never do. This novel illustrates how the Caste system, as an economic organisation, suppresses man's natural potential and makes him bend to the social rules. The panels pg10 and Pg11 visualise Dalit men and women as weak and tired, toiling the whole day in the hot sun in the fields. On the other side, fat, hairy Brahmin men sit comfortably on the couch and enjoy the fruits of the labour of Dalits.

A Gardner in the *Wasteland*, an illustrated tale, calls our attention to the systematic oppression happening in the name of Caste. It openly challenges the power and structure of the institution - 'Religion'. The novel's graphical form facilitates the revision of history by reframing the archives to the needs of contemporary times. Thus, the story unveils the cultural politics of Brahmins over others. Further more, it exposes the cunningness of Brahmins in formulating sacred texts for their selfish interest. The novel is a bold account of how contemporary politicians play with people's religious sentiments and create conflicts between Hindus and Muslims and between Shudras and Ati-Shudras. It visualises dark pages of history like the partition of India and

Pakistan, Destruction of Babri Masjid. Further, the collages of newspaper articles on Dalit murders and honour killings make the novel more serious in tone and contemporary. Phule's main argument in his essay is Brahmins take the superiority with the privilege of interpreting the scriptures.

The novel *Historize* the lives of Dalits and Dalit movements by revisiting the new critical treatise 'Slavery' and by Visualising the life of Phule and Savitribai Phule. The complete hegemonization of Brahmins over the knowledge sector silenced non - brahmin reformers' contributions to the uplift of society. Mahatma Jyotiba Phule and Savitribai Phule are among the people who contributed tremendously to the emancipation of women, widows and the education of girl children. They opened many schools for girl children and especially for Dalit children. Jyotiba and Savitribai founded the Satyashodak Samaj mission in 1873 to promote education and social rights in the deprived society. Phule is a renowned scholar and was inspired by Thomas Paine, and he is too radical even for our contemporary times. He is the pioneer in fighting against Brahminism and in instilling anti-caste thoughts among people. Deepak Yadav quotes Gail Omvedt's words on Mahatma Phule,

... a renowned writer on the Dalit cause, Phule is significant and unique because of his 'alternative mythology ... [which] evoke(s) an image of ... anti-Vedic, anti-Aryan and anti-caste equalitarian message with its use of poetry, dialogue, and drama [that] could reach beyond the literate elite' (Pg 52).

Aesthetics of Gardner in *Wasteland* as Protest Narrative

Phule's *Slavery* (1873) is an earlier intervention in instilling anti-casteism. Phules owed the seeds of anti-casteism much before Ambedkar proposed his thesis on Hinduism. Phule and Ambedkar clearly understood that the roots of Casteism are in religion and its mythological stories.

"It is no use seeking refuge in quibbles. It is no use telling people that the that the shastras do not say what they are believed to say, if they are grammatically read or logically interpreted..... You must discard shastras deny their authority as did Buddha and Nanak... You must tell Hindus that what is wrong with them is their religion- the religion that produced in them this notion of sacredness of caste" (Ambedkar, Pg47).

Mythology is a critical area of study; it is an ideological form with the ability to organise and direct social life since it reflects a society's belief system. It is a Vehicle to spread specific ideological schemes and power. Levis Strauss articulates, 'Myth has, infact, a double function: it points out, and it notifies, it makes us understand something, and it imposes it on us' (Pg102). Thus, the strict adherence to Caste is a religiously sanctioned phenomenon based on the foundational texts which most people have never read. Phule argues that those texts should be re-read and appropriately interpreted to break their signification chain since it tends to inflect.

This treatise, *Slavery*, exposes the credulities of Hinduism by re-reading the sacred texts of Hinduism and questioning the loopholes in the mythological stories. *A Gardner in the Wasteland* adds visual magnitudes to the scientific enquiries of Phule. The Visuality of the novel skilfully illustrates various fictitious tales celebrated in Hindu mythology. It demystifies Dasavatars of Vishnu and nullifies the stories of Brahmins and other varnas. According to Hindu mythology, Brahma, Vishnu and Shiva are the three Gods from whom all the other female goddesses were born, and Brahma is the chief creator of all human beings. According to Manusmriti, Brahmins are born from the mouth, Kshatriyas

from the arms, Vaishyas from the thighs, and Sudras from the legs. The panels in the novel mock Brahma for taking the role of a woman and question whether Brahma has four vaginas in four places mouth, arms, groin and legs, and isolated himself while menstruating.

Above all, the panel shows Brahma having napkins on his mouth, arms, groin and legs, through which Phule points out how unscientific and against nature these stories are. He argues how Brahma (a man) could give birth to a child without a woman. He further asks if Brahma is the father of these people, then who is their mother. Besides, Phule discusses why Brahma is not worshipped often; he calls Brahma- a daughter seducer since he married his daughter. Phule's arguments point out the incest in mythological tales. Thus Phule deconstructs the sacred image of Brahma and subverts the doctrines of Hinduism. His arguments underline the hypocrisy and superstitiousness found in Hindu scriptures.

According to Phule, the Dasaavatars of Vishnu are different attempts of various troops fighting with indigenous people to capture their lands. The novel demystifies Hindu gods by reducing them to the level of humans. Ambedkar has also critiqued Valmiki's version of Ramayana and the character of Rama for neglecting Sita after saving her from Ravana. Phule and Ambedkar's critique locates the importance of subverting traditions by redefining epics, questioning the dogmas of Hinduism as the critical aesthetics of the novel. The novel is anti-institutional and anti-Hindu. Thus Phule attacks Hinduism by undoing the deity ship of Hindu gods and ridiculing the adherence of those faiths. He makes the readers re-examine their faith system by pointing out its paradoxes.



Fig 1 Srividya Natarajan & Abarajita Ninan. "A Gardner in the Wasteland".2011

Visualising the Bodies

Visual aesthetics of portraying the bodies take this politics further. Indian Comic history has a unique way of describing bodies, and mainstream visual narratives tend to 'Other' the bodies, which is purposefully done with the choice of colours. Promod. K. Nayar articulates, "Indian history ...might be read through and in the grotesque bodies of the brahmins, rakshasas, Aryans and mythological figures like Parashuram." (pg118). Usually, the comics depict men as heroic and brave, whereas women are more feminine and subservient to men. Colours do play a vital part in contrasting the character traits; good guys are always portrayed as fair (devas), and bad guys (rakshasa) are shown in dark-green color. Most mainstream narratives use bright colours and clear, strong lines, but the novel *A Gardner in the Wasteland* breaks the lineage of earlier narratives by projecting the characters and sketching them in plain lines. There are no colour variations between the characters since the colours are muted. The usage of collage makes it completely deviate from formulas of earlier graphic narratives through which the novel merges the past with that of the present.

The Depiction of Brahmins is another significant discussion that *A Gardner in the Wasteland* put forth. Phule challenges the Racial theory; he believes that Brahmins are Aryans (Europeans), the same stock as Persians, Medes and other Iranians-- crossed the Hindu Kush Mountain and fought with our Aborigines. Phule perceives that the hints about the war between devas, daityas and rakshasas as in the mythological stories are merely the war they had with our indigenous people. Likewise, brahmins in the novel are portrayed as fat, hairy, pot-bellied, self-centred and ruthless. The panel in Pg 37 depicts Brahmin men with big moustaches, horns and teeth with hulk-like bodies, fighting with Ak47 guns and missiles alluding to the modern men waging wars with the neighbouring countries. Thus, this graphic narrative shifts how Dalits and Indigenous people are projected. The mainstream narrative tended to picture the indigenous people as rakshasas indulging in violence and immoral activities, but here brahmins are portrayed as rakshasas. This novel demystifies the Dasavatars of Lord Vishnu and brings an alternate history of the Aryan invasion and the origin of civilisation.

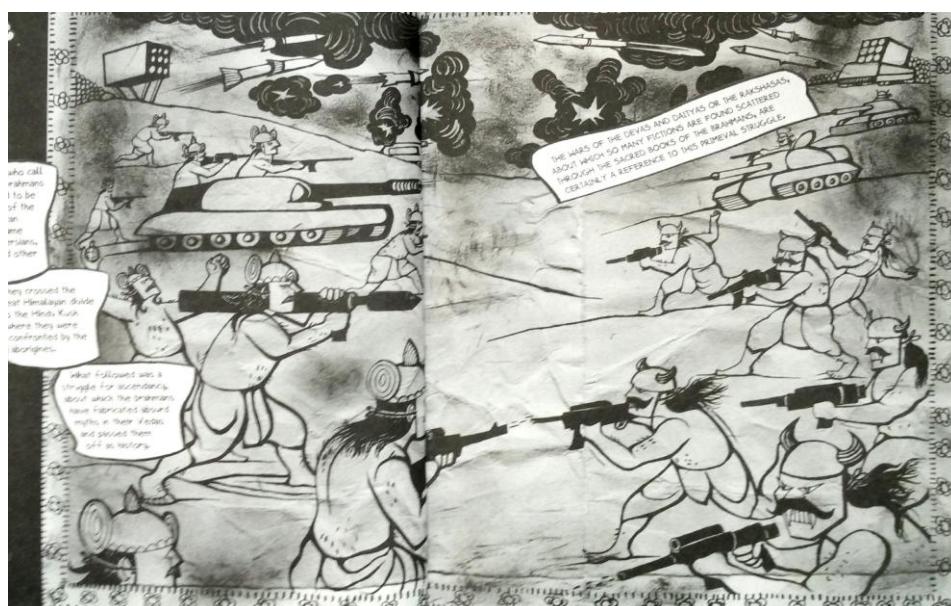


Fig 2 Srividya Natarajan & Abarajita Ninan. "A Gardner in the Wasteland".2011

Graphical representation of Dalits makes them visible and historicises the suppressed identities of people involved in the Dalit movement. As Dawson Varughese pointed out, 'Seeing' in Indian culture is a mode of knowing that involves mindful involvement with the visual and textual material. Adding graphic dimensions to the Dalit experience allows the readers/ gazers to visualise the pain of survival. As a protest narrative, *A Gardner in the Wasteland* counters the mainstream visual narratives by breaking the genre's stereotypes, and it consciously attempts to change the landscape of Dalit representation in the visual medium. The novel parodies the Brahminical narratives and the tenants of their religion and makes the reader critically analyse mythology's indispensable role in shaping people's minds. Though Dalit Literature has been introduced in academia, it was not a choice of the general public, even though it is intended to. By exploring other forms like graphical representation, writers create a new discourse and take the discussion to a broader audience, especially the 'Elite' since the genre is considered an 'Elite'. The mode of representation may vary, but the novel

resonates with the aesthetics of Dalit literature and invents its visual protocols to make it amicable to the local and global audience.

Dalit art has its symbolism, believes in the intrinsic value of art, and has a solid social and political message; in that context, this graphic novel lays a strong base for building a politically conscious Dalit Visual identity. It spotlights the gaps and holes in the representation of Dalit bodies and women, changes the narrative, and openly challenges the mainstream historical erasure from the accounts of the Indian nation-state. Thus, the novel marks the invisibility of Dalits to the vigorous assertion of their identity.

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Declaration

I here by declare that this paper is Original and it has not been published anywhere.

REDESIGNING SOCIAL CHANGE IN 21ST CENTURY INDIA

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Abstract

The social standards of India have evolved over the period due to its connection with the modern world. However, we need to also understand that in India social progress was a dynamic process and we have otherwise promoted many of these values of social change from ancient times. Modern scholars look at some of these perspectives through multiple theoretical lenses. This paper will try to examine the various approaches to social change and its implications. Social media has taken over our social life and in reality, has distanced us from the actual world. The family values have also changed and we are more comfortable in connecting with unknown people rather than the ones around us. The role of electronic media in the form of news agencies has also brought in more sensation and insensitive trends in our lives than giving us the actual reporting of the events around us. The social standards are today decided by how much we are digitally visible to the outside world.

Keywords: Social Changes, Indian Social System, Consumer Industry, Globalization, Social Media, etc.

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The evolution of the world should be gauged based on the way we have promoted socio-economic equality in society and also how much open we are to the required changes around us. Western countries have always promoted social change which is generally followed by other countries of the world. As we record that India is the largest democratic country in the world and the social standards of India have evolved over the period due to its connection with the modern world. However, we need to also understand that in India social progress was a dynamic process and we have otherwise promoted many of these values of social change from ancient times. Modern scholars look at some of these perspectives through multiple theoretical lenses. This paper will try to examine the various approaches to social change and its implications.

We need to identify and understand the distinction between what are values and theories. As

the famous Italian socialist Ignazio Silone has rightly remarked: 'The more Socialist theories claim to be scientific, the more transitory they are, but Socialist values are permanent'. So, we need to understand that through that theories we can just establish a school, but the group of values definitely helps us in identifying our culture, existence, motto of togetherness and lastly provides us the required solidarity. The dissection and redesigning of the social change were done by the Frankfurt school in Germany for the first time when the scholars under the promotion of the free market and liberal trade policy with the support of the era of great enlightenment started arguing along the lines of humanism, and human rights and discussing the consequences of change which could be studied in both the ways ie threatening and also safe and secure. The various factors led to the introduction of these visible social changes in India in the 21st century, we can examine each one of them with a critical approach. As education is the cornerstone of all these social changes and is the cardinal principle to shaping or reshaping young minds.

Education

One of the key features of mapping the social progress in India is to evaluate the policies and proposals for introducing changes in the existing traditional educational system in India. We strongly witness the interference of colonial education back in the 19th century when new schools and colleges were introduced to promote the Western side of education. The origins of the present educational system in India and its evolution during the colonial period were directly linked with the efforts of the British to consolidate their rule. The efforts to Indianize the education and promote the Madrasah in Calcutta by Warren Hastings and Sanskrit college by Jonathan Duncan in Banaras in 1791 and 1792 respectively didn't go down well with the Evangelists in England who strongly recommended the introduction of English education by replacing the local system. It is interesting to study the observations of the spokesperson of the first school of thought, Charles Grant who served the East India Company's Administration for 4 years in London and Calcutta. In one of his records written in 1792, he observed that 'The people of Hindustan are a race of men lamentably degenerate and base Hinduism is a fabric of error. He further argued that the ignorance and backwardness of the Hindus could be removed only with the introduction of Protestant Christianity and the arts and sciences of Europe'.

The most famous spokesman of the Liberals was Thomas Babington Macaulay, who in his famous minute of February 2, 1835, observed that 'a single shelf of a good European Library was worth the whole native literature of India and Arabia'.

James Mill, the chief spokesman for the English Utilitarians remarked, 'The great need should not have been to teach Hindu learning but useful learning', dismissing the former as obscure and worth-less knowledge'.

The ruling intellectual opinion in Britain during the end of the 18th century and the first half of the

19th was to encourage English education. In 1813, the Evangelists succeeded in getting entry for Christian missionaries and the 1813 charter of the East India Company set aside, a sum of not less than one lakh of rupees each year for the revival and improvement of literature and the encouragement of the learned natives of India and also the introduction of knowledge of sciences among the inhabitants.

Introducing social change in India through the Policy of National Education

The national movement as part of its four-point agenda along with Swadeshi, Swaraj, Boycott, and National education elaborated on the promotion of regional products and education in the mother tongue. As Gandhiji had stated, *Among the many evils of foreign rule, the blighting imposition of a foreign medium upon the youth of the country will be counted by history as one of the greatest. It sapped the energy of the nation. it has estranged them from the masses.*

The Education Commission of 1964 was appointed with Dr. D.S. Kothari as Chairman, popularly known as the Kothari Commission. The commission presented (1966) a report that even today remains the most comprehensive one.

The report entitled *Education and National Development* in its Foreword noted,

'Indian education needs a drastic reconstitution, almost a revolution tinkering with the existing situation and moving forward with faulty steps and lack of faith can make things worse than before'.

The report was, in fact, the social and political expression of the economic crisis of that period. It contained, on the one hand, recommendations that reflected the democratic aspirations of the Indian people for free and compulsory education, and increased financial outlay etc.-while on the other hand, it also contained recommendations that would lead to the restriction of higher education.

Understanding Social Change in India Today

The issues which are groping our society are described by the sociologist as induced social change. Induced meaning succeeds in persuading or leading to do something. It is alarming to see the growing disparity of the social changes in India in different states. Some states rank higher on social welfare schemes or literacy level and some rank higher on the economy, whereas some rank lower in many parameters.

According to the renowned economists Dreze, J, and Amartya. Sen in their work *India. Economic Development and Social Opportunity (1995)* have observed that 'In interpreting the picture of internal diversities within India, it is also important to remember that human deprivation has different aspects, involving failures of different kinds of capabilities.

So, in short, we need to understand the different indicators of deprivation need not be closely correlated with each other. Thus, the relative intensity of deprivation in different parts of the country depends on which aspect or indicator of deprivation we are concerned about.

We strongly witness this dichotomy of India in various aspects of the life and living of the people. The practice of various constitutionally forbidden norms like child marriage, caste system, dowry, and child labor practice reported in various states of India.

Guidelines of Social Change

While discussing the guidelines we also need to remember the variation in demography and local culture. Social norms and practices of each state in India.

The **First** point to note pursuantly is that probably because we fail to pursue the central objective consistently, we sometimes pay relatively more attention to intervened situations of lesser importance or of comparatively low degree of a

priority than those deserving high priority or greater attention.

Secondly, we may concentrate our attention on an aspect of the problem in view which rightly deserves it, but concurrently we may so overstress a fact to substantiate our pet hypothesis instead of examining its relative bearing in society.

Thirdly, certain contingent associations may be evident from our studies, but frequently they lead to the only conclusion that it is the so-called 'educated' and economically the 'upper' class in the society under examination which appears to be relatively the most vulnerable to a course of induced change.

For instance, diagnostic studies have shown that better techniques to increase agricultural production are adopted, if at all, by the propertied and comparatively better-educated agriculturists rather than by the impoverished and the least educated peasantry

Fourthly, even when some contingent associations are established as leading to significant causal inferences relevant to our objective, they are sometimes found contradictory to pre-conceived ideas; and, in that case, instead of investigating further the nature and the consequences of such contingent associations, we may go on harping on the a priori hypotheses and elucidating the problems on that basis.

Issues of Globalization and Social Change in the 21st Century

As the World Bank completes 75 years of partnership with India, we look back through the decades at some iconic landmarks along with how the World Bank was privileged to take part. Currently, the World Bank's support to India is spread over 127 active projects with a combined worth of over \$28 billion. Even so, the World Bank remains a small player in India's nearly three trillion-dollar economy and lends less than one percent of the country's GDP. With 1.2 billion people and the world's third-largest economy

in purchasing power parity terms, India's recent growth has been a significant achievement. Since independence in 1947, a landmark agricultural revolution has transformed the nation from chronic dependence on grain imports into an agricultural powerhouse that is now a net exporter of food. The new patterns of agrarian production compounded with the Green Revolution added a different social elevation to the states.

