

Multidisciplinary Studies in Education



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**Prof. (Dr.) Mita Banerjee
Dr. Rumti Das**



THE BOOK WORLD

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We are also deeply grateful to our Hon'ble Vice-Chancellor, Professor (Dr.) Subrata Kumar Dey, for his valuable suggestions, continued motivation and academic insight, which helped us remain focused and committed to the objectives of this publication.

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We are equally thankful to all the contributors and collaborators whose research, insights and academic writings have enriched this volume. Their dedication to excellence and willingness to engage in meaningful dialogue across disciplines form the very heart of this book. Without their efforts, this publication would not have been possible.

Their collective encouragement and support have been instrumental in turning this academic endeavour into a reality. We remain deeply thankful to each of them for their trust and goodwill.

Prof. (Dr.) Mita Banerjee
Dr. Rumti Das
Editors

FOREWORD

It is with great honor and enthusiasm that I present *Multidisciplinary Studies in Education*, a thoughtfully curated volume that explores the evolving and complex landscape of contemporary education. No longer confined to traditional methods or single disciplines, education today demands multifaceted approaches and collaboration across diverse fields.

This book stands as a testament to the power of multidisciplinary inquiry. It brings together a wide array of perspectives: philosophical, psychological, sociological, technological and policy-oriented, each contributing valuable insights into the challenges and possibilities of education.

Several chapters focus on transformative learning, emphasizing how education can empower individuals intellectually, ethically and socially. The emphasis on the ethics of care underlines the importance of nurturing empathy, responsibility and relational understanding—key to building inclusive and compassionate societies. The volume also tackles the growing impact of technology, including artificial intelligence, digital learning and micro-credentialing, urging educators and policymakers to critically engage with these changes.

Research on mental health, social equity and empowerment further highlights education's vital role in societal welfare. Issues of gender, disability and economic inequality are explored with sensitivity and depth, reinforcing the need for inclusive policies that leave no learner behind. In addition, the book critically examines frameworks like India's National Education Policy (NEP) 2020, offering insights on their practical implementation.

I am confident this volume will serve as a valuable resource for educators, researchers, students and policymakers. Its multidisciplinary lens invites readers to move beyond traditional boundaries and adopt a holistic, responsive approach to education.

May *Multidisciplinary Studies in Education* inspire ongoing research, innovation and the creation of educational spaces that are equitable, empowering and future-ready.

Prof. (Dr.) Mita Banerjee

Former Professor, Department of Education, University of Calcutta, Former Vice-Chancellor, Baba Saheb Ambedkar Education University, Former Vice-Chancellor, Kanyashree University, Former Vice-Chancellor, Murshidabad University (Additional Charge), Professor Emeritus and Chief Academic Advisor, Department of Education, Swami Vivekananda University, Barrackpore, West Bengal, India.

Table of Contents

1. The Ethics of Care : A Philosophical Approach towards Transformative Learning — <i>Dr. Nilina Ghose</i>	13
2. Philosophical Perspective of Transformative Learning on Education with Special Reference to Guru-Shishya Parampara — <i>Rajib Santra & Dr. Rajiba Lochan Mohapatra</i>	20
3. Underpinning Ethics and Values through Transformative Learning: A Qualitative Study — <i>Jaita Mukherjee & Priyanka Bera</i>	35
4. Influence of Yoga Philosophy on Mental Health and Well-being — <i>Ruchika Saha & Dr. Rumti Das</i>	50
5. Mental health and Adolescents: A Pathway of Societal Welfare — <i>Adrija Chattopadhyay & Chandan Sardar</i>	57
6. Education and Empowerment: Addressing Gender, Disability and Social Inequality — <i>Dr. Ranjith Kumar Varre</i>	74
7. Effects of the Right to Education Act on Educational Access for Marginalized Communities — <i>Dr. Chattu Mondal</i>	91

- | | | |
|-----|---|-----|
| 8. | Beyond IQ: Integrating Multiple Intelligence Theory in Indian Academic Education and Inclusivity of all Intelligences
<i>—Sinjini Roy, Kune Niang, Ananya Mandal & Dr. Nilanjana Mitra</i> | 96 |
| 9. | Role of Education in Reducing Economic Inequality among BPL Citizen in Rural India
<i>—Dr. Shyamasree Sur</i> | 113 |
| 10. | Technology and Digital Learning Environment: Trend in Education
<i>—Moumita Gayen & Dr. Sridipa Sinha</i> | 130 |
| 11. | Technology and Artificial Intelligence in Modern Education: Benefits and Challenges
<i>— Bijay Gayen</i> | 141 |
| 12. | Exploring Emerging Trends in Educational Technology and Digital Learning Environments: Challenges and Opportunities
<i>— Rinku Sk & Dr. Sridipa Sinha</i> | 151 |
| 13. | Global Citizenship Curriculum and Transformative Learning: A Reflective Note
<i>— Dr. Rakheebrita Biswas</i> | 164 |
| 14. | Empowering Educators through Micro-Credentialing: Transforming Professional Development Approaches
<i>— Swagata Gupta</i> | 171 |
| 15. | Featuring Multidisciplinary Approaches: Role And Its Impact to the Educational Landscape in 21st Century
<i>— Afroz Azam & Dr. Mahfuz Alam</i> | 186 |

Contents (Contd..)	11
16. Multidisciplinary Approaches to Education in the 21st Century: A Comprehensive Study — <i>Dr. Kajal Das</i>	195
17. A Comparative Review of Language Policies in India — <i>Bhramor Saha</i>	201
18. Resourceful Educational Program Interpretations in Various Gradations of Comprehensive School in NEP 2020 — <i>Dr. Amitava Bhowmick</i>	210
19. Multidisciplinary Approach to Enhance 21st Century Skills in Higher Education of Modern India in view of NEP 2020 — <i>Reshmi Sasi</i>	220
20. Integration of Digital Literacy in Indian Education: Analysing NEP 2020's Impact — <i>Dr. Jayati Maiti</i>	233

The Ethics of Care : A Philosophical Approach towards Transformative Learning

Dr. Nilina Ghose

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Abstract : Transformative learning can be viewed from a philosophical perspective. Ethics which is a significant branch of philosophy deals with moral values and principles. The moral philosophers like