Since its independence in 1947, India has been on a remarkable development journey. Today, this once-a-low-income nation has attained a lower middle-income status and is home to over 1.3 billion people and a nearly \$3 trillion economy. The country has also graduated from being a major recipient of concessional lending to emerging as a donor in its own right. Global growth watchers, as their slowing growth projections reflect, have also factored in monetary tightening the world over to calm down global inflation. That the cost of restraining inflation will be slowing global growth is manifest in the April update of the World Economic Outlook (WEO) of the IMF that projects growth of global output to decline from 6.1 percent in 2021 to 3.6 percent in 2022 as well as 2023. The global economy, still in the process of reversing supply-side disruptions caused by the COVID-19 pandemic, would have been far more comfortably placed in the absence of the Russia-Ukraine conflict and the economic sanctions it has led to. Among major countries, the WEO projects India to be the fastest-growing economy at 8.2 percent in 2022-23. Lending credence to this projection, the fiscal year 2022-23 has begun with strong growth in economic activity in April as seen in the robust performance of e-way bill generation, ETC toll collection, electricity consumption, PMI manufacturing, and PMI services. The GST collection for March transactions going up to ₹1.68 lakh crore, the highest monthly collection, further bodes well for high economic activity in 2022-23. Notwithstanding the presence of inflationary headwinds, the capex-

driven fiscal path of the Government, as laid down in budget 2022-23, will help the economy post a nearly 8 percent growth in real GDP for the current year.

The agriculture sector is yet again poised to make a sustainable contribution to growth with an increase in acreage of summer crops including record sowing of rice. With sufficient water levels in reservoirs and normal expected rainfall, summer crops promise yet again a good postharvest output. Rural income and demand in the current year are also set to increase with the Rabi Marketing Season thus far seeing wheat procurement benefitting 9.5 lakh farmers in 2022-23. Rural incomes will be further boosted by agricultural exports as it registers an impressive YoY growth of 19.9 percent in April, despite facing logistic challenges in the form of high freight rates and container shortages. So with these kinds of startling facts and figures, we need to also unfold how economic development can also affect social patterns and for this, we need to examine what is globalization and understand the Three central aspects which revolve around it.

First, the most immediately striking characteristic is the volume of activity on the world financial markets. It is estimated that more than \$1 trillion is sold daily in currency exchange transactions. More significantly, over the past 15 years, the proportion of international financial dealing as opposed to trade has grown fivefold.

The **Second** central aspect of globalization is the increase in, and increasingly integrated nature of, world trade. There has been a massive growth in trade across the world, particularly in the service sector over the last decades. And the production and distribution of more and more integrated - cars and airplanes are being produced in two or three different countries, assembled in a fourth, with distribution being controlled from a fifth. Both cause and effect of this process have been the growth in the power and influence of multinational corporations, many of

whose annual turnovers now exceed the GNP of smaller countries.

Third, and perhaps even more fundamentally, globalization is more than just an economic process. It is about the transformation and compression of time and space in the lives of those whom it affects. The mass availability of television, the rise of information technology, the fusion of satellites and computers, and the impact of instantaneous electronic communication reaching all corners of the globe have had a profound effect on the way we see both ourselves and our relation to others. It is this last aspect which seems the most fundamental. It has changed the nature of the most basic human activity - work. The fact that capital and therefore jobs can shift around the globe with greater and greater ease means insecurity of employment. This insecurity, which has always affected manual labor, though cushioned by the post-war boom, now presses hard on the middle classes. The casualization of labor, the increase in part-time work, and the pressure to increase productivity which bears down on those lucky enough to have work - all produce an atmosphere of instability and anxiety.

So, in short, the waves of globalization have become a strong influencing factor in shaping social change in India. But globalization - the international growth of productive forces under increasingly capitalist relations - has also brought considerable benefits: more people with access to more goods, the eradication of many forms of the disease, and longer life expectancy. The masses in India and China have seen their standard of living rise as both economies have gone in for relative liberalization.

John Gray, who was the philosophical guru of Thatcherism in the 1980s, had observed *'the overriding task we confront today is that of preserving and extending forms of common life which highly individualistic market institutions threaten to undermine or corrode'*.

Similarly, Francis Fukuyama, the Japanese-American herald of the end of history a decade ago, *is now more concerned about how to trust as the necessary ethical basis for any society can be preserved from the destructive influence of market forces.*

George Soros, arch-manipulator of global finance, *'One of the great defects of the global capitalist system is that it has penetrated fields of activity where they do not properly belong'*.

Soros believes that global markets do not constitute a community and that what he calls the morality of belonging is endangered: *he is a capitalist who fears that global capitalism will eclipse governments and threaten global cohesion.*

Globalization is ambiguous: it can, and often does, exclude people, increase economic inequality, and deprive individuals and nations of the opportunity of participating in a global society. But the new means of communication and the sheer level of resources now at our disposal also offer the opportunity for inclusion, increased participation, and offering to many the possibility of direct and active involvement in government enterprises and associations.

In conclusion, therefore, *globalization is creating planetary solidarity. It is a society that is increasingly unitary in that our planet is finite and so are its resources and the way we use or misuse these resources affects us all.* But globalization also brings home to us the diversity of our world, the rich array of cultures, and the different worlds of meaning and community to which we all belong.

Growth in Social and Promotional Media

When we are heading toward a more well-informed society and age of information sharing and dissemination, we should look at the role of electronic media in social change. This era has us here in an 'information society' in which, as one of its leading commentators has suggested, *'aesthetic production*

today has become integrated into commodity production generally. The application is available through various gadgets have made it necessary for us to be constantly updated and get connected to the digital world. Social media has taken over our social life and distanced us from the actual world. The family values have also changed and we are more comfortable in connecting with unknown people rather than the ones around us. Electronic media in the form of news agencies has also brought in more sensation and insensitive trends in our lives than giving us the actual reporting of the events around us. The social standards are today decided by how much we are digitally visible to the outside world.

Social Changes and Consumer Industry

The customer is the King and is always right was the dictum of the consumer industry till the last century. The trend today is more about turning the consumer into the product and not the buyers. The advent of great consumer Malls has changed the social dynamics of buying and using products. The social change in buying certain products is more on the lines of marketing rather than the actual requirement of the product. The display of more tempting, fancy, and cosmetic products at the entrance of the gallery in the malls or showrooms takes away the social right of the consumer to invest in what they want to what they like. The inclination of purchasing the products because of the offer or some other products allocated for free has made us greedier and more materialistic in our social approach the purchase. The open market in developing and underdeveloped countries have become more of a market to dump the products of the developed countries instead of encouraging parity through globalization. The local indigenous products are disappearing from the market and the cheaper products are introduced to keep the market floating and the demands for the same products keep building up periodically.

Finally, to conclude the social changes of the 21st century is full of opportunities and expositions. It is mandatory to foresee the future course of our society will undergo and the impact it will have on our family values, stratifications in our society, social welfare policies, social media, and its limitations, the arena of privacy and barricades of interference, the interpersonal relations versus the materialistic interests in relations, the aspects of rural and urban disparity and finally a projection of our social lifestyle and real lives.

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TRAINING AT YOUNG AGE PLAYS A CRUCIAL ROLE IN CURBING VIOLENCE AGAINST WOMEN

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Abstract

Nirbhaya act was passed in 2013 and came into force from 3rd Feb'2013. The reason behind this act was gang rape that took place on 16th Dec'2012 in Delhi. Then President of India, Mr. Pranab Mukarjee said "Law not enough, more to be done for educating children". With strict law, i.e., with capital punishment for rapists by Nirbhaya act and introduction of Human Values and Professional Ethics as mandatory for U.G, Engineering and for other graduates, we find still the crimes against women is on the increase. Then President was prudent to realize that Law/Act alone cannot bring out the change in the societal behavior. He made it mandatory that young minds must be trained to form their behavior. This article is an attempt to see how our families treat the boys and girls and how far the Nirbhaya/Disha act could curb the violence. What measures can be taken by the parents/educators and the individual to reduce the violence against women.

Crime against women is inhuman, abhorrent and illegal act which hurts and denigrates the self-esteem, pride and health of women. Women are incessantly subjected to mental & sexual abuse, eve-teasing and domestic violence. Crimes against women have been increasing for decades in the form of acid attacks, dowry harassment, verbal and nonverbal abuse, female infanticide and gender bias at work places etc., there are rigorous acts against crimes in India but unfortunately, they are not implementing properly. We need strict implementation of laws to curb these attacks on women and support to protect their self-esteem. Most significantly parents should start to think that their foremost duty towards daughters is inculcation of a spirit of awareness and support to fight the menace in the society. Most of the women all over the world are fighting with determination against these crimes and many laws are implemented for their safety but this is possible only if men's attitude towards women will change and also methods of upbringing of boys should change. Education can play a prominent role in this direction. Education must be provided in a way that is consistent with human rights, equal respect for women & culture and free from all forms of violence. Inculcation of values and training at young age are important means to curb crimes against Women.

Keywords: Crimes, Values, Legal Acts and Education

"The day a woman can walk freely on the roads at night, that day we can say that India has achieved independence" – **Mahatma Gandhi**.

Aims and Objectives

- To know the reasons for violence against women
- To understand the strategies to control the violence against women
- To observe impact of value education on curbing violence against women

Methodology of the Study

Both quantitative and qualitative methods adopted. These methodologies would be employed in accordance with the need of the study. About 60 people from PG & higher and UG level were sampled to know the reasons and control measures of crimes against women.

Sampling Size

The data is collected through questionnaires, surveys, observations, oral narrations and so on. About 60 women, 25 from PG and higher education level and 35 UG level were sampled randomly to know the reasons for the violence against women. The survey is mainly focused on reasons for violence and measures to control the violence against women.

Introduction

Youth should be taught to understand and put themselves in other people's circumstances. Understanding women's experiences and the difficulties they encounter is part of this. Youth should be taught that all sexual activity must be consensual and that it is unacceptable to force someone into having sex. They should learn to accept responsibility for their acts and be aware of the effects of their behavior. They should be aware of how their behaviors could affect other people, including women. It is important to teach them how to handle disagreements without resorting to violence. Men and

women should be treated equally and taught as such in front of young children. This entails dispelling gender preconceptions and realizing that everyone has the right to live a life free from prejudice and violence, regardless of gender. We can foster a generation of young people who are more courteous, compassionate, and responsible by instilling these qualities in them at a young age.

Discrimination starts at home. Boys get more care than a girl child. Boys are enthused to be bold to do the activities outside whereas girls are taught to help their mother in doing the house hold activities. This type of gender inequality begins from families. Women are impoverished compared to the significance and freedom which man enjoys in education, employment, politics, and socio-religious activities.

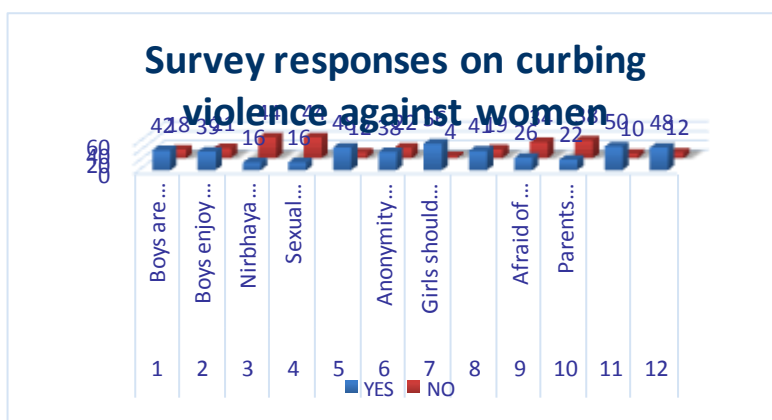
In the family, women are treated inferior to men and it is believed as a social norm. This type of conduct is reflected in lack of access to education, health and employment of women in society. Men have the freedom to choose their career and partners. Though women are educated, they do not have freedom of selecting their life partners, property, employment etc..., the opinion of their parents and husbands is final. India has observed gender variances in terms of respect and freedom from early ages; its socio-economic, religious and cultural practices resulted in creating a wide gap between the position of men and women in family and society.

Survey Responses and Data analysis curbing violence against Women

We distributed the questionnaire to sixty students both undergraduates and post graduates living in the Pulivendula, YSR Kadapa District. Below tables and charts show the responses collected from them for the items listed against their responses:

Table 1:1 Responses on Curbing Violence against Women

Item No	Question	Responses	
		Yes	No
1.	In your family, do you feel that boys are respected more than girls?	42	18
2.	In your family do you feel that boys enjoy more freedom than girls?	39	21
3.	Do you find Nirbhaya Act brought significant protection for girls?	16	44
4.	Can sexual crimes be wholly controlled by Law?	16	44
5.	Do you think that Disha app is useful for you?	48	12
6.	Do you feel that anonymity promotes molestation/rape/violence?	38	22
7.	Do you feel that girls should use social media carefully?	56	4
8.	Do you find Value Education is useful in controlling violence against woman	41	19
9.	Are you afraid of going alone to strange places?	26	34
10.	Will your parents send you alone to new places?	22	38
11.	Do you think that proper training is must in a family for the safety of a woman?	50	10
12.	Does the traditional culture train a boy to respect the girl?	48	12

Chart 1:1 Responses curbing violence against women

- From the responses for the Item No1, it is clear that 70% of the girls feel that in families, boys are given more respect than girls.
- For the Item No 2, 65% of the girls feel that in the families, boys enjoy more freedom than girls
- For the Item No 3, 27% of the girls feel that Nirbhaya Act brought significant protection for girls.
- For the Item No 4, 27% of the girls feel that sexual crimes can be wholly controlled by Law.
- For the Item No 5, 80% of the girls feel that Disha app is useful for them.
- For the Item No 6, 63% feel that anonymity promotes molestation, rape and violence.
- For the Item No7, 93% opined that girls should use social media carefully.
- 70% of the responders for the Item No 8, have expressed that the value education is useful in controlling violence against woman and its importance.
- For the Item No 9, "Are you afraid of going alone to strange places", only 43% responded affirmatively. 57% feel are not afraid to go alone to strange places.
- For the Item No10, 63% have expressed that their parents would not send them alone to new places.
- For the Item No 11, 83% of them have agreed that proper training in family and society is must be given to control crimes against women.

- Item No 12, 80% have stated that traditional culture trains a boy to respect the girl

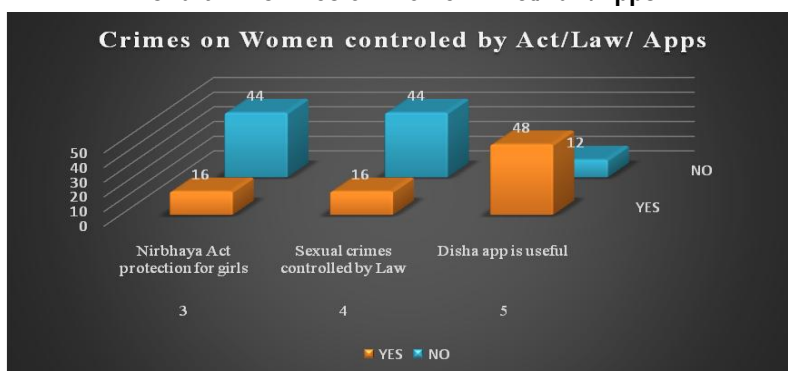
Women should be treated with respect, and children should be taught this. Understanding and appreciating the role that women play in family and society and recognizing their contributions to the neighborhood are part of this. According to the data, teaching young people about gender equality and how to treat women with respect can be a successful method for reducing crimes against women. We can foster a society in which violence against women is not tolerated by encouraging attitudes and behaviors

that esteem women as equals. A boy may develop the belief that it is acceptable to treat girls harshly or with disrespect if a parent repeatedly supports the idea that girls are weak or inferior to boys. According to research, parenting can have a big impact on how males feel about girls. Positive parenting techniques tend to produce more positive attitudes and actions, whereas negative parenting techniques produce more negative attitudes and behaviors. Parents must therefore actively endeavor to promote healthy and good attitudes about girls while also being aware of the messages they are conveying to their offspring.

Table 1.2 Crimes controlled by Law/ Act/ Apps

S.No	Questions	YES	NO
3	Nirbhaya Act protection for girls	16	44
4	Sexual crimes controlled by Law	16	44
5	Disha app is useful	48	12

Chart 1:1 Crimes on Women – Act/Law/Apps



From the responses both item No 3 and 4, 73% feel that the Nirbhaya Act didn't bring significant protection for girls and sexual crimes would not be wholly controlled by Law. For the item No 5, 80% feel that Disha app is useful for the safety of the women.

There are many strict laws against crimes on women but unfortunately these laws are not implementing properly. The violent gang-rape and murder of a young woman on a bus in Delhi in 2012 prompted the passing of the Nirbhaya Act, also known as the Criminal Law (Amendment) Act, 2013.

The Act added additional offences such acid assaults, stalking, and voyeurism as well as broadened the definitions of sexual assault and harassment. Also, it toughened up the penalties for these offences and improved the trial and investigation procedures for women.

We are not sure that Nirbhaya Act has reduced sexual crimes in India but the Act toughened the penalties for sexual acts, it may not have addressed the underlying issues, such as sexist social attitudes and gender inequalities. However, some experts have stated that there are still considerable

inadequacies in India's criminal justice system when it comes to tackling sexual abuse and that the Act's implementation has been inconsistent.

Since the Nirbhaya Act was established, there have been some reports of an increase in the reporting of sexual offences, which might be viewed as an indication that victims are more inclined to come forward and report such crimes. But it's not clear. It is difficult to determine whether the Nirbhaya Act has significantly decreased such incidents, despite the fact that it constituted a big step towards tackling sexual assault in India. In order to ensure that the criminal justice system is prepared to successfully handle such instances, more needs to be done to address the root causes of sexual violence.

Suggestions and Recommendations

- Laws against crimes on women should be implemented strictly to reduce the crime rate against women.
- Infamily, women should not be considered secondary, equal importance should be given in decision making and freedom to choose career and life partner.
- Serious attempts have to make to accelerate women's education and encourage to do the things independently.
- Parents should start to think that their foremost duty towards daughters is inculcation of a spirit of awareness and support to fight the menace in the society.
- Positive parenting techniques are very important to produce more positive attitudes and actions of boys towards girls.
- Prevention of crimes against women can be controlled by inculcating human values among young people about gender equality and how to treat women with respect.

Conclusion

It is the duty of every parent to teach about gender socialization at young age. Training at young age plays a vital role to control crimes against women. A substantial transformation has to be brought to maintain the equality in terms of respect and freedom of women. The imbalance and injustice have to be corrected so that women can rise their heads high and walk, not in fear, but in joy. It is possible if serious and sincere effort is made by one and all. Women have to be confident to assert their rights. Women need to enjoy equal rights along with men in a spirit of co- operation, where there is co-operation there is accomplishment.

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EFFICACY AND POTENTIALITY OF FEMALE CHARACTERS IN AMISH TRIPATHI'S SHIVA TRILOGY

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Abstract

From the earliest time of Puranas and Epics to the latest century, women have always been portrayed as powerful characters who could predict, decide and act sensibly in such a manner that the direction of entire wind of events may depend wholly or partly on their deeds. Gargi, Maitreyi and Apala- the Vedic women and Sita, Draupadi and Kunti- women in Ramayana and Mahabharata, are a few in the list. The tradition still continues with the contemporary writers like Kavita Kane, Chitra Banerjee Divakaruni, Devdutt Pattanaik, Anand Neelakantan etc are some of the writers who portrayed powerful and mighty women in their works. The latest in the list is Amish Tripathi who portrayed Sati as a powerful warrior and a strong woman capable of making decisions and defending the self throughout the entire plot. Sita often takes the stand of the real hero in the novel at multiple situations thereby expressing and exhibiting the level up to which the potential and influence of a woman can rise. The article also tries to figure out and sketch the other important female characters in the novel to bring out the effectiveness with which the characters are consumed and shaped by the writer into adorable beings.

Keywords: *Potentiality, Woman, Sati, Ayurvati, Kali*

Introduction

Shiva Trilogy is a series of three books- 'The Immortals of Meluha', 'The Secret of the Nagas' and 'The Oath of the Vayuputras'-written by the most famous contemporary writer, Amish Tripathi on the mythological background. The Shiva Trilogy is the writer's first attempt to enter into the world of literature. Rejected by many publishers, the Immortals of Meluha became the most sought after and read book in the history of Indian literature. Amish Tripathi shot to fame and glory after the publication of the series which made him the most sought-after writer among the contemporary writers in Indian English. The series tells the story of lord Shiva, one of the most respected Gods in Hindu mythology. The character had been portrayed in such a manner that Shiva is depicted as a normal and

ordinary human being without any divine power or abilities. He rose to power and acceptance due to his deeds and activities and people started considering him in a platform equivalent to that of gods. Hence Amish Tripathi's characters are all depicted as ones with extraordinary or super human power with which they could achieve or attain the ultimate glory.

One of the most important and remarkable aspect of Shiva Trilogy is the presence of strong female characters who throughout the journey marked their ability through wonderful acts and performances. These female characters play a vital role in the flow of the story.

Material and Methods

Shiva Trilogy is used as the primary source and reference material for the study. Secondary sources

include the ones from internet, articles, library books etc... The method used is referential and inferential method to reach at the conclusion and findings.

Findings and Discussion

After careful study and analysis, it is observed that the female characters are very strong, powerful and skilful in their areas which brought remarkable changes in the society and in the people around them. The different women characters presented in the trilogy are the following.

Sati

The most prominent woman in the Trilogy is Sati. She appears in all the three books. She is presented as the headstrong and determined daughter of King Daksha, the ruler of Meluhan Empire and a skilful and mighty warrior who is ready to fight for everything she believes is true and real. In the beginning of the trilogy, she is portrayed as a Vikarma who gave birth to a still born child as a result of her bad deeds. She is a fierce woman who is ready to speak whatever comes to her mind and whatever she feels is true to anyone and in any situation. She never defers from her path if she is very sure that her stand is true and she is in the right path even if it means challenging the authorities. Her character determines the development of plot of the story as many incidents in the story occurred in the presence of Sati as the major causative factor.

Sati is the love interest of the powerful male character, Shiva. Shiva was able to convince her into marriage after much struggle as she strongly believed in the fate of Vikarma. Sati is the one and only powerful hands behind Shiva who successfully convinces him to take up the role of Neelkanth to be the saviour of the people of Meluha. She is always the driving force behind Shiva who could make things happen for him. She is a strong and independent woman with her own rights and wrongs and good and bad deeds.

In the beginning of the novel, Sati was reluctant to marry Shiva. But once married, she serves as the dutiful wife whom stands by her husband through his thick and thin. But she places her duty to her people above everything else.

She accompanies Shiva in search of Nagas, the evil community believed to be eradicated from the surface of earth to ensure peace. She stands side by side with her husband to fight in the battles fought and never backed out even when she realised that she is trapped and is about to lose her life.

She is the first one to realise the real evil that existed in the country. She decides to take the lead and fight the war against in the absence of her husband as she believes in the duties and responsibilities of a true warrior. Her involvement and decision-making capacity brought great changes in the final war scenario. She is that strong enough to make anything happen in the circle around her which is beneficial to the people. Her love and loyalty to her mother land and her people are above all to her. She received her death as a true warrior and fought till her last. Sati is a strong woman, lovable mother, dutiful wife and a skilful warrior- all in one.

Ayurvati

Introduces in the beginning of the first book of the series, and continues to be significant in the other two books, Ayurvati is the chief doctor of the Meluhans. She is also one among the great scientists of Meluha who is dedicated to the field of treatment and medicine. It is under her supervision that Somras, the medicine that gives immortality, is administered. She is responsible for the health and hygiene of the entire population and everyone in the empire followed her instructions without questioning. The overall wellbeing of the people of Meluha and their life is in her hands. Shiva considers her as his mentor and advisor and often used to consult her at times of crisis.

Ayurvati is the most respected person in the empire and the one with great knowledge. She has answer to every question asked and logical reasoning to every aspect. Her intelligence and knowledge help those around her to reach positive conclusions to all problems and issues that affects the empire. She always wanted the evil to be traced and destroyed. She is also sensible enough like Sati to realise that Somras is the true evil in the end. Ayurvati saved the life of many Meluhans including Shiva through her skills and tried her best to save Sati. She is the living encyclopaedia of Meluha and a firm believer in science. She is not ready to accept the concepts of religious beliefs and superstitions. She supported Shiva when he marries Sati thereby apposing the evil tradition of Vikarma. She is realistic in nature and is quite pragmatic and this often ended in heated arguments with the elated members or rulers of the Meluhan society. But she never seemed to care about it at all.

It is Ayurvati who discovers the potential of shiva and called him as Neelkanth and persuaded him to accept the position as the saviour of Meluha. She even went to the extend of imploring Shiva for the sake of her people. To her like Sati, motherland and people are most important and is ready to do anything fair for the welfare of the society. As the story proceeds, she also actively involves in the war against evil and the political turbulences that affected Meluha as a result of that. The victory against evil is based on her scientific temper and logical thinking also.

Her character represents science and reason which helped Shiva in realising who he is and what his destination is. She helped Shiva to identify the true evil and bring an end to the era of evil. Her contribution and significance can never be understated.

Kali

The twin sister of Sati and a born Naga, Kali, is another significant woman character in the trilogy. She is introduced only in the second book of the series and continues to appear in the third as well. She is a fierce warrior like Sati who is despised by people of Meluha as Naga because of her physical deformities. Even though portrayed as heartless and bloodthirsty in the beginning, the character evolves into a different shade as the story progresses. Kali is the one who brought to light the fact that Nagas have got nothing to do with the evil. They also are trying to protect people from the ultimate unknown evil and joins hands with Shiva in his quest for evil. Even though despised by her parents for her physical deformities, she ends up forgiving everyone taking pain to forget all the sufferings she endured. A complex and multi layered character, Kali exhibits high and low-end temper and ruthlessness throughout the journey. Her character shows the extend up to which an individual can change and the role played by her is also significant.

Other than these major female characters, some other female characters are also significant due to the role they played in turning the whole wheel of the plot towards destruction of true evil. Anadamayi-princess of Ayodhya, Kanakhala-the Prime Minister of Daksha, Kritika-maid of Sati, Veerini- queen of Meluhans are all significant female characters who are all strong and powerful in their own roles.

Conclusion

The women characters in the Shiva Trilogy are portrayed as strong, independent and resourceful individuals capable of doing wonderful things in their life in such a manner that it could bring good to the life of the people around them. More committed to the motherland and the people, their personal lives always took a back stage when it comes to priorities. They are capable of handling difficult situations in a genuine manner as compared to the male characters.

The female characters are in fact the true and real heroes in the trilogy and can be considered more significant. They are not simply side or supporting characters. Rather they are the integral parts of the story and play an important role in the development of other characters.

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THE STUDY OF SELF COGNIZANCE: A SELECT STUDY OF INDIA

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Abstract

Indian philosophy is deep-rooted in social, familial, and individual life of people in every nook and corner of the country. Indian philosophy is intertwined rich history of spiritual evaluation of India. This is the tradition of Advaita Vedanta that is several centuries old. In this study, we have attempted to open up the biggest miracle of human existence. This is the miracle of self-realization. In Indian philosophy, self-cognizance is the ultimate purpose of human life. If an individual fails to find him or herself which is the core concept of self-cognizance, Indian concept of spirituality marks it as a failure of human life or the life is wasted. Studies in this discipline suggest that spirituality and self-cognizance are closely associated with human wellbeing. However, the precise link of this relationship is still unrevealed. This study tries to explore the relations between spirituality, psychological or mental wellbeing, and health-related behaviors in the framework of acquired behaviors.

Keywords: *Indian Spirituality, Self-Cognizance, God and Guru*

Introduction

Man is in search of his purpose of existence. Man passes through the myriad of experiences of his life. Life is like a journey that creates different experience at different points of time. What is the goal of life? This ultimate question haunts man every day, every moment. Man is not created to pass the life thinking and working for daily life, to quench his appetite, to earn for the family or himself. Man is not created to wait for the death and let others reminisce. The journey of life begins with the birth of a baby and comes to an end with the death. The physical existence is for a certain period but the "Atma" that this body carries is infinite. In the Bhagavad Gita, Lord Krishna says to Arjuna, "Atman is neither born nor does it die. Coming into being and ceasing to be doing not take place in it, unborn, eternal constant and ancient. It is not killed when the body is slain" [1].

"Self-Cognizance is the knowing – in body, mind, and soul – that we are one with the omnipresence of God; that we do not have to pray that it come to us, that we are not merely near it at all times, but that God's omnipresence is our omnipresence; that we are just as much a part of Him now as we ever will be. All we have to do is improve our knowing" [2].

Sanatan Dharma says anything that can change cannot last long. So, anything that can change cannot be eternal. Worldly wisdom cannot push one to the path of spirituality or self-realization. Love, respect, and devotion to the Guru who has already travelled through the path of spirituality and experienced self-realization can help an individual to find the path to self-realization. The point is suffering, anxiety, stress, and all these worldly matters are the outcomes of human ignorance. If someone is

suffering for any reason, he is away from the path of spirituality or Sanatan Dharma.

Almost two decades ago, there was a psychological movement with several modes of research approach in different spheres of psychology. Research in the domain of mental health begun to change focusing on the variable factors directly or indirectly attached to mental disorder and psychological health [3]. Two primary directions in the mental wellbeing research included hedonistic approach and eudemonia. Hedonistic approach focuses on the pleasure and happiness in life [4]. Focus was also on various aspects of subjective wellbeing (SWB)

The primary aim of spirituality is self-revelation. Spirituality again has multiple levels. Moreover, the path of spirituality needs perseverance and discipline to the highest level which is not meant for everyone. The life stories of masters in this genre reveal there is no pattern of following a spiritual path. Rationality, education qualification, professional expression, or anything related to materialistic life has no connection to spirituality. On the contrary such types of worldly knowledge and experience can hinder the progress of a genuine seeker.

This may be the reason that for most of people, spirituality is something mystic, not for everyone, only for individuals with special capacity, or something unusual.

This is a misunderstanding that creates from the incapacity to comprehend the nature of such types of evidence. In spirituality, experience is the proof. Experience can also differ from person to person. This experience is completely different form of experience that people know in general. In spiritual experience intellect has an extremely limited part to play. This is the reason why "self-realization" is tough to understand and achieve. Among other reasons, the most obvious ones are the following:

(a) A state of mind that can only be experienced

- (b) The experience cannot be understood with general sense
- (c) The experience is beyond general intellect or humanly intellect

In this Study, we will show that;

- (a) Spirituality follows self-esteem
- (b) The search for scholarship has little effect in the quest for self-realization
- (c) Self-enquiry or what is called in India "Atma vichara" is the best way to fulfill the aim

In this study, we will try to demonstrate that there is only a point of fact and no other way in the path of the self-realization. The study assumes that masters or Gurus represent supreme truth as they have achieved self-realization. Our focus will be on Indian form of spirituality that has a great and enriched tradition.

In this context, we need to understand that there are two types of knowledge and two types of education. First comes the professional education that makes our living and lifestyle. This is known as "lokavichara" or worldly knowledge. Then comes "spiritual education" which is the education for life or "atma vichara" or "self-enquiry". We will demonstrate that between these two types of education, the professional one is the impediment in the development of spiritual education. Professional learning, knowledge, discussion, or debate ultimately hinders the progress in the path of spirituality. A question therefore naturally arises, if science, analysis, data, reasoning, constant enquiry, logic, rationalization, etc. have no role in the development of spirituality, then what can make spirituality smooth sailing and what kinds of resources are important in this path? Three aspects are important in the path to spirituality: (a) faith (b) surrender (c) devotion. From scientific angle faith is "unscientific" and irrational. On the other hand, if looked from different angle, faith starts where logic ends.

"The quest 'Who am I?' is the axe with which to cut off the ego." And: "Cease to be the knower, then there is perfection."

But what is self-realization? Sri Ramana again had a unique answer: "The 'I' casts off the illusion of 'I' and yet remains as 'I'. Such is the paradox of Self Realization."

"If you give up 'I' and 'Mine', all are given up at one stroke. The very seed of possession is nipped in the bud or crushed in the germ itself."

Sanatan Dharma says the Supreme Being five essential functions, viz. Creation, Preservation, Destruction, Involution, and Grace. Of all these Supreme essential functions, "Grace" is the most important one.

According to Yogananda, "To rise above the duality of creation and perceive the unity of the creator was conceived of as man's highest goal"

In order to explore the spiritual dimensions in contemporary literature, the books by Sadhguru Jaggi Vasudev selected for this study are: Inner Engineering & Karma. Simultaneously, My Master by Parthasarathi Rajagopalachari (Chari ji) will be studied

Psychological Well-Being

Psychological wellbeing is not one but several aspects of human welfare such as one's self-assessment about his past life that can be called acceptance of himself in the way it comes in reality, a wisdom and experience of continued growth and development that can be called personal growth, a positive belief that the life has a purpose and meaning that can be called purpose in life, one's ability to get habituated with the surrounding world that can be explained as mastery over the surrounding environment, and a sense of determination that can be called autonomy or freedom in thoughts. Later, another research work conducted by Ryff and Singer [18] established a measure these six different and distinct psychological functioning.

Spirituality

According to Jung et al. [5], "spirituality should be understood as "a more general, unstructured, personalized, and naturally occurring phenomenon, where a person seeks closeness and/or connectedness between himself/herself and a higher power or purpose."

Spirituality is also discovering and realizing meaning of life and significance of it with respect to the surrounding world [6]. Spirituality is also perceived as a self-motivated reality that is meant to explore something new. It is also involved developing new meaning to life and defining the ultimate boundary to it.

Studies in this discipline demonstrate the positive impact of spirituality on mental and physical health. It also demonstrates the effect of spirituality on physical wellbeing. Spirituality improves quality of life, quality of social relationships, and psychological issues like stress, depression, or suicidal behavior [7]. The studies done so far have developed tools to define and measure spirituality from different angles.

In this study, we have used self-answering questionnaire developed by Heszen-Niejodek and Gruszyńska [8] for survey. In this questionnaire spirituality consists of the following factors:

First is the religious attitude including experiences while practicing religious norms, importance of religion in everyday life, influence of religion on moral choices, and an individual's perception of God.

Second is the ethical sensitivity that includes ethical values and its relevance in everyday life, one's tendency to be ethical in everyday life, and compliance with basic ethical values.

Third is harmony that includes seeking harmony in society, country, and people of every status, seeking harmony with the world.

Health-Related Behavior

The health potential of an individual is related to one's lifestyle [9]. Health behavior is a way to

undertake any activity that improves health and wellbeing of the individual [10]. Health behavior is again dependent on several aspects of life and lifestyle such as diet, physical activity, work activity, social relations, and the applications of psychoactive substances [11].

The present study uses four categories of behaviors related to health and wellness [12]. These are:

- Appropriate nutritional habits.
- Prophylaxis that means obtaining relevant information on health and wellness and following health related recommendations.
- Positive attitude towards life and society including avoiding or managing emotional overload of any form.
- Pro-health practices such as healthy sleeping, relaxation, and regular physical activities.

The positive effects of health-related behavior on individual wellbeing have already been studied on different groups of people with various age groups. However, the exact connection between health and wellness behavior and psychological wellbeing is not clear fully. Moreover, there have been very few studies about the impact of the practices of spirituality on health and wellness behaviors and activities of an individual, although the former was recognized as one of the four dimensions of health.

Conclusion

This study was designed to look into the relationships between spirituality and self-realization. The study also aimed to examine the relationship between spirituality, acquired education, and psychological wellbeing of an individual. To make this study effective, a path analysis was done systematically with statistical modeling. It is one of the few studies that followed a statistical approach to address the relevance and effects of spirituality in human life. Comprehensive effect or total effect represents the sum of direct and indirect effects. The model offers

an analytic reference for understanding the balancing effects of the variables. Path analysis model is cross-sectional in nature. This is the reason, path analysis cannot be inferred from the collection of data and related analysis. This study found significant relationships among three factors, viz. spirituality, psychological or mental wellbeing, and physical behaviors. Here, type of acquired education is taken as the mediator for the variables. The study shows that spirituality and psychological wellbeing is positively connected with physical behaviors of individuals. It was found on survey that the relationship between spirituality and psychological wellbeing was found to be stronger in the human psyche and spirit in the students. Thus, spirituality affects the psychological wellbeing of an individual. In the study, it was found that spirituality had the same relationship with physical behavior. This supports the literature review. This makes obvious that spirituality is a cause of psychological wellbeing proceeding to health-related behavior.

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MAJOR CHALLENGES AND THEIR RECTIFICATIONS OF ENVIRONMENTAL EDUCATION AMONG GRADUATE STUDENTS

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Abstract

There are a lot of challenges while teaching environmental education to students. On that, here we can see some of the major challenges and how to rectify that challenges. In this article, Author concludes that there are six major challenges while teaching EE for upper secondary students (Graduates). Among the students, most of them say that, while comparing advantages and disadvantages in teaching/learning EE, Disadvantages play a major role because EE is the course/subject for the students as a practical, beyond the classroom, apart from the normal lecture method of teaching. Here author and co-author said that there is a lot of modern way of teaching EE to students. There are different levels of students like primary, secondary, higher secondary, and graduate students. They have a different levels of learning methodologies for different levels of students. From this, we can easily identify that EE also has various levels for various levels of students. There are numerous advantages and disadvantages. Here we can about the EE in graduate students.

Keywords: Environmental Education, Graduate Students, Survey, Major Challenges, Rectifications, Results.

Introduction

Nowadays, Environmental Education is one of the minor/elective courses for all graduate students. This is not a good thing for our future generation, because if they do not learn properly about this course, then they can't learn about the entire environment like how to protect our environment. Etc.....

For this scare things of our upper secondary students, the Author and co-author say how to make the EE course a student-like subject. And also what are all the major challenges for the teachers/students to teach/learn the EE?

Environmental Education

In 1969, William Stapp (1929–2001), a professor at the University of Michigan, School of Natural Resources and Environment (SNRE), first defined environmental education as a process producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems,

aware of how to help solve these problems, and motivated to work toward their solution.

According to UNESCO "Environmental education is a learning process that increases people's Knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations, And commitments to make informed decisions and take responsible action"

According to D.H. Meadows', environmental educators on every continent develop materials and methods as varied as the earth's different cultures and ecosystems. He lists some key concepts which underlie all environmental education. These are food for thought, levels of being, complex systems, population growth and carrying capacity, ecologically sustainable development, socially sustainable development, knowledge, uncertainty, and sacredness.

Environmental Education at Different Levels

In School: We know that the fulfilment of one student was under part of school life, which means a student can acquire what is what from their school level of education. Hence we can build up the basement of the EE at the school level in a very strong manner. Nowadays the primary level of students has the subject named EVS, a combination of science and social can make them teach some of the topics of environment that how to save water. Etc...

Hence we can make the students learn the subject, not by a normal traditional method, but we can make them learn beyond the classroom and visit some of the environmental places like the Zoo, Aquarium, etc...

In College: Here, they are a well-known person in basic science. Hence we can make them engage the new things like visiting an environmental place as a field trip, and make the course a core paper.

Major Challenges in Environmental Education

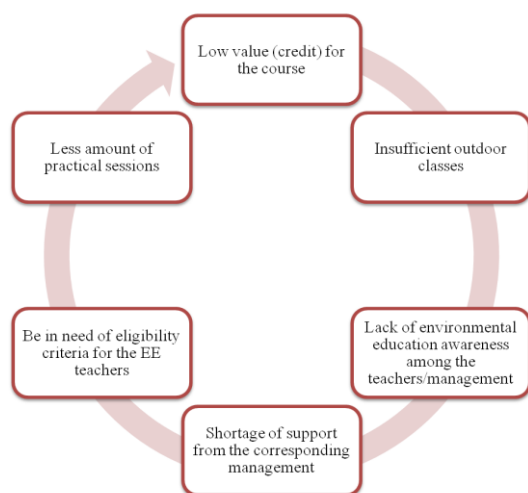


Fig 3.A Major Challenges in Environmental Education

Low Value (Credit) for the Course

Nowadays most universities gave a low value for EE. Due to this students cannot take seriously about this course and they can't focus that how to evolve and engage the environment.

Insufficient Outdoor Classes

EE is one of the practical-based courses for the students, it comes out the students beyond the classroom. Students are acquired to learn this as not as a simple lecture method of teaching.

Lack of Environmental Education Awareness among the Teachers/Management

Most of the teachers do not have a certain awareness of this course like how to teach the students as a practical method like plantation of saplings, PowerPoint presentation method of teaching, teaching beyond the classroom, arranging the field trip for the students, etc...

Shortage of Support from the Corresponding Management

Many universities have given insufficient support to students to engage the field trip, etc.... this is one of the major challenges among challenges of EE.

Be in Need of Eligibility Criteria for the EE Teachers

There are no proper eligibility criteria for the teachers who can take the EE for the students. This too one of the major challenges, because if the teacher gave any wrong information to the students, then they could not able to learn properly about that topic.

Less Amount of Practical Sessions

Lack of practical sessions is also the major factor that affects the EE learning for the students, i.e. students can gain knowledge easily in a practical way of teaching while comparing with the normal traditional way of teaching.

Review of Literature:

"Challenges for Environmental Education: Issues and Ideas for the 21st Century: Environmental education, a vital component of efforts to solve environmental problems, must stay relevant to the needs and interests of the community and yet

constantly adapt to the rapidly changing social and technological landscape” by Stewart J. Hudson

[https://doi.org/10.1641/0006-3568\(2001\)051\[0283:CFEIEA\]2.0.CO;2](https://doi.org/10.1641/0006-3568(2001)051[0283:CFEIEA]2.0.CO;2)

“Challenges and opportunities of teaching environmental education in secondary schools in Kenya: the case of Ruiru district” by Ng’ang’a, Nancy. <https://ir.library.ku.ac.ke/handle/123456789/8899#:~:text=These%20challenges%20include%2C%20fragmentation%20of,method%20of%20teaching%20among%20others>

“Challenges of Environmental Education in the Context Of Indian Education System” by Karma Sherpa <https://www.ijcrt.org/papers/IJCRT2202009.pdf>

“The Problem with Environmental Education Today: Is the Tail Wagging the Dog?” <https://www.hillsdale.edu/educational-outreach/free-market-forum/2008-archive/the-problem-with-environmental-education-today/>

“**Environmental Education:** The Need, The Challenges, and What We’ve Learned” by Jamie P. Bacon and Cathy Ziepniewski https://www.college.bm/images/documents/bcj/Vol_3/Environmental_EducationThe_Need_The%20Challenges_and_What_We-ve_Learned.pdf

“Environmental- Education- and- Its- Effects-on- Environmental-Sustainability” by Joan Nyika and Fredrick Madaraka Mwema https://www.researchgate.net/publication/349126299_Environmental-Education-and-Its-Effects-on-Environmental-Sustainability

“Environmental Education: Relevance And Challenges” By Abubakar Ikra Baballo <https://www.globalacademicgroup.com/journals/pristine/Environmental%20EDUCATION.pdf>

Survey and Sample

Survey

The survey method can be used in both, quantitative, as well as, qualitative studies. Here the author can choose this type of methodology to take a collection of responses from the group of 38 students from different universities about “which are all the major challenges in learning/teaching environmental education”

Here author and co-author can use Google Forms to collect the responses of the students.

Sample Size

Tool

Survey tools are tools that can be used to collect answers or responses to questions from specific audiences to get the information we want. They feature a variety of question types, including multiple-choice, short answer, check box, etc...

Rating Scale

This indicates the degree of behaviour’s, skills, and strategies showcased by the student. It provides various ranges of performing levels. Teachers use this to record observations of the students and students use this as a self-assessment tool. They point out some strengths and weaknesses and help in setting goals for future improvement.

Descriptive Statistics

Descriptive statistics is a term given to the analysis of data that helps to describe, show and summarize data in a meaningful way. It is a simple way to describe our data. Descriptive statistics is very important to present our raw data in an ineffective/meaningful way using numerical calculations or graphs or tables. This type of statistics is applied to already known data.

Types of Descriptive Statistics

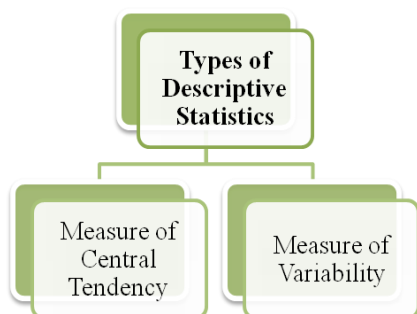


Fig. 5.A Types of descriptive statistics



Fig. 5.B Response from the Students

Findings

- From the survey, we can conclude that “less amount of practical sessions” is the major challenge among the challenges while teaching/learning the environmental education
- Also, “Be in need of eligibility criteria for the teachers who can take the environmental education to the students” is the least challenge among the challenges.

Rectifications

- We can make the students visit the nearby historical places to enhance their knowledge and make them learn how to protect our history.
- Make use of modern methods of teaching to teach EE to the students like Power Point presentations and model teaching instead of the traditional chalk-and-talk method.

- Develop their problem-solving skills to solve environmental issues in the upcoming days.
- Encouraging the students to explore their values and their feelings of concern about the environment.
- Make the students to investigating and evaluating environmental issues.
- Create a club like the environmental club and make them plant a sapling and note down how that will grow step by step.
- Create an exhibition as an event and make students participate and learn new things by doing the mini models about EE
- Introduce the campaign which is named “Adopt a Plant”
- Connecting the knowledge to live outside the school.

Conclusion

From the result of the Google form, students want to learn environmental education as a practical-based learning. They also want to make them explore ideas that will reflect the solution for the environmental issues. We could make the EE a core paper for graduate students. They describe them to make as learning beyond the classroom.

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TASK BASED LANGUAGE LEARNING; TEACHING METHODS AND PARADIGMS

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Abstract

Man uses language as a means of communication. It is considered a great possession of mankind. Because it is used to interact with others and to maintain their social behavior. So, there is a need to guide the students on the right path, Inorder to develop their skills in language. Teachers need to adopt new methods and techniques. The main reason is that education is now sick with narration. The teachers failed to make the class interesting. This can be achieved through task based language learning. This is nothing but a group discussion to show their ideas, a practical task for developing and understanding the language and the focus is on the topic of not moving away from the topic. So, the learners actively participate in the class. This research is based on how to teach task based language learning.

Keywords: *Discussion, Communication, Acquisition, Effective, Target, Skill and Development.*

Language, what an incredible word. It is an extraordinary gift of mankind. It is part of what makes man fully human. "A man is a rational animal and that which sets him apart, what raises him above the animals, is that he has the ability to reason, and it is very clear that he cannot be reasoned without language", which is said by Aristotle. In other words language is what made the growth of civilization possible. Because, it helps every person to express their feelings, thoughts and exchange their ideas. So, this should be thought of in a right way for the upcoming generation. Because, nowadays teachers are unable to teach the students properly and are not teaching the easy method. So, the students were lacking in language acquisition.

There should be a change like the Greek philosopher says, "There is nothing permanent except change". So, there should be a change in this field also. The change should help students to learn effectively, easy and enjoyable. For this, the teachers came up with the new method, that is "Task based language learning". Though it is an old method, it reached its height. The students undergo many tasks to get their outcome. That is what the target language

is. The researcher analyzes task based language learning. This paper is a proof that it shows the required techniques, teaching methods and paradigms.

The teacher takes several steps for the welfare of students. There is no doubt about it. Because, the full class will be occupied by both of them, as both of them play major roles. Which promotes the communicating ability. Before the class starts teachers need to choose the right material for the slow learners as they also have to learn for the better output. In fact, it should make themselves ready for the classroom. Before that it is important to have a firm objective, we have to ask ourselves several questions and the question should be positive. In the classroom it takes lots of stages like pre task, task phase, planning, report, analysis and practice. Let's Start with a pre-task. The word itself defines the meaning. It is an introduction about the task. It is the responsibility of the teachers that they have to explain about the task clearly and also clarify to the students what will be expected. It is a pre-task. There should be no doubts with the task and have to show

all their properties to students like models, posters etc...

This helps the students to know about the task and have the time to use and squeeze the brain to use new ideas and be creative to get best results. Next, it is about the task. After Knowing about the task, the student should work in groups and present it on the stage. In the meantime the teacher should be an observer, facilitator, referee, counselor and so on. If it seems going beyond the hands of the teacher only they have to enter otherwise they have to watch the task. Other than that they can take notes, even they can record to identify the errors.

The task may be in different forms like problem solving, reasoning and comparing. And also in many forms of evolution like tasks situated in authentic contents, task enhancing input output practice and so on. The main thing is that the teacher has to choose either the best among the all or all its up to them.

Before entering into the details of tasks it should be known about activities. Activities are none other than tasks. There were different types of activities like information gap activity, opinion gap activity and reasoning gap activity. They may differ by names but their outcome is to make the student work together, discuss, debate, exchange information.

After the task is completed all have to plan for the good results like what should be improved in the task. The task members can also include posters, video for better learning. This makes the other students also participate and not to distract. The students have to practice. The tutor has to say what the errors are and to make them use it in their daily life by making them write a report on reflective pieces and self critique as a project or assessment. From

this teachers came to know the capability of the students and to do accordingly.

In the task, games also play an important role because small children like that at the same time as already said it should be effective. There were various games like spell bee, word power etc.. Then for adults they can be expressing their thoughts like discussing road trips, tourism, future plans and so on. Language is the only way of communication, it should reach the students effectively. Task based language learning makes it better. It improves, nurtures and makes the learners rectify the mistake. Tasks are a vital tool to achieve the goal of language acquisition. It is rich in developing the skills, creativity and to develop linguistics. It's up to the tutors to show the right direction for the students to get the target language.

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INDIGENOUS LITERATURE IS A POWERFUL TOOL FOR EXPLORING ENVIRONMENTAL JUSTICE

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Abstract

Indigenous literature has emerged as a powerful tool for exploring environmental justice, as it presents unique perspectives on the relationship between human communities and the natural world. Drawing on centuries of traditional knowledge and storytelling, Indigenous literature offers insights into the ecological wisdom and spiritual connections that underpin many Indigenous cultures. Through the lens of Indigenous literature, we can gain a deeper understanding of the environmental challenges facing Indigenous communities, including climate change, pollution, and resource extraction. At the same time, Indigenous literature can inspire us to rethink our relationships with the natural world and explore new ways of promoting environmental justice and sustainability. Indigenous literature offers a valuable contribution to the ongoing conversation about how we can create a more just and sustainable future for all. Environmental law is a crucial tool for protecting the environment and promoting sustainable development. However, the challenge lies in ensuring that laws are effectively enforced and that they reflect the evolving needs of society and the natural world. Visual art, including photography and film, can be used to document environmental issues and inspire action for sustainable development. The challenge lies in effectively communicating complex environmental concepts through visual media.

Keywords: Indigenous Literature, Environmental Challenges, Wastes.

Numerous challenges in environmental issues are hindering sustainable development. Some of the major challenges include:

Climate Change: climate change is the biggest environmental challenge facing the world today, it is caused by human activities such as the burning of fossil fuels, deforestation, and industrial process. Climate change leads to rising temperatures, sea-levels rise, and more frequent.

Biodiversity loss: the loss of biodiversity is a major challenge in environmental issues. It is caused by habitat destruction, pollution, and over-exploitation of resources. Biodiversity loss affects the functioning of ecosystems and reduces the ability of natural systems to provide services such as clean water and air

Pollution: Pollution of air, water, and soil is another major environmental challenge. Pollution is caused by human activities such as industrial processes, transportation, and agriculture. Pollution affects human health, ecosystems, and the planet as a whole

Unsustainable uses of Resources: unsustainable uses of resources such as fossil fuels, minerals, and timber is another major challenge. It leads to the depletion of natural resources, environmental degradation, and loss of biodiversity.

Sustainable development is an ever-evolving field, and new trends are constantly emerging. Some of the current trends in development:-

Circular economy: the circular economy is a system in which resources are used and reused to minimize waste and maximize efficiency. This trend

aims to create a closed-loop system that reduces the use of raw materials, decreases waste, and promotes sustainability.

Green Finance: green finance refers to the financing of projects that promote development. This trend involves the use of financial tools such as green bonds, sustainable loans, and impacts investing to find projects that have a positive environmental impact.

Urbanization: Urbanization involves designing and developing cities that are environmentally friendly, socially inclusive, and economically viable. This trend focuses on creating cities that are livable, resilient, and sustainable for all citizens.

Renewable Energy: Energy is generated from sources that are replenished naturally, such as wind, solar, and hydro. This trend aims to reduce reliance on fossil fuels and promote the use of clean, renewable energy sources.

Agriculture: Agriculture involves the production of food in a way that is environmentally friendly, socially responsible, and economically viable. This trend focuses on promoting practices that minimize the use of pesticides and fertilizers, reduce waste, and support local communities.

Corporate Social Responsibility: Corporate social responsibility involves businesses taking responsibility for their impact on society and the environment. This trend aims to promote sustainability, social justice, and environmental protection.

Tourism: Tourism involves promoting responsible travel practices that minimize the negative impact on the environment and the local community. This trend focuses on promoting tourism that is environmentally friendly, socially responsible, and economically viable.

Teaching the English language about environmental issues and sustainable development is crucial in today's world. As English is a global language and widely spoken across the world, it can

be used as a tool to raise awareness and promote action toward environmental issues and development.

Here are some key areas that could be covered in teaching the English language related to environmental issues and development.

Vocabulary: it is essential to learn key vocabulary related to environmental issues and development, such as pollution, deforestation, renewable energy, climate change, etc. Teaching these words with context can help students understand their meaning and usage.

Grammar: grammar is an important aspect of language learning, and it is essential to teach grammar structures that are commonly used when talking about environmental issues and development. for instance, using modal verbs "should", "must", "ought to", "head to", and "have to", to express obligation or necessity in environmental contexts.

Reading and Writing: reading and writing activities can be used to improve language skills while also learning about environmental issues and development. Students can read articles, news reports, and research papers related to these topics and then write summaries or reports in English.

Listening and Speaking: listening and speaking activities can help students practice their English language skills while also discussing environmental issues and development. Activities such as debates, discussions, and role-playing can help students develop their language skills while also learning about their crucial issues.

Projects: assigning projects related to environmental issues and development can be a fun and engaging way for students to learn English language skills while also contributing to the global effort to address these issues. Projects can range from creating a poster or a presentation to organizing an environmental cleanup or camping in the local community

Teaching the English language about environmental issues and sustainable development can help students become better communicators while also contributing to the global effort to address these critical issues.

Environmental issues are a topic of concern that is increasingly becoming prominent in English literature. This is because authors are beginning to address and draw attention to environmental concerns in their writing, highlighting the relationship between humans and the natural world.

Climate change: climate change is a pressing environmental issue that is being addressed in English literature. Books like "the water will come" by Jeff Goodwin, "flight behavior" by Barbara Kingsolver, and "the great derangement" by Amitav Ghosh are examples of literature that explore the impact of climate change on the natural world and human societies.

Pollution: pollution is another environmental issue that is being addressed in English literature. "the drowned World," and Margaret Atwood's "Mad Addam" trilogy explores the effects of pollution on ecosystems and the potential dystopian futures that could result from our current environmental practices.

Loss of biodiversity: loss of biodiversity is another pressing environmental issue that is being addressed in the literature. Books like "the sixth extinction" by Elizabeth Kolbert and "the overstory" by Richard Powers highlight the damage being done to ecosystems and the consequences of the loss of biodiversity.

Environmental Justice: environmental justice is a topic being explored in literature, particularly about marginalized communities that are disproportionately affected by environmental issues. For example, books like "the poisoned city" by Anna Clark and "The Death and Life of Great American Cities" by Jane Jacobs address the effects of environmental pollution on low-income communities and communities of color.

Environmental issues are increasingly being addressed in English literature, as authors seek to draw attention to the urgent need for action on these critical issues. In their writing, authors are contributing to a broader cultural conversation about the relationship between humans and the natural world, and the need for sustainable practices to preserve our planet for future generations.

Environmental Issues and Sustainable Development in Art

Artists, galleries, museums, and other art institutions are recognizing the impact that their practices have on the environment and are taking steps to mitigate their carbon footprint and promote sustainable development.

One trend in sustainable development in art is the use of eco-friendly materials. This includes using recycled materials or materials that are easily biodegradable. For example, some plastic bottles create sculptures, while others are using natural materials like wood, bamboo, and clay.

Another trend is the use of art to raise awareness about environmental issues. Many artists are creating works that address climate change, pollution, and other environmental concerns. These works can take the form of installations, performances, or even public art projects that engage communities in discussion about environmental issues.

Art institutions are also taking steps to promote sustainability. Some museums and galleries are investing in renewable energy sources like solar panels, while others are implementing policies to reduce waste and promote recycling. Additionally, some institutions are partnering with environmental organizations to create exhibitions and programs that promote sustainability.

Environmental issues and sustainable development are important considerations in the field of visual art, and there are several challenges.

Challenge in visual art is the availability of eco-friendly materials. While some artists are using recycled or biodegradable materials, and they can be more expensive than traditional materials. This can make it difficult for artists to create sustainable works of art while staying within their budgets.

Another challenge is the transportation of artwork. Shipping artwork from one location to another location can have a significant carbon footprint particularly if the artwork is being shipped internationally, artists and galleries may need to explore alternative shipping methods, such as using carbon natural shipping companies or shipping works in a consolidated manner.

Third challenge is the disposal of attractive at the end of its life cycle .while many artists are using eco-friendly materials, some materials may still be difficult to recycle or dispose of in an environmentally responsible manner. Artists and galleries may need to explore new ways to repurpose or recycle works of art at the end of their life cycle.

There are many opportunities for promoting sustainable development in visual art, for example, artists and art institutions can work together to develop best practices for using eco-friendly materials, reducing transportation emissions, and promoting sustainable practices throughout the art world. Additionally, artists can use their work to raise awareness about environmental issues, promoting greater understanding and engagement with sustainable development.

Law: there are many opportunities for promoting development in the law. For example, there is a growing awareness among businesses and individuals of the importance of environmental sustainability, which can help to drive demand for sustainable products and practices.

Media Studies: challenges in the disposal of electronic waste media technologies, such as computers, cameras, and other electronic devices, can become obsolete quickly, leading to a high

volume of electronic waste .this electronic waste can be difficult to recycle and dispose of in an environmentally responsible manner.

There are many opportunities for promoting sustainable development in media studies. For example, media professionals can work to reduce their footprint by using renewable energy sources, reducing paper waste, and choosing eco-friendly production practices. Additionally, media content can be used to raise awareness about environmental issues, promote sustainable practices, and amplify the voice of underrepresented groups. Finally, media studies programs can incorporate sustainability into their curricula, helping to prepare the next generation of media professionals to address environmental challenges.

Environmental issues and sustainable development pose several challenges across various fields:

Education: the challenge in education is to develop an environmentally responsible and sustainable development. The curriculum should also address the interdisciplinary nature of environmental problems.

Communication Skills: the challenge in communication skills is to effectively communicate complex environmental issues and sustainable development concepts to a diverse audience. Communicators need to be able to adapt their messaging to a different audience and be able to use language that is accessible and engaging.

Psychology: the challenge in psychology is to understand how individuals perceive and respond to environmental issues and sustainable development. This involves examining the cognitive and affective processes that underlie environmental attitudes, behaviors, and decision-making, as well as effective strategies for promoting pro-environmental behavior change

Public Administration: the challenge in public administration is to develop policies and programs

that promote sustainable development and address environmental issues while balancing competing economic and social priorities. This requires an understanding of the political and institutional contexts in which decisions are made, as well as the ability to navigate complex regulatory frameworks.

Sociology: the challenge in sociology is to examine the social dimensions of environmental issues .this involves analyzing the social and cultural factors that shape environmental attitudes and behaviors, as well as the distributional impacts of environmental policies and programs.

Social Work: this requires an understanding of the connection between social and environmental justice, as well as the ability to develop and implement effective interventions that address both social and environmental challenges.

Climate Fiction: climate fiction or “cli-fi”, is a genre of literature that explores the impact of climate change on human societies and ecosystems. Cli-fi works can raise awareness about the urgency of addressing climate change and encourage readers to take action to reduce their environmental footprint.

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PEDAGOGICAL PSYCHOLOGY: CONCEPTS AND CONCERNS IN LEARNING ENGLISH

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Abstract

Pedagogical Psychology is an interdisciplinary field of study dealing with the scientific study of teaching as well as the behavioral pattern of the learner. Pedagogical psychology in the field of humanities has a whole lot to offer since learning arts and aesthetics is entirely different from other disciplines of science. Pedagogy remained stagnant till the end of 20th century, as it focused on the classroom context and teacher learner relation inside the classroom, but with the interdisciplinary study including psychology made Pedagogical Psychology; which enhances the practical possibilities of the theoretical concerns already had and may evolve. Teaching/ learning English has its significance in Pedagogical Psychology, as it is an act of enhancing critical thinking rather than following the old schools of thought. The ability of a language learner is determined by various internal and external factors, when it comes to literature, it is all the matter of aptitude than mugging up the essence. Hence the teacher has to play multiple roles like those of a facilitator, an instructor, a silent observer or of an authoritative power. Deciding upon the role of the teacher and the importance of what is being taught need scientific support from the fields of Pedagogical Psychology. The article deals with the concept of Pedagogical Psychology and the concerns of its practical application, when it comes to teaching/ learning English language and literature.

Keywords: Pedagogy, Pedagogical Psychology, ELT, Learning Curve, Learning Plateau, Nature v/s Nurture.

Introduction

Educational Psychology applies theories of human development to understand individual learning and inform the instructional process. While teaching is considered as a job that demands ultimate precision and care, one has to understand the effort a teacher should take to reach perfection. Teaching the prescribed text isn't the only facet of the job. Pedagogical psychology studies the social, emotional and cognitive processes involved in teaching/ learning process. The psychology of teaching and learning helps us to understand these processes that constitute learning throughout the lifespan.

Not every child learns in the same way, and each learner is a subject in the field of pedagogical psychology. This is also applicable to the teachers as well. Every teacher has his/her own way of teaching. The ultimate aim is to make the learners learn the knowledge and to identify the way they sustain the information and how they use it whenever it is required. The basic concern of pedagogical psychology is to pursue learners and teachers, to analyse the inevitable relation between pedagogy and psychology. Edward Lee Thorndike is considered as the father of Educational Psychology. He defined it as the scientific study of human learning and the

definition appeared in the journal entitled The Journal of Educational Psychology published in 1900. According to him the “study of behaviour of a student include his memory, conceptual process and ability to retain knowledge.” An expert educational psychologist does need empathy, listening skills, problem solving skills, ethical base, good nature, love and care, passion, patience etc.

The article is concerned with educational psychology and the role of it in teaching/ learning English language and literature. Since the topic is very emotive and person specific, the findings are rooted in theoretical knowledge than in the practical realm. Some of the concepts are evaluated and validated in a literature learner's and teacher's point of view.

Material and Methods

Environmental Influence in Learning— Nurture and Nature of a Learner

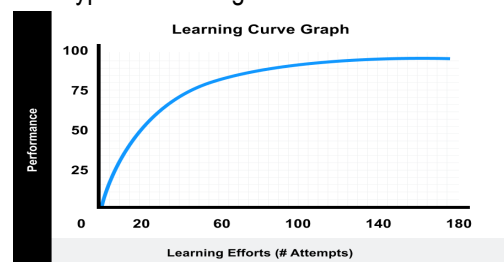
It is an ancient concept from Greece, but still controversial about the balance between two competing factors which determine future of a learner— genetics (nature) v/s environment (nurture). Though the alliterative phrase “nature- nurture dichotomy” was in popularity from Elizabethan period itself, it is still a doubt without a clear cut answer. Francis Galton, the half- cousin of Charles Darwin is the one behind popularizing the phrase in its modern sense. Nature is the result of genetic inheritance and other biological factors. Nurture is the influence of external factors after conception.

Humans acquire all or almost all their behavioral traits from ‘nurture,’ says John Locke who termed it as ‘tabula rasa’ (blank tablet slate). Humans are by birth of blank mind and the environment or nurture makes him or her who he or she is. Sigmund Freud is of the opinion that “adult personality is the product of innate drives and childhood experiences. Jean Piaget is also of the same opinion. John B. Watson is of the opinion that people can be trained (nurture) to do

anything; no matter what their origin (nature) is. Hence there are always arguments over the nativist (nature) and empiricist (nurture) ideologies.

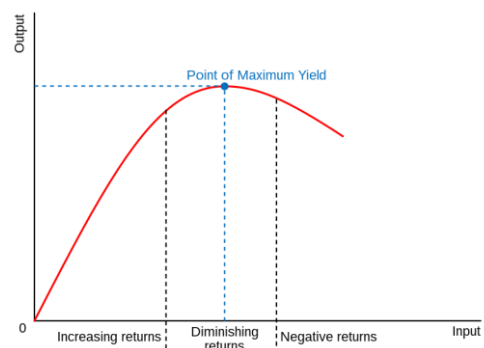
Learning Curve and Learning Plateau

Learning curve is a graphical representation of the relationship between how proficient people are at a task and the amount of experience they have. Proficiency (y- axis) increases with experience (x- axis). An activity which is easy to learn its basics, but difficult to gain proficiency can be represented through steep learning curve. Hermann Ebbinghaus introduced the idea of representing the learning curve in 1885. No it is also known as experience curve. Psychologist Arthur Bills gave more detailed ideas of different types of learning curves.



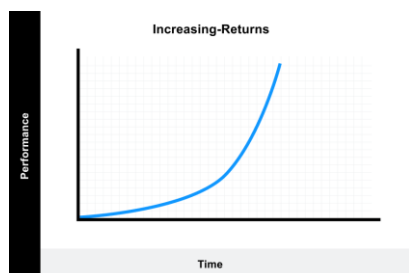
Diminishing Returns Curve

It indicates the rate of progress increases at first and then decreases over time. It indicates bad learning or poor comprehension.



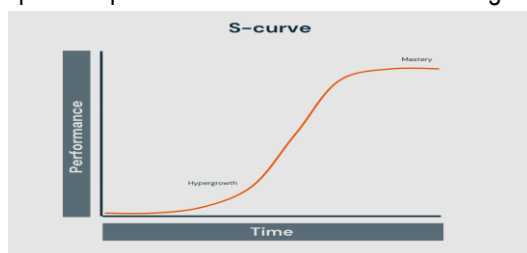
Increasing Return Curve

It indicates the rate of progress which is slow at first and then will shoot up. It is the curve of good or fast learning.



Increasing Decreasing Return Curve

It is also known as the S curve. It is the academic tracking of the beginner. Slow learning will appear first and proficiency at the next level. It is the graphical representation of inconsistent learning.



Learning Plateau

It is the time when the learner, regardless of the best effort or the competent teaching, seems to stop making visible progress. It can be of many factors like

- Introducing a very new concept that is too vague.
- Fast or rapid introduction of ideas and concepts.
- Lack of motivation.
- Biological and environmental factors.

One has to know it as a very common feature in teaching/ learning process.

- How to overcome Learning Plateau?
- Break the learning routine and try an alternative.
- Avoid being tied to prescribed works.
- Make learners the content creators.
- More exposure to the area of study.
- Inductive teaching.
- Learner centred pedagogy etc.
- Mimicry and Pep Talk:

Mimicry is a form of social learning in which people, with or without conscious awareness or

intent, automatically copy other people's physical movements, facial expressions, speech pattern and emotions during interactions. It is thought that the behavioral mimicry to establish rapport with others. According to Homi Bhabha, mimicry is an exaggerated copying of language, culture, manners and ideas, thus mimicry is repetition with difference.

Pep talk is derived out of the archaic term pep means energy or liveliness. It is a short motivational speech intended to encourage learners.

Findings and Results

English language learners can easily identify and solve the psychological issues associated with their learning since language learning is so much related to mind and it can bring positive changes to the behavioral pattern of both the teacher and the learner. Psychology plays inevitable role in literature whether we talk about the one who writes the story or the one who reads it. It makes a strong connection between a writer and a reader. The author is not just influenced by society, he influences society. English language and literature learning is different because it not always follow the basic ideas of pedagogy or psychology. Sometimes rules get break, for example, a slow learner who is dull at drama can enhance his or her interest when it comes to poetry, and hence one cannot trace the exact learning curve of that particular learner. The plateau may change from genre to genre. This change should be noted while encountering or analyzing learning literature using the theories of pedagogical psychology.

The nature and nurture is also problematised when it comes to learning language and literature. There are adult learners who cannot even comprehend a single word even after having complete exposure to the linguistic environment for a long time. proficiency in literature is not always a proponent that can be traced over a period of time when it comes to language learning. It can be affected by nurture and sometimes a positive

increasing curve can get nullified even after crossing a particular period due to many reasons, both external and internal.

Interpretation and Discussion

It will be against truth if somebody points out that psychology has no relationship with learning or internalizing literary masterpieces: as Ayesha Dar in her article: 'On The Relationship between Literature and Psychology' quotes, "Undoubtedly, psychology helps the writers to present the characters successfully, expressing their feelings, moods, emotions, and especially their thoughts and how the different events affect the mental lives of the characters." Pedagogical Psychology should be deconstructed first, on the basis of learning and teaching English literature, and then only the fissures can be identified as well as rectified.

Conclusion

The study aims at identifying the basic concepts of pedagogical psychology and the concerns that may arise when they apply to the fields of language and literature. As mentioned in the study, there are various concepts regarding Pedagogical Psychology which are considering learners as a whole wide group of variation. This variation and diversity within the group should be treated with utmost care. As far as English language and literature students are concerned the basic concepts of tracing the learning curve and analyzing whether the learner is a slow learner or the early learner is impossible. Literature has not a single aspect. For example, Shakespeare's Othello can be read from Othello's perspective and

one can easily justify him. But at the same time Iago's perspective is still there with a hole lot to justify his actions. The one who evaluate the perspectives should be unbiased to trace the learning curve of the literature student; otherwise the assumptions will definitely be wrong. Being unbiased to the core and finding such competent souls to teach literature is again a question when it comes to practical possibility. Therefore a reconstruction is needed in at least the basic concepts of pedagogical psychology, concerning the different streams of learners with different cognitive and psychological inclinations.

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EFFECTS OF DISPLACEMENT IN PEARL.S.BUCK'S THE REFUGEES

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Abstract

"The concept of place and displacement demonstrate the very complex interaction of language history and environment in the experience of colonized people and the importance of space and location in the process of identity formation."(Key Concepts in Post-Colonial Studies. Bill Ashcroft, Gareth Griffiths, Helen Tiffin P.179). Displacement is one of the perspectives of the essay The Refugees by the American Short Story writer Pearl.S.Buck. The essay deals with the after effects of a natural disaster in a city in China. The essay is the description of the tragedy due to flood. As a result of heavy flood the working class poor laborers are displaced from their native place. The poor peasants are shifted to refugee camps in the capital city of China. In the crises that too at the alien place a sense of insecurity, self sufficiency and dignity haunts them. The displaced people have mixed feelings of both pessimistic and optimistic.

Pearl.S.Buck the Nobel Laureate picturises the events realistically and the events are inherent with humanitarian cause.

Keywords: Natural Disaster, Floods, Displacement, Refugees, Shelter Camps, Alienation, Pessimistic, Optimistic, Trauma, etc.

Many of the villagers have been killed and some of the people went missing in flash flood in an area in China. The remaining people in the village are transported to shelter camps to the capital city of China, an alien place to the peasants. The people strangely tread through the streets of the capital city leaving farm lands which are just a few miles away from their village. In bewilderment, the villagers felt new and peculiar all around the city. The author puts the condition of the villagers as

...who had been accustomed only to country roads and fields, walked now along the proud street of the new capital, their feet treading upon the new concrete side walk, and although the street was full of things they had never seen before, so that there were even automobiles and such things of which they had never even heard, still they looked at nothing, but passed as in a dream, seeing nothing. (*The Refugees*, 24)

Such a great cultural group is affected by the flood and their lives are reversed in a speck of time.

Now the life is diminished to the thousands of men and women in the village. For them the life has become empty. The flood affected villagers in rescue reaches shelter camps in the capital city. The condition of the villagers reminds the phrase 'living is dying' (www.quora.com) Their lives are shifted from abundance to poverty. At present the people are short of basic essentials like food, clothing and shelter. The whole city is filled with villagers. The city dwellers consider the flood affected as disdain people.

There were several hundreds of them passing at this moment. If they did not look at anything nor anyone, neither did any look at them. The city was full of refugees, many thousands of them, fed after a fashion, clothed somehow, sheltered in mats in great camps outside the city wall. At any hour of the day lines of ragged men and women and a few children could be seen making their way towards the camps. (TR 24)

After the sudden event the bewildered peasants enter the city but never mind where they are, who are around and what is happening at the place. Many fascinating things or constructions could not attract the villagers attention because they are in utter grief and disappointment.

Their eyes were the eyes of those who have been taken suddenly and by some unaccountable force from the world they have always known and always thought safe until this time. They, who had been accustomed only to country roads and fields, walked now along the proud street of the new capital although the street was full of things they had never seen before, still they looked at nothing, but passed as in a dream, seeing nothing (TR 24) Like any other people, the village peasants lived peacefully at their native place before the disastrous flood. All of a sudden the flood created havoc in their life. The peasants situation has become quite unexpected to manage, As a result some of them could escape and others are flooded to death by the torrent waters. The escaped peasants thronged through the shelter camps in a psychological trauma as they lost members of the family, cattle, household things etc. The author puts,

They were men and women who had stayed by their land until starvation drove them forth. Thus, they passed unseeing, silent, alien, as those who know themselves dying are alien to the living...they were too near to see anything. No new sight could move their curiosity (TR 25)

The villagers life was quite pleasant. They were all dignified people who had a great culture. On looking at the villagers one can predict they are not any ordinary people. They are extraordinary about whom the country feels proud about. Their culture is reflected in all walks of life with a common faith. Their bodies are built in a strong muscular shape. The peasants' garments are curious with attractive colors and intricate designs. Men and women wore the

dresses similarly and head bands are added ones which distinguish women.

... these were no common men and women, no riff-raff from some community. Always poor and easily starving in a good time. No, these were men and women of which any nation might have been proud. It could be seen they were all one religion, for they wore garments woven of same dark blue cotton stuff, plain and cut in an old fashioned way, the sleeves long and the coats long and full. The men wore smocked aprons, the smocking done in curious, intricate, beautiful designs. The women had bands of the same plain blue stuff wrapped like kerchiefs about their heads. Both men and women were tall and strong in frame although the women's feet were bound (TR 25)

Among the flood affected peasants were men and women of all ages who suffered from age, gender and other related issues. Illustration of an old man with his grandson is an instance how the peasants are contemplating to rebuild their devastated lives. The old man with all his age related ailments takes care of his grandson when his parents are washed away by flood.

The last one of this long procession ...was a little wizened old man...It was evident that in usual times he would be beyond the age of work, and was perhaps accustomed to such labor in recent years. His breath whistled as he staggered along, and he strained his eyes to watch those who were ahead of him lest he be left behind, and his old wrinkled face was set in a sort of gasping agony.(TR 26)

The aged man receives two coins i.e. a silver and a copper from a city sympathizer who gives coins out of charity from his mere earnings on that day. The sympathizer too is a simple man but intends to feed the old man. To the sympathizer the old man reminds his father. He says,...I swear I can give no more this day if I am to feed my own even nothing but noodles. But here is this old man. Well I will give him the bit of silver I earned to-day against to-morrow again. If my

own old father had been alive I would have given it to him. (TR 26) Looking at the coins and listening to the words the aged man responds to the sympathizer. He reveals his adequate resources for survival at his native place. The unexpected flood led them to the pathetic situation. In spite of his alerts to preserve the seed for the days to come but the younger generation emptied them. He looks worried for the existence of the upcoming generations. He says, Sir, I did not beg of you. Sir, we have good land and we have never been starving like this before, having such good land. But this year the river rose and men starve even on good land at such times. Sir, we have no seed left, even. We have eaten our seed. I told them, we cannot eat the seed. But they were young and hungry and they ate it. (TR 26)

The aged man in a thought of saving the money orders only a small bowl of noodles worth a copper coin to feed his hungry lad. He is prepared to starve out of hunger but want to establish his clan. When the noodles vendor suggests to buy noodles by spending the remaining silver coin, the aged man replies,

"That is for seed". "As soon as I saw it, I knew I would buy seed with it. They ate up all the seed, and with what shall the land be sown again?" ... If you had land, you would know it must be put to seed again or there will be starvation yet another year. The best I can do for this grandson of mine is to buy a little seed for the land- yes, even though I die, and others must plant it, the land must be put to seed.(TR 27)

The reply of the aged man reminds Francis Bacon's idea of the aged in his essay "Of Youth and Age". i.e.

Men of age object too much, consult too long, adventure too little, repent too soon, and seldom drive business home to the full period, but content themselves with a mediocrity of success. Certainly it is good to compound employments of both; for that

will be good for the present, because the virtues of either age may correct the defects of both; and good for succession, that young men may be learners, while men in age are actors; and, lastly, good for extern accidents, because authority followeth old men, and favour and popularity youth. (<https://www.thoughtco.com/of-youth-and-age-francis-bacon-1690074>)

The aged man with his age related physical weaknesses could no longer proceed further to reach the shelter camp. But he has a strong will to bring out the boy and see that the land is put seed.

Suddenly he could go no more. He set his burden down with great gentleness and sank upon the ground, his head sunk between his knees, his eyes closed, panting desperately. Starved as he was, a little blood rose in dark patches on his cheeks. (TR 26)

Truly the aged man and peasants like him wish to overcome the havoc at Yangtze River. Phenomenal occurrences of Natural or human made disasters are leading the human beings and other living beings to catastrophic situation. Sufferings of the flood affected peasants suffer much as they are displaced from their native place. Life becomes disgusting at an alien place in utter grief and disappointment as they have lost their members of the family, assets and other materialistic possessions. Psychological trauma haunted them as they think life is irrecoverable. But many people become more philosophic and turn to be more optimistic to face the life in a challenging way.

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THE DIGITAL REVOLUTION OF INDIGENOUS ACTIVISM: REFLECTIONS ON SOCIAL MEDIA AND NETWORKED MOVEMENTS

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Abstract

The digital revolution has had a dramatic effect on Indigenous activism, giving birth to Indigenous cyberactivism that allows for greater networking, global solidarity, and the potential for greater impact. This research paper examines the emergence of a digital revolution in Indigenous activism, particularly the role that social media and other digital technologies have played in this revolution, exploring how they are altering the organisation, visibility, and effectiveness of Indigenous activism. The paper investigates the ways in which social media and networked movements have augmented traditional forms of activism and provided alternative opportunities for Indigenous voices. It will consider how Indigenous activists have leveraged digital tools to challenge existing power structures, engage with broader audiences, and build connections between Indigenous communities and activists. It also sheds light on the challenges associated with the digital revolution, including the potential for co-optation, marginalisation and digital divides among Indigenous populations. The paper highlights case studies from around the world and explores the potential of digital media to amplify the voices of Indigenous peoples, create global networks of solidarity, and challenge the status quo of traditional forms of activism. Ultimately, this research paper seeks to provide insight into the implications of the digital revolution for Indigenous activism and its potential for transforming the struggle for self-determination and rights.

Keywords: Indigenous Cyberactivism, Power Structures, Co-Optation, Digital Divides

Introduction

Indigenous cyber activism has opened up new avenues for communication, education, and activism that have changed the face of Indigenous activism. This digital revolution provides Indigenous peoples with access to global networks and resources, allowing them to share ideas, stories, and experiences across the world. (G. Valaskakis et al. 220)

Indigenous cyber activism has been a powerful force in recent years, enabling Indigenous communities to disseminate information and advocate for their rights on a global scale. Through social media platforms, Indigenous activists have

been able to engage in dialogue and create spaces for discussion and collaboration that were previously inaccessible. This has allowed them to access new audiences and bring their stories to the forefront of public discourse. Indigenous cyber activism has enabled Indigenous communities to reach out to a wider audience, enabling them to bring their stories and experiences to the forefront of public discourse. Moreover, it has allowed them to connect with each other and build solidarity networks to take collective action against racism, colonialism, and other systemic oppressions. However, while Indigenous cyber activism has opened up new avenues for communication and education, it is important to

recognise that it is not a substitute for traditional forms of activism. It should be seen as an additional tool that can amplify Indigenous voices and stories.

Background of the Study

Indigenous activism is not an exception to the profound effects the digital revolution has had on activism worldwide. With the help of digital technologies, Indigenous activists can now create networks of support, confront current power structures, and interact with a wider audience. Particularly, social media has made it possible for Indigenous activists to quickly reach a large number of people, giving them a platform to tell their stories, raise awareness of their struggles, and mobilise support for their causes. Additionally, it has given Indigenous activists the chance to work together with activists from other countries to build a global movement for Indigenous rights and self-determination.

Although the advent of the digital revolution has benefited Indigenous activism, it has also brought about a number of difficulties. The danger of being co-opted and marginalised is one of the most urgent worries. As digital technologies have proliferated, both Indigenous activists and non-Indigenous actors have utilised them to advance their own agendas, frequently at the expense of Indigenous peoples. Additionally, because capitalist interests have driven the digital revolution, it frequently favours those who have access to the most cutting-edge technologies, putting Indigenous communities who have little to no access to digital tools at a disadvantage.

Despite these difficulties, a new breed of Indigenous activism has emerged thanks to the digital revolution, one that is more networked and has the potential to reach a wider audience. This essay will examine the rise of digital activism among Indigenous peoples and its implications for the fight for rights and self-determination. It will examine how Indigenous activists use digital tools, the advantages

and disadvantages of these technologies, and how to use them to empower Indigenous peoples and foster intercultural understanding.

Indigenous Cyberactivism

The emergence of digital technologies has also given rise to a new form of Indigenous activism known as Indigenous cyberactivism. Indigenous cyberactivism is a form of digital activism that uses digital technologies and social media to further the cause of Indigenous rights and self-determination. Indigenous activists have used cyberactivism to challenge current power structures, interact with larger audiences, and create connections between Indigenous communities and activists. The term "indigenous cyberactivism" refers to a form of activism that makes use of digital media in order to advocate for the rights of indigenous people. It encompasses the dissemination of information regarding Indigenous peoples' rights, cultures, and identities through the use of digital tools such as websites, blogs, social media, and other online platforms. Indigenous cyber activism has been utilised as a means of raising awareness about issues including climate change, cultural appropriation, and land rights.

As Cox asserts, "Indigenous cyber activism is a powerful tool for connecting Indigenous peoples across the world to build global solidarity and strengthen their work towards justice" (B. Cox et al. 142). Indigenous cyberactivists have used digital technologies to organise protests, raise awareness about their struggles, and build networks of solidarity. They have also used social media to share their stories, spread information, and mobilise support for their causes. Furthermore, Indigenous cyberactivists have used digital tools to engage with policymakers, challenge existing power structures, and build connections between Indigenous communities and activists.

The use of the hashtag #NoDAPL by Indigenous individuals in the United States in 2016 served as a means of expressing opposition to the Dakota Access Pipeline, a venture designed to facilitate the transportation of oil from North Dakota to Illinois. The use of the hashtag facilitated the dissemination of information regarding the project and served as a means of coordinating demonstrations. Additionally, it served as a means to generate financial resources for legal expenses and offer assistance to individuals who were apprehended for demonstrating against the pipeline. The movement garnered international recognition and culminated in the eventual cessation of the pipeline in 2020.

The #IdleNoMore movement emerged in Canada as a response to the Omnibus Bills C-45 and C-38 introduced by the Canadian government, which posed a significant threat to the land rights of Indigenous communities. Indigenous activists in Canada orchestrated a movement aimed at highlighting concerns surrounding Indigenous rights, sovereignty, and environmental preservation. The social movement employed various social media platforms to coordinate demonstrations, educational sessions, and other activities aimed at disseminating information regarding the matter at hand. This movement rapidly disseminated throughout the nation and globally, garnering millions of individuals who participated in a show of unity via social media.

The #ChangeTheFlag movement was initiated in Australia with the aim of challenging the inclusion of the Union Jack in the design of the Australian flag. The initiative leveraged social media platforms to disseminate information about the matter and advocate for the creation of a new flag that better reflects the Indigenous community of Australia. Supporters of the movement argue that the current flag is a reminder of the country's colonial past and its oppressive treatment of the indigenous population. The movement has been met with debate, with some believing it is a waste of time and resources, while

others support the idea of a new flag that better reflects the nation's cultural identity.

The #NotYourMascot campaign was instigated in the United States with the aim of challenging the use of Native American mascots in sports organisations. The endeavour utilised various social media platforms to propagate knowledge pertaining to the issue and advocate for the cessation of Native American mascots on sports teams.

The initiative has garnered endorsement from several prominent personalities, among them President Barack Obama, who, in 2014, advocated for the discontinuation of the utilisation of Native American mascots in the realm of professional sports. In addition, the National Congress of American Indians has endorsed the #NotYourMascot campaign, asserting that the utilisation of Native American mascots has a detrimental impact on the self-worth of Indigenous individuals.

The #NotYourMascot campaign has garnered notable achievements, resulting in the cessation of Native American mascots in educational institutions and athletic organisations throughout the United States. In 2014, the Washington Redskins made an official declaration that they would be terminating the utilisation of their Native American mascot.

As per the official statement issued by the National Congress of American Indians, it has been asserted that the #NotYourMascot movement has effectively achieved its objective of eradicating the utilisation of Native American mascots in various educational institutions, sports teams, and other organisations across the United States. The aforementioned citation belongs to the National Congress of American Indians and was published at an unspecified date. According to the National Collegiate Athletic Association (NCAA), there has been a substantial reduction in the employment of Native American mascots since 2005, with more than 2,000 teams discontinuing their use (NCAA, 2018). Furthermore, as per the report by the National

Federation of State High School Associations (NFHS) in 2018, over 1,000 educational institutions have altered their Native American mascot since 2013.

The inception of the #Indigenous Twitter hashtag in Canada was aimed at promoting the sharing of narratives and encounters among Indigenous individuals. The use of the hashtag facilitated the dissemination of narratives pertaining to Indigenous culture, identity, and history. Additionally, it served as a means of furnishing assistance and provisions to Indigenous individuals who were grappling with matters such as prejudice and bias.

The impact of #Indigenous Twitter was far-reaching and transformative. For many Indigenous individuals, it provided a platform to engage in conversations, share experiences, and foster a greater sense of solidarity. Sharing stories and perspectives allowed Indigenous people to challenge the prevailing stereotypes and misinformation about their culture and identity.

Moreover, #Indigenous Twitter provided a sense of community in which Indigenous individuals could connect, discuss issues, and offer support to one another. This was particularly important for those who felt isolated or disconnected due to living in remote or rural areas. #IndigenousTwitter served to amplify the voices of Indigenous people in mainstream media. Providing a platform for Indigenous individuals to discuss issues affecting them allowed for a greater understanding of the unique challenges that Indigenous people face. This, in turn, has led to greater awareness and understanding of Indigenous cultures and identities and has resulted in a greater acceptance and appreciation of the Indigenous experience.

Indigenous cyber activism has emerged as a significant means for Indigenous communities globally to disseminate information regarding their cultural heritage and rights. The use of social media has enabled Indigenous individuals to effectively mobilise, coordinate, and raise awareness regarding

matters that hold significant value to their respective communities.

Social Media and Networked Movements

The employment of social media has emerged as a pivotal tool for Indigenous advocates, who have leveraged these channels to initiate initiatives, coordinate demonstrations, and disseminate information regarding Indigenous rights, concerns, and inequities. The platform has afforded individuals a means to enhance the volume of their opinions, contest preconceived notions and discriminatory attitudes, and expand their reach to a broader demographic.

The influence of social media on Indigenous activism is a significant and noteworthy phenomenon. The utilisation of technology has facilitated the efficient and effortless distribution of information, narrative exchange, and mobilisation of individuals by Indigenous advocates, which was previously unattainable. The utilisation of these platforms has been employed as a means to contest the prevailing discourse and advance the cause of Indigenous self-governance and autonomy. These platforms have additionally functioned as a means for Indigenous individuals to communicate their experiences and narratives of perseverance, thereby enabling their perspectives to be acknowledged in a manner that was previously unattainable.

In addition, the utilisation of social media has facilitated the formation of robust networks of solidarity among Indigenous activists, enabling them to establish connections across various regions of the world. Through the establishment of virtual communities, Indigenous advocates have successfully established a global network, thereby creating a formidable platform to champion the cause of Indigenous rights and related concerns. It gets confirmed in the words of Smith and Wilson: "The ability to create and share content on social media platforms and to quickly and easily connect with

individuals, organisations, and networks has enabled Indigenous activists to build successful movements and to amplify their voices" (J. Smith and G. Wilson 86).

The advent of social media has facilitated a forum for Indigenous activists to establish connections and disseminate their narratives, traditions, and ancestries to a global audience. Through social media interactions, Indigenous activists have effectively disseminated their messages and heightened public consciousness regarding Indigenous concerns. The aforementioned platform has facilitated the establishment of a public forum for Indigenous activists to engage in mourning and celebration of their cultural heritage, ancestral lineage, and historical struggles.

An instance of an Indigenous activist leveraging social media to honor their cultural heritage is the utilisation of the #IndigenousLivesMatter hashtag. The aforementioned hashtag was originated by the Indigenous Activist Network and is employed by Indigenous activists to articulate their unity and endorsement of the Black Lives Matter campaign. The aforementioned hashtag has been utilised to convey support for Indigenous communities and raise awareness regarding pertinent Indigenous matters. Moreover, it has been utilised as a platform for the dissemination of narratives pertaining to Indigenous individuals and their encounters with discrimination, aggression, and inequity.

The hashtag #MMIWG (Missing and Murdered Indigenous Women and Girls) was created to raise awareness about the disproportionately high number of Indigenous women and girls in the United States and Canada who go missing or are murdered. "In 2019, the Urban Indian Health Institute reported that 95% of MMIWG cases are never covered in national or international media" (Ortiz). The aforementioned hashtag has been utilised to disseminate narratives concerning the disappearance or homicide of Indigenous females and to advocate for legislative

and policy measures that will safeguard the welfare of Indigenous women and girls.

The advent of social media has presented a platform for Indigenous activists to establish connections with fellow Indigenous individuals across the globe. Indigenous activists have leveraged social media platforms like Twitter, Facebook, and Instagram to facilitate networking and establish connections with like-minded individuals who share comparable experiences and cultural backgrounds. The aforementioned phenomenon has facilitated the establishment of networks characterised by mutual support, empathy, and camaraderie among Indigenous advocates.

In a nutshell, the utilisation of social media has played a pivotal role for Indigenous activists, enabling them to enhance their voices, contest preconceived notions, and establish robust networks of support. The ability to establish a venue for commemorating their customs and ancestry and to galvanise individuals in a manner that was previously unattainable has been facilitated.

The incorporation of social media platforms by Indigenous activists has demonstrated significant efficacy in enabling networked movements. Networked movements are defined as those that are coordinated and administered through digital technologies. The aforementioned social movements have enabled Indigenous activists to form coalitions and foster a sense of solidarity with other activists from diverse geographical locations. The emergence of digital technologies has significantly facilitated the ability of Indigenous activists to disseminate their message and establish coalitions with individuals who share similar beliefs on a global scale. Indigenous activists have been able to leverage social media platforms, including Facebook, Twitter, and Instagram, to effectively and expeditiously disseminate their message and mobilise significant support.

The Indigenous Mapuche communities in Chile have employed social media platforms to increase public consciousness regarding their resistance against the Chilean government and the corporate exploitation of their inherited territories. The Mapuche community has utilised social media platforms such as Facebook, Twitter, and Instagram to disseminate their narratives and encounters of subjugation, thereby highlighting the Chilean government's insufficiency in safeguarding their entitlements and territories. The Mapuche have established coalitions with fellow Indigenous advocates across the globe via social media, culminating in the creation of a worldwide network of Indigenous opposition.

The Sami people in Europe have utilised social media platforms as a means to increase awareness regarding their pursuit of self-determination and acknowledgement of their distinct culture and language. The Sami community has effectively employed social media as a means to communicate their narratives and encounters with subjugation and prejudice and has leveraged this medium to highlight their aspirations for autonomy. Consequently, the Sami community has successfully established coalitions with fellow Indigenous advocates across various regions, culminating in the establishment of a worldwide network of Indigenous opposition.

Indigenous activists have leveraged social media platforms to establish transnational networks of solidarity and resistance, facilitating the coordination of advocacy efforts and the mobilisation of widespread backing. The utilisation of social media has facilitated the capacity of Indigenous activists to proficiently disseminate their message to a broad spectrum of individuals, thereby providing them with the prospect to enhance cognizance of their challenges and mobilise backing for their goals. The utilisation of social media by Indigenous activists has proven to be a potent mechanism for enabling networked movements.

Challenges of the Digital Revolution

The advent of digital technologies has the potential to enhance the representation of Indigenous peoples, foster transnational networks of support, and contest prevailing power dynamics. However, the digital revolution has also introduced a set of obstacles. One of the foremost issues of concern pertains to the possibility of co-optation and marginalisation. The increasing prevalence of digital technologies has facilitated their utilisation by both Indigenous advocates and non-Indigenous entities to advance their respective interests, frequently to the detriment of Indigenous populations. The digital revolution has been predominantly propelled by capitalist motives, prioritising individuals with access to cutting-edge technologies. Consequently, Indigenous communities have been left at a disadvantage with restricted or no access to digital tools.

The digital revolution poses a challenge in terms of the possibility of digital disparities among Indigenous communities. The advent of digital technologies has presented novel avenues for Indigenous activists to advance their causes. However, it has also served to amplify pre-existing disparities within Indigenous communities. Individuals who possess digital technologies are more likely to engage in digital activism, whereas those who lack access are excluded from such participation. The aforementioned phenomenon has the potential to exacerbate pre-existing disparities within Indigenous communities, particularly those located in developing regions of the world.

The advent of the digital revolution has engendered novel challenges pertaining to the safeguarding of data security and privacy. The utilisation of digital technologies by Indigenous communities for communication and information sharing has led to an increased vulnerability to cyber-attacks, including data breaches. The privacy of Indigenous activists and their communities has been a subject of concern due to the existence of

government and corporate surveillance of digital networks.

The digital revolution poses several challenges, some of which have been outlined here. It is imperative to exercise caution with regard to the potential hazards associated with the ongoing evolution of digital technologies. It is crucial to implement measures that safeguard the privacy and security of Indigenous communities while simultaneously enabling them to leverage the benefits of these technologies.

Conclusion

The digital revolution has had a dramatic impact on Indigenous activism, allowing for greater connectivity, visibility, and impact. Social media and other digital technologies have enabled Indigenous activists to challenge existing power structures and build broad-based solidarity. They have enabled Indigenous voices to be heard at a global level and provided alternative opportunities for challenging the status quo. Despite the potential of digital media, there are also challenges associated with its use, including the

potential for co-optation, marginalisation, and digital divides among Indigenous populations. Ultimately, the digital revolution has the potential to transform the struggle for self-determination and rights, and it is important for Indigenous activists to continue to explore the opportunities and challenges of using digital media to amplify their voices and create global networks of solidarity.

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COMPLEXITIES IN OPHTHALMIC - BASED BUSINESS DECISIONS

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Prelude

Exploration on complex decision making has extended from complex decision behaviourist approach to cognitive approach that focuses on complex decision processes that ensue prior to response. In neural computational simulations, each complex decision during complex decision task is represented by node of neural activity. Complex decision related neural activity has components of intensification of activity and complex decision inception for neural activity to overcome for complex decision to be completed. One way to investigate computational complex decision making is to scan positioning of complex decision behaviour leading to judgment point. Eye movements are central measure of complex decision. Eye movements are indissolubly linked to optical consideration as both are prime tools for choosing stimulating shares of chromatic prospects for enriched perceptual and rational processing. Investigating eye movements is expedient in providing evidence of orientation of complex decision behaviour replicating computational complex decision during complex decision formation. Role of eye movements, intentional or reflex, help in gaining, possessing and tracing visual inducements, during complex decision formation is not entirely clear. Current proof

suggests that orientation of eye movement itself may not be an essential constituent. Rather, it can be as a result of intensification in contact to incitement as an influential factor in complex decision formation. Purpose of present scholarship is to survey foregoing conclusions that eye movements have contributory stimulus on complex decision formation in a rational fashion. We review experiential studies that employ eye movement monitoring as process tracing and tracking method with gazing in complex decision - making research. Using Kowler model, we present an investigation that explains experimental methods and analysis with contemporary eye tracking savoir-faire. This proposal countenances a specific hypothesis about role of eye movements in complex decision; understanding how eye movements are premeditated, carried out notwithstanding recurrent vicissitudes in optical assortment that eye movement harvest. One major effort is understanding how should complex decision makers' decide, deal with risks and uncertainties, create options better than originally available, potential responses to problems and evaluate strengths and weaknesses of each prospective action using apparatus of eye tracking / tracing and gazing.

Introduction

Everyday life is full of complex decisions and choices. An important question for many researchers is how manager (s) makes (ophthalmic) complex decisions. Specifically, researchers are interested in the assumptions, beliefs, habits, and tactics that manager (s) use to make everyday complex decisions. Research suggests that the eye considers various sources of information before making a complex decision. However, how does it do this? In addition, why does the process sometimes go awry, causing us to make impulsive, indecisive, and confused complex decisions; the kinds that can lead to risky and potentially dangerous behaviours? Human behaviour is not the product of a single process, but rather reflects the interaction of different specialized subsystems. These systems, the idea goes, usually interact seamlessly to determine behaviour, but at times, they compete. Result is that eye sometimes argues with itself, as these distinct systems come to different conclusions about what we should do. Human behaviour, in general, is not under constant and detailed control of careful and accurate hedonic calculations, but is product of an unstable and irrational complex of reflex actions, impulses, instincts, habits, customs, fashion, and hysteria. For a long time, economists have argued that humans make complex decisions by obeying laws of rationality. Complex decisions are an inevitable part of human activities.

Expansion of ophthalmic parallels development of cognitive science. Neuro - ophthalmic has bridged contrasting fields of ophthalmic and psychology. Ophthalmic, psychology, and neuroscience are converging today into a single, unified discipline with ultimate aim of providing single, general theory of decision behaviour. This is the emerging field of neuro - ophthalmic in which consilience, accordance of two or more inductions drawn from different groups of phenomena, seems to be operating. Economists and psychologists are providing rich

conceptual tools for understanding and modeling behaviour, while neurobiologists provide tools for the study of mechanism. The goal of this discipline is thus to understand the processes that connect sensation and action by revealing the neurobiological mechanisms by which complex decisions are made. Such union is almost exclusively attributable to changes within

Ophthalmic. Neuro - ophthalmic has inspired change because the important findings have posed more of a challenge to standard ophthalmic perspective. The important source of inspiration for neuro economist has been neuro judgment research, which can, in turn, be seen as an amalgamation of ideas from cognitive science and ophthalmic. Neuro - ophthalmic has primarily challenged customary ophthalmic postulation that complex decision-making is a unitary process a simple matter of integrated and coherent utility maximization suggesting instead that it is driven by interaction between automatic and controlled processes.

Despite substantial advances, question of how we design and how we ought to craft judgments and complex decisions has engaged researchers for decades, with different disciplines approaching the problem through characteristically different techniques. However, neuro - ophthalmic complex decision making has recently emerged as an inter-disciplinary effort to bridge this gap. It has sought to integrate ideas from fields of organisational psychology, neuroscience and neuro - ophthalmic in an effort to specify accurate models of choice and complex decision. Research investigates neural bases of complex decision predictability and value, central parameters in ophthalmic model of expected utility. Neuro - multiple - systems approach to complex decision - making, in turn, influences ophthalmic, a perspective strongly rooted in organisational psychology and neuroscience. Integration of these approaches and methodologies

offers exciting potential for construction of near - accurate models of complex decision - making.

How do we make a complex decision? Many complex decision makers have a tendency to seek more information than required to make a good complex decision. When too much information is sought and obtained, one or more of several problems can arise. A delay in the complex decision occurs because of the time required to obtain and process the extra information. This delay could impair the effectiveness of the complex decision or solution. Information overload will occur. In this state, so much information is available that complex decision-making ability actually declines because the information in its entirety can no longer be managed or assessed appropriately. A major problem caused by information overload is forgetfulness. When too much information is taken into memory, especially in a short period, some of the information (often that received early on) will be pushed out.

Deciphering eye - environment transactions requires mechanistic understandings of the neurobiological processes that implement value-dependent complex decision-making. There is a crucial difference between 'thinking about thinking' and actually enhancing eye and mental processes by developing latent potential of each individual. Theoretical accounts posit that human eye accomplishes this through a series of neural computations, in which expected future reward of different complex decision options are compared with one another and then the option with highest expected value is selected. If human eye is often compared with a computer, one aspect is crucially missing. Humans define goals for information processing in computers, whereas goals for biological eyes are determined by need for survival in uncertain and competitive environments. How to handle the eyes behind businesses in the age of dramatic change and growing uncertainty? What

then are the coherent eye dynamics underlying prediction, control and complex decision-making?

Major part involves analysis of finite set of alternatives described in terms of some evaluative criteria. These may be benefit or cost in nature. Then, problem might be to rank these alternatives in terms of how attractive they are when all criteria are considered simultaneously. Another goal might be to find the best alternative or determine relative total priority of each alternative when all criteria are considered simultaneously. Solving such problems is focus of multi criteria complex decision analysis. This is debated, as there are many methods that yield different results when applied on exactly the same data. This leads to formulation of a 'neuro - ophthalmic complex decision making paradox'.

Review of Literature

Eye tracking has been extensively studied in the context of decision-making, with a growing body of research investigating the relationship between eye movements and various aspects of decision-making. Numerous studies have explored the role of eye movements in decision-making across different domains including consumer behavior, finance, sports, medicine, and more. Eye tracking has been used to investigate how people process information, attend to relevant cues, and make decisions based on these cues. Eye tracking has also been used to understand how decision making differs across individuals with varying levels of expertise, cognitive abilities, and decision-making styles. Overall, a significant amount of work has been done on eye-tracking in decision-making. This research area continues to grow as eye-tracking technology becomes more widely available and affordable.

(Gidlöf et al., 1995) Despite the research amassed from laboratory settings, almost all decisions we make involve acquiring visual information. Still, decision-making is a special task where the data is valued differently in each case.

They use Eye Tracking to Trace a Cognitive Process: Gaze Behaviour During Decision Making in a Natural Environment. The visual behavior of consumers buying (or searching for) products in a supermarket was measured and used to analyze the stages of their decision process. Traditionally metrics used to trace decision-making processes are challenging to use in natural environments that often contain many options and unstructured information. First, the decision-making literature has incorporated eye movement recordings previously. These investigations focus on how eye movements unfold throughout the decision process, specifically attentional shifts toward the chosen object. Second, while the abovementioned research taps into the decision-making process, it must focus on how information is acquired and integrated. And that aims to uncover the timeline of gaze behavior in a decision-making task and to devise a model of the decision-making process based on this information. Based on this evaluation, we will outline our approach, which combines the eye-tracking research performed in natural environments with the attempts to trace the decision-making process. The field of judgment and decision-making has a history of process tracing since at least the seventies. Traditionally, decision-making processes are traced using methods of verbal reports. Second, whereas information board's structure options and their attributes in rows and columns, the options available in the supermarket often differ in how information about the attributes is organized. However, none of these investigations, including the gaze cascade study, are done in a natural situation. Since we are interested in tracking choices in the natural environment, we are especially interested in research that has applied a technique relevant to these settings.

(Shi & Wedel, 2013) A hierarchical hidden Markov model with three connected layers that includes a lower layer that describes eye

movements, a middle layer that identifies information acquisition processes, and an upper layer that records strategy switching is used to study how consumers acquire product and attribute information on the fly. Compared to various other models, the suggested model provides a superior explanation for the data. The findings demonstrate that customers commonly switch between acquisition tactics and learn about no more than two or three product or attribute details before changing. We talk about the consequences of web design, online shopping, and fresh approaches to online choice research. Before moving on to the next product, product-based acquisition gathers data on a single product's various attributes. Thus, the idea is that the use of the two information acquisition processes over time is linked to different decision-making stages, and people switch once or twice between these processes. However, comparison websites provide all attribute data for all selection alternatives at once. Information acquisition is therefore rapid and regulated by automated procedures. As will be shown below, introspection may lead one to believe that information gathering on comparison websites is a reasonably well-ordered and organised process. However, the facts from our experiment point to the opposite conclusion. That is, it is challenging to determine exactly how these two tactics are utilised over time and what information is gained since the vast quantities of dense eye fixation data often make it impossible to tell whether information acquisition is attribute-based or product-based. Therefore, given that these rapid attribute- and product-based information acquisition processes during decision making as well as the switching between these processes are fundamentally unobservable, the main goal of our research is to develop a model-based approach that makes it easier to draw conclusions about them. Latent cognitive states called information acquisition processes guide the eyes as they scan the display for information.

(Choi et al., 2021) Why must consumer decision-making creativity (CDMC) be used to make rational decisions? This can be determined by asking three questions. First, in what ways do task difficulty and time constraints affect visual attention on exploitative and exploratory activities differently? Second, how does the location of the reference (i.e., hints) influence the level of visual attention to exploitative and exploratory activities depending on affordance theory? Third, how do exploratory and exploitative activities affect CDMC? Our findings suggest that task difficulty influences exploitative activity, whereas time constraint is related to exploratory activity. The result of the location of hints aligns with the affordance theory for the exploitative activity. Besides, exploratory activity positively affected CDMC, but exploitative activity did not show any effect.

(Hermens, Flin, and Ahmed, 2013) pointed out that the majority of published studies that use eye tracking in surgery examine differences between experienced and novice surgeons in order to (1) comprehend task performance, (2) identify experienced surgeons, and (3) establish training approaches. Eye tracking is a novel method. Thus, it has yet to be widely used in the research of decision-making in the medical area.

(Al-moteri et al., 2017) Medical decision-making has recently piqued the attention of scholars in the field of healthcare. Mapping the literature on the eye-tracking technique is helpful in bringing together all the research on how medical decision-makers make choices and the findings may add to clinical training. A wide variety of research was found to provide a more comprehensive knowledge of the many facets of cue processing and mistakes in medical decision-making, and the findings are given in a descriptive manner. The evaluation demonstrates the need for more research into cue processing and clinical judgment. One method for conducting an impartial assessment of the visual-cognitive components of

decision-making is eye tracking. With the aid of the human-computer interaction technique known as eye tracking, researchers can track the eye movements of healthcare professionals. At the same time, they carry out their assigned tasks and determine where they are looking. Recently, eye-tracking methods have been utilized as a research tool for various applications in healthcare investigations. Several reviews have already used eye tracking to evaluate the skills of healthcare professionals and to train them.

(Newell et al., 2022) For complicated judgments, when the benefits and drawbacks of several alternatives are about equal but difficult to assess, there is a strong intuition of ambivalence in cognition. Information search has been studied using an experimental methodology that includes giving participants ambiguous questions and tracking attentional dynamics concerning the data pertinent to each choice across several Areas of Interest (AOIs). Two dynamic models were created to characterize eye-tracking curves, one for each reaction individually. The models included a drift mechanism towards the different possibilities as in conventional drift-diffusion theory. Additionally, they included an internal oscillation mechanism that interfered with the drift process and prevented the dynamics from eventually stabilizing. The breadth of assumed drift mechanisms differed between the two models. The simplified model, which covered drifts from an uncertainty state to one of two certainty levels, showed more support. Additionally, model parameters could be tangentially connected to the ultimate choice, adding to our understanding of how eye-tracking structure influences choices (particularly the gaze cascade effect).

(Fiedler & Glöckner, 2012) Some researchers have examined the model predictions for the underlying cognitive processes, which have been the subject of models that have been put forward. Three prominent methods include connectionist methods

like the parallel constraint satisfaction (PCS) model, simple serial heuristic methods like the adaptive toolbox, and evidence accumulation methods like decision field theory (DFT). Two investigations that used pupil dilation and attentiveness measurements looked into theories developed from these models in decisions between two gambles with two possible outcomes. This demonstrates that attention changes towards the subsequently preferred bet after around two-thirds of the decision-making process, showing a gaze-cascade effect, and attention to an outcome of a gamble grows with its likelihood and value. Overall, the findings are in favor of several features of automated integration models for riskier options like DFT and PCS. However, they still need to take into consideration the whole pattern of findings in their existing definition.

(2017, Bruny  & Gardony) Many times, sensory data is insufficient to correctly determine a stimulus's nature, and judgments are made in the face of ambiguity. The current research investigated several oculomotor parameters' potential sensitivity to momentary uncertainty levels during perceptual decision-making. Pupil diameter provided more detailed and dynamic information regarding the timing of perceptual choice-making than other measurements, which tended to shift linearly with decision confidence. Surprisingly few researchers have sought to hone in on quantitative measures of choice uncertainty, despite the prevalence and significance of perceptual decision-making as well as the potential effects of uncertainty on task performance. The current research investigates whether various eye-tracking-based metrics may be responsive to various degrees of uncertainty during a perceptual judgment task. The sensory, perceptual, cognitive, and behavioral processes involved in perceptual decision-making are described in several theories. Second, perceptual difficulty or doubt is noted, motivating and directing attention to obtaining more information. Some evidence supports the idea

that the perceptual decision-making process directs and engages visual attention to gather information that is important to a choice. Second, it seems that these visual search procedures are dependent on unpredictable circumstances, which should have a dependable impact on oculomotor activity when information about a stimulus is obtained. These theories frequently emphasize the neural mechanisms underlying various stages of the perceptual decision process, using tools like functional magnetic resonance imaging, it's possible that these tools won't be feasible to use in practical settings where the goal is to track perceptual decision uncertainty while performing tasks. By comparing variations in activity in brain areas related to faces and houses, the scientists suggested that this brain region is involved in perceptual judgments. While frontal brain areas displayed activity connected with response uncertainty, they discovered that low-level sensory information processing in the auditory cortex was related to choose correctness.

This study offers a novel technique called the choice moving window, which makes use of both mouse-tracing and eye-tracking techniques to test cognitive functions like attention during decision-making more effectively. In a probabilistic inferential choice problem, where we can accurately track attention processing while letting the subject choose how to gather information, we show the value of our technique—monitoring your eyes. Although some decisions can be made easily and quickly (such as choosing between toast and cereal for breakfast), many decisions are more difficult and call for using cognitive resources, such as deciding whether or not to buy a home or change jobs a down economy. The complexity of decision-making, particularly the procedures involved, is often disregarded, and the majority of the attention is placed on the results of choices.

(Day et al., 2009)The results supported the arousal inducer perspective that, with the same level

of decision time, participants made decisions more accurately with the presentation of faster than slower tempo music. Further, faster tempo music was found to improve the accuracy of harder decision-making only, not that of easier decision-making. More interestingly, our exploratory analysis on eye fixations found the occurrence of adaptive behavior, namely, that the search pattern of participants became more intra-dimensional under the faster tempo music as compared with the slower tempo music.

(Kwak et al., 2015) Compared to adults, adolescents were more likely to make conservative, loss-minimizing choices consistent with economic models. Eye-tracking data showed that prior to decisions, adolescents acquired more information in a more thorough manner; that is, they engaged in a more analytic processing strategy indicative of trade-offs between decision variables. In contrast, young adults' decisions were more consistent with heuristics that simplified the decision problem, at the expense of analytic precision.

(Behrend & Dehais, 2020) In the air transport industry, the distribution of roles in a flight crew - Pilot Flying. Pilot Monitoring reflects the importance of this task. Little is known about how pilot role assignment impacts monitoring behaviour and subsequent decision-making. At a behavioral level, pilot role assignment (Pilot Flying vs Pilot Monitoring) influenced decision time irrespective of rank (Captain vs First Officer), with later decisions for the Pilot Monitoring. Eye-tracking results provided evidence that pilot role assignment rather than rank impacted fixations on choice-relevant information, with more fixations by the Pilot Monitoring. Overall, pilots' fixations on choice-relevant information could predict decision-making.

(Ladislav, 2020) Simulations and games bring the possibility to research complex processes of managerial decision making. Many authors recommend the use of a combination of concurrent think-aloud (CTA) or retrospective think aloud (RTA)

with eye-tracking to investigate cognitive processes such as decision-making. Nevertheless, previous studies have little or no considerations of the possible differential impact of both think-aloud methods on data provided by eye-tracking. The results empirically prove that CTA significantly distorts data provided by eye-tracking, whereas data gathered when RTA is used, provide independent pieces of evidence about the participants' behavior. These findings suggest that RTA is more suitable for combined use with eye-tracking for the purpose of the research of decision-making in the game environment.

Problem Statement

Every complex decision is made within a complex decision environment, which is defined as the collection of information, alternatives, values, and preferences available at the time of the complex decision. An ideal complex decision environment would include all possible information, all of it accurate, and every possible alternative. However, both information and alternatives are constrained because the time and effort to gain information or identify alternatives are limited. The time constraint simply means that a complex decision must be made by a certain time. We all make complex decisions of varying importance every day, so the idea that complex decision-making can be a rather sophisticated art may at first seem strange. However, studies have shown that most managers are much poorer at complex decision making than they think. An understanding of what complex decision-making involves, together with a few effective techniques, will help produce better complex decisions.

Making a complex decision implies that there are alternative choices to be considered, and in such a case we want not only to identify as many of these alternatives as possible but to choose the one that (1) has highest probability of success or effectiveness and (2) best fits with our goals, desires, lifestyle,

values, and so on. Complex decision-making is the process of sufficiently reducing uncertainty and doubt about alternatives to allow a reasonable choice to be made from among them. This definition stresses the information-gathering function of complex decision-making. It should be noted here that uncertainty is reduced rather than eliminated. Very few complex decisions are made with absolute certainty because complete knowledge about all the alternatives is seldom possible. Thus, every complex decision involves a certain amount of risk. If there is no uncertainty, you do not have a complex decision; you have an algorithm--a set of steps or a recipe that is followed to bring about a fixed result.

Emerging neuroscience evidence suggests that sound and rational neuro - ophthalmic complex decision making depends on prior accurate emotional processing. Somatic marker hypothesis provides a systems-level neuro-anatomical and cognitive framework for neuro - ophthalmic complex decision making and its influence by emotion. Key idea is that neuro - ophthalmic complex decision-making is a process that is influenced by marker signals. This influence can occur at multiple levels of operation, some of which occur consciously, and some of which occur non consciously. The issues, because modern models ignore influence of emotions on neuro - ophthalmic complex decision-making, that crop up is;

- What computational mechanisms allow the eye to adapt to changing circumstances and remain fault-tolerant and robust?
- How (and where) are value and probability combined in eye and what is the dynamics of this computation? Under what circumstances do these various systems cooperate or compete?
- When there is competition, how and where is it adjudicated?
- Do higher-level deliberative processes rely similarly on multiple mechanisms, or a single,

more tightly integrated (unitary) set of mechanisms?

Emerging neuro - ophthalmic science evidence suggests that sound and rational neuro - ophthalmic complex decision making depends on prior accurate emotional processing. Somatic marker hypothesis provides systems-level neuro - ophthalmic anatomical and cognitive framework for neuro - ophthalmic complex decision making and its influence. These occur at multiple levels of neuro-feedback operation. Some occur consciously and some occur non-consciously. The issues that crop up are; what happens when Clinicians change minds? What algorithms allow sensorimotor behaviours to be learned? What computational mechanisms allow eye to adapt changing circumstances? How (and where) are value and probability combined in eye and what is the dynamics of neuro-feedback? What neural systems track defined forms of utility? To what extent do utility computations generalize to complex decision, which are tasks that are more complex? How do systems that focus on immediate complex decision interact?

Neuro - Ophthalmic Perspectives

Neuro - ophthalmic has further bridged the once disparate fields of ophthalmic and psychology. Such convergence is almost exclusively attributable to changes within ophthalmic. Neuro - ophthalmic has inspired more change within ophthalmic than within psychology because the most important findings in Neuro - ophthalmic have posed more of a challenge to the standard ophthalmic perspective. Neuro - ophthalmic has primarily challenged the standard ophthalmic assumption that complex decision making is a unitary process-a simple matter of integrated and coherent utility maximization-suggesting instead that it is driven by the interaction between automatic and controlled processes. Despite substantial advances, the question of how we make complex decisions and judgments continues to pose

important challenges for scientific research. Historically, different disciplines have approached this problem using different techniques and assumptions, with few unifying efforts made.

Neuro - ophthalmic has recently emerged as an inter-disciplinary effort to bridge this gap. The goal of neuro - ophthalmic is a mathematical theory of how the eye implements complex decisions that is tied to behaviour. This theory is likely to show some complex decisions for which rational-choice theory is a good approximation (particularly for evolutionarily sculpted or highly learned choices), to provide a deeper level of distinction among competing neuro alternatives, and to provide empirical inspiration for ophthalmic to incorporate more nuanced ideas about endogeneity of preferences, individual difference, emotions, endogenous regulation of states, and so forth. Research in neuroscience and psychology has begun to investigate neural bases of complex decision predictability and value, central parameters in the ophthalmic theory of expected utility. Ophthalmic, in turn, is being increasingly influenced by a multiple-systems approach to complex decision-making, a perspective strongly rooted in psychology and neuroscience. The integration of these disparate theoretical approaches and methodologies offers exciting potential for the construction of more accurate models of complex decision-making.

Neuro - ophthalmic seeks to ground ophthalmic theory in detailed neural mechanisms that are expressed mathematically and make neuro predictions. Neuro - ophthalmic uses knowledge about eye mechanisms to inform ophthalmic theory. It opens up the 'black box' of the eye, much as organizational ophthalmic opened up the theory of the organisation. The key insight for ophthalmic is that the eye is composed of multiple systems that interact. Controlled systems ('executive function') interrupt automatic ones. Eye evidence complicates standard assumptions about basic preference, to include homeostasis and other kinds of state-

dependence, and shows emotional activation in ambiguous choice and strategic interaction.

We start with the premise that most basic complex decisions we make (e.g., in the form of choices or effort allocation) can be traced back in structure of macro-scale eye activity, as measured with modern neuroimaging apparatus. Typically, such responses involve many regions in the eye (from mid-eye to prefrontal cortices, through parietal and basal ganglia structures), who's precise function in terms of motivational processes depends upon the context (e.g., specific task eye is solving). This context-dependency expresses itself through the (induced) specific plasticity of these eye networks, in parallel to phasic and tonic changes in neuro-modulator activity. In turn, this macro-scale reconfiguration of eye networks subtends learning and yield adaptive behaviour. In other words, it is very likely that goal-directed behaviour emerges from the very same interactions that shape the spatio-temporal dynamics of macro-scale eye networks. This means that understanding mechanics of motivational processes from the multimodal observation of eye activity (electrophysiology, fMRI) and neuro measurements (explicit choices, reaction times, autonomic arousal signals, grip force) poses the exciting challenge of quantitatively relating information processing to eye effective connectivity.

How are organisational and ophthalmic complex decisions making processes carried out in eye? Do we interpret research findings when neurological results conflict with self-report? Knowing how eye is working explains little about what mind produces; what we think, what we believe and how we craft complex decisions.' What are the general implications of neuro ophthalmic? Neuroscience techniques permit to look inside eye while it experiences outcomes and crafts complex decisions. Neuro - ophthalmic uses techniques to ask how manager (s) craft complex decisions and examine implications. Central argument of this proposal is that

Neuro - ophthalmic, organisational psychology and neuroscience each benefit from taking account of insights that other disciplines offer in understanding complex decision-making.

Questions that will be answered in this course include how to choose in tough situations where stakes are high, and there are multiple conflicting objectives? How should we plan? Why do projects often take longer and cost more than planned? How can we deal with risks and uncertainties involved in a complex decision? How can we create options that are better than the ones originally available? How can we become better complex decision makers? What resources will be invested in complex decision - making? What are the potential responses to a particular problem or opportunity? Who will make this complex decision? Every prospective action has strengths and weaknesses; how should they be evaluated? How will they decide? Which of the things that could happen would happen? The complex decision has been made. How can we ensure it will be carried out? Unfortunately, these are the very questions neuroscientists suspect are most crucial for understanding one of the most complex of human behaviours: how we complex decisions. Subsequent issues are,

- There is a need to attend as to how neuroscience can, and already has, benefited from Neuro - ophthalmic' unitary perspective, and
- How neuroscience has been enriched by taking account multiple specialized neural systems with potential research directions.

Research Issues

- How do eyes play a role in complex decision making?
- How does decision maker decide through ophthalmic estimates?

Aim and Objective(s)

Role of eye movements during complex decision construction is not entirely clear. In neural computational simulations of complex decision making, preference in judgment task is epitomised by corresponding protuberance of neural bustle. This activity has two idiosyncratic apparatuses: intensification of action and complex decision inception for action to overcome in order for choice to be made. A technique to review is to scan orientation of behaviour leading up to complex decision point. Investigating eye movements is expedient in providing substantiation of complex decision positioning of behaviour replicating computational complex decision. Eye movements reproduce escalatory complex decision significance, leading to gaze chute in which eye movements dynamically feed value of individual opportunities. Intention of this proposal is to shadow preceding suppositions that eye movements have causative stimulus on complex decision formation.

In organisational sciences, study of complex decision-making is an important preliminary step to provide a sound foundation for analysis of equilibrium in organisational systems. Neuro - ophthalmic analysis has been a fruitful development in this direction. In recent past, a new direction of research has emerged, studying interplay of complex decision making of single individual with business environment that surrounds him. Principal aim of proposed study is to model computational and neurobiological basis of value-based complex decision making by using tools from Neuro - ophthalmic and cognitive neuroscience. This proposal aims at two specific ways in which neuro - ophthalmic modeling can endeavour towards complex decision - making; first, incorporate neuroscience and organisational psychology of formal, rigorous ophthalmic modeling approach, and secondly, awareness of evidences for multiple systems involved in complex decision-making.

Statistical techniques embedding the above models for analyzing neuroimaging and neuro data. These probabilistic inversion schemes borrow from disciplines such as inverse problems, statistical physics and machine learning. If only, they are necessary to capture the inter-individual variability of neurophysiological and neuro responses. More generally, they are essential to root a principled approach to model comparison and selection, given experimental data. This is important to identify candidate psycho-physiological scenarios that have the ability to quantitatively explain concurrent neuroimaging and neuro data.

Focal point is to understand;

- Neural processes underlying how we craft complex decisions and choices.
- Understand mechanisms of complex decision-making using functional neuroimaging methodologies.
- Integrating interdisciplinary research towards contributing to complex decision neuroscience.

Objective is to put forward a model for neuro - ophthalmic complex decision, in which interaction between variables of neuro - ophthalmic complex decision processes are addressed via;

- How does eye assign value to different options under consideration?
- How does eye compare assigned values in order to design a choice?
- How is 'process of valuation' changed when control is exerted?
- How is value computed in complex / abstract domains?
- How can neuro - ophthalmic be applied to design solutions to real - time problems?

This plan ventures to speculate on neurobiological data and offer a model about relationship between human rationality, emotions and underlying neuro-ophthalmic. Emotions and neuro-ophthalmic underpinnings involved in complex

decision - making would provide scaffolding for construction of cognition and for self-processes which undergird consciousness. This proposal would examine and compare tools of neural network modeling.

An ambition here is to construct a modelling framework general enough to relate the various experimental studies conducted in the group with each other, without compromising predictive power. One difficulty is to balance complexity of the above models with the sophistication of the experimental design and data analysis procedures. This simply means that these three aspects of the research have to be conducted in parallel. This joint effort towards a quantitative psycho-physiological understanding of motivation is what we term 'computational Neuro - ophthalmic'. This work would attempt to explore socio-economic phenomena through individual action, complex decision making, and reasoning processes, draw from such disciplines as philosophy, ophthalmic, complex decision-making, sociology, cognitive and social psychology, report on concept of mind of social actor, cognitive models of reasoning, complex decision-making and action, computational and neural models of socio-economic phenomena, etc.

Through computational approaches, attempt will be to clarify how neural soundings realize 'mental sounding' in clinician complex decision making. This work would attempt to explore phenomena through individual action, complex decision making, and reasoning processes on concept of cognitive models of complex decision - making. Principal aim of proposed study is to model neuro - ophthalmic basis of complex decision making by using tools from neurofeedback. Purpose is to elucidate principles and complex decision - making mechanism in eye interaction between variables of feedback processes. Focal point is to understand neural processes underlying how Clinicians craft complex decision and complex decision, understand

mechanisms of complex decision making and integrating interdisciplinary research proposal towards contributing to neuro - ophthalmic complex decision.

Exploration on complex decision making has protracted from behaviourist methodology to cognitive approach that centres on complex decision processes. In neural computational simulations, each complex decision task is signified by protuberance of neural activity. Complex decision correlated neural activity has constituents of spiralling of activity and complex decision initiation for neural activity to overcome for complex decision to be completed. A way is to scan positioning of (complex decision maker) complex decision behaviour primary to complex decision point. Eye movements are crucial measure indistinctly concomitant to ocular reflection as both are chromatic prospects for rational processing. Investigating eye movements is expedient in providing evidence of orientation of (complex decision maker) complex decision behaviour reproducing computational complex decision in complex decision formation. Role of eye movements, deliberate or impulse, help in attainment, retaining and outlining optical stimuli, during (complex decision maker) complex decision formation is not clear. Proof suggests that orientation of eye movement may not be a critical constituent. It can be result of amplification in contact to incitement as a persuasive factor in (complex decision) formation.

Focus has remained on fundamental questions: what mechanisms keep gaze stable with either stationary or moving targets? How does motion of image on retina affect vision? Where do complex decision makers look, why and when performing complex task? How can world appear clear and stable despite continual movements of eyes? What determines complex decisions made about where to look? How are these complex decisions carried out? How do we maintain percept of clear and stable

world despite occurrence of saccades? Purpose is to survey foregoing conclusions that eye movements have contributory stimulus on (complex decision maker) complex decision formation in rational fashion. This reviews experiential studies that employ eye movement monitoring as tracking method with gazing in (complex decision maker) complex decision - making research. This countenances a specific hypothesis about role of eye movements in complex decision; understanding how eye movements are premeditated, carried out notwithstanding recurrent vicissitudes in optical assortment that eye movement harvest. One major effort is understanding how should complex decision makers' decide, deal with risks and uncertainties, create options better than originally available, potential responses to problems and evaluate strengths and weaknesses of each prospective action using apparatus of complex decision making, kowlerian model, eye movement, process tracing, tracking method and gazing.

Eye Movement

This refers to voluntary or involuntary movement of eyes, helping in attaining, possessing and tracking optical impetuses. 'Saccade' is quick, concurrent movement of both eyes between two or more phases of fixation in same direction. Cohort of saccade may consider outcome of complex decision-making process. Functional models are based on accretion of corporeal corroboration in favour of various alternatives in sprint to (complex decision maker) complex decision threshold. Outcome is affected by variables such as value of sensory evidence, probability of alternative movements and reward associated with different movements. Salient progress has been made in studies of visual saccadic complex decision making, a system that is becoming a model for understanding (complex decision maker) complex decision making in general. In this, theoretical models of complex decision

making are beginning to be used to describe computations (complex decision maker) eye must perform when it connects sensation and action (Glimcher; 2003).

Eye Tracking

Eye tracking is process of measuring either point of gaze (where one is looking) or motion of eye relative to head. In unassuming terms, eye tracking is measurement of eye activity. Where do (complex decision makers) look? What do (complex decision makers) ignore? When do (complex decision makers) blink? How does pupil react to different stimuli? Application of (complex decision maker) eye movements to user interfaces; both for analysing interfaces, measuring usability and gaining insight into human performance and as actual (complex decision maker) control medium within human (complex decision maker) - mainframe dialogue.

Eye Gazing

(complex decision maker) eyes and (complex decision maker) gaze are important stimuli for (complex decision maker) interactions. Gaze means 'to look steadily, intently and with fixed (attention). (Complex decision maker) eye region of represents special area due to extensive amount of (complex decision maker) information that can be extracted. Eye region carries information necessary for emotion recognition. Cognitive and (complex decision maker) behavioural neuro - complex decision science has recently witnessed explosion of scholarship investigating processing of (complex decision maker) eye region and gaze direction in various tasks and organisational situations. Due to extensive complexity, underlying neural systems subtending these (complex decision maker) processes are far from being agreed.

Hypothesis

Eyes, as platform of complex decision-making, are indispensable to dynamics of neuro - ophthalmic

complex decision modeling. Hypothesis rejects attempts to limit human reasoning and neuro - complex decision making to mechanisms relying in an unrelated manner on either conditioning or cognition alone.

Methodology

Methodology proposes to incorporate Kowler (Rutgers University, USA) model states that eye movements are integral part of (complex decision maker) interactions with visual world. Tasks, inspecting contents of visual scene, require that complex decision makers bring eye swiftly and precisely to weighty and expedient positions. Eye movements accomplish this with virtually no overt effort or awareness. Model involves (complex decision maker) eye movements and connections between eye movements, perception and cognition. Model is devoted to understanding how eye movements are planned, how they are carried out, how to maintain percept of clear, stable and coherent world despite continual changes in visual array that eye movements produce. One major effort understands relationship between (complex decision maker) eye movements and (complex decision maker) attention, question of how (complex decision maker) attention is involved in eye movement control and how to attend to visual environment independently of movements of eye. Model emphasizes active integration of (complex decision maker) eye movement planning with ongoing visual and cognitive processes. The model incorporates components of visual (attention), eye movements, eye movements and their role in visual and (complex decision maker) cognitive process, (attention) during active visual (complex decision maker) tasks, oculomotor control, visual memory, and allocation of visual (attention), accuracy and precision of visual and cognitive processes in new directions for (complex decision maker) complex decision research.

Rationale

To date, management model of complex decision has not been informed by the way eye functions. Goal of studying complex decision behaviour is prediction. This research proposal would seek to develop theoretical models, based on axiomatic foundation of neurofeedback, which can predict clinician complex decision. These models would take as inputs state of external world and generate as outputs actual complex decision made by human choosers. For this reason, research proposal would aim towards achieving compact and abstract models of complex decision. Analysis of observations would include not only complex decision between options, per se, but additional neurofeedback data, including length of time taken to make complex decision, number of error in complex decision and psychophysical model(s).

Contributions

The study of complex decision making and problem solving has attracted attention. Expanded research proposal requires (model - based empirical) study of behavior and provide setting for basic research proposal on how ill structured problems are, and can be, solved. Clinician neuro - complex decision making, which is much less well understood than individual complex decision - making and problem solving, can be studied with great profit using already established methods of inquiry, especially through intensive studies.

Neuro - ophthalmic management offers solution through series of measurements of eye activity at the time of complex decision. It provides conceptual and philosophical framework for understanding and conducting research at ophthalmic science, management and psychology spectrum. Neuro - ophthalmic management theory proposes to build eye-based models capable of predicting observed behaviour. Neuro - ophthalmic management will shed light on causes of behaviour (and neuro - ophthalmic

anomalies) and help build theories capable of explaining and predicting complex decision. Measurement of eye activity provides information about underlying mechanisms eye during complex decision processes. Neuro - ophthalmic complex decision modelling would help when new information is inconsistent with goals. Combining the above disciplines gives interdisciplinary insight to define fundamentals of neuro - ophthalmic complex decision making.

Contributions

- Neuro - ophthalmic offers a solution through an additional set of data obtained via a series of measurements of eye activity at the time of complex decisions,
- Provides a conceptual and philosophical framework for understanding and conducting neuro - ophthalmic research at the intersection of neuroscience, ophthalmic and psychology,
- Describes the first standard model for the choice process that links and spans neurobiological, psychological, and ophthalmic levels of analysis,
- Applies neuroscience to both neuro ophthalmic and neoclassical ophthalmic, and ties both fields to biological constraints in how we judge relative value and make choices,
- An important resource for researchers in disciplines ranging from ophthalmic to neuroscience, as well as to scholars of the theory of science and the development of interdisciplinary research,
- Experimental Neuro - ophthalmic can be seen as a subfield of experimental ophthalmic, where neuro data is enriched with eye data,
- Neuro - ophthalmic theory proposes to build eye-based models capable of predicting observed behaviour,
- New set of data provided by experimental Neuro - ophthalmic will shed light on the causes of

behaviour (and therefore of the neuro anomalies) and help build new theories capable of explaining and predicting complex decisions,

- Measurement of eye activity provides information about the underlying mechanisms used by the eye during choice processes, In particular, it shows which eye regions are activated when a complex decision is made and how these regions interact with each other, This knowledge can then be used to build a model that represents this particular mechanism,
- Combining the above disciplines gives an interdisciplinary insight to define fundamentals of neuro - ophthalmic complex decision making that has eluded researchers working within each individual field.

Outcome

Complexly interlinked imaging technologies, new imaging technologies have motivated studies of internal order of mind. Interaction between business and science is not smooth with difference in perception and reasoning potentials on either side. It suggests fundamental change in how to think, observe and generate choices. Explorations have extended from neural soundings to stimulating shares of chromatic prospects for rational processing. Research proposal attempts would discuss findings to understand neuro - design and offer to answer issues in clinician preference dynamics. Research proposal attempts would conclude with distinctive propositions and presents directions for future research proposal. Research proposal attempts would aid rethinking foundations of clinician preference dynamics by providing alternative taxonomy for rational preference problems. This research proposal would open new vistas for future replicative studies.

Conclusion

What are the mechanisms that keep gaze stable with either stationary or moving targets? How does motion of (complex decision maker) cognitive image on retina affect vision? Where do (complex decision makers) look - and why - when performing complex (complex decision maker) task? How can the world appear clear and stable despite continual movements of (complex decision maker) eyes? (Complex decision maker) cognitive processes driving eye movements during (complex decision maker) complex decision making are not in any consequential way different from those in similar tasks. (Complex decision maker) eye movements in (complex decision maker) complex decision making are partially driven by (complex decision maker) task demands. Eye movements in (complex decision maker) complex decision making are partially driven by stimulus properties that bias (complex decision maker) information uptake in favor of visually salient stimuli. Eye movements do not have causal effect on (complex decision maker) preference formation. However, through properties inherent to visual system, such as stimulus-driven attention, (complex decision maker) eye movements do lead to downstream effects on (complex decision maker) complex decision making. Complex decision makers optimize eye movements to reduce demand on (complex decision maker) memory and reduce number of fixations and length of saccades needed to complete (complex decision maker) complex decision task. Drivers of eye movements in (complex decision maker) complex decision making change dynamically within tasks (Orquin and Loose ; 2013). Attention should be paid for performing experimental procedures in order to evaluate usability, accuracy and reliability of eye tracking systems. Any (complex decision) model that aims to describe (complex decision maker) complex decision making must reflect that visual information play central role in complex decision dynamics.

Being an original study, the present attempt would contribute (at intersection of neuro - ophthalmic science, management and psychology) towards existing scholarship in the following mode;

- Provide conceptual framework for conducting neuro-ophthalmic management research proposal,
- Offer solution through measurements of neurofeedback at time of complex decision, and
- Describe standard inter - disciplinary model for neuro- ophthalmic based complex decision.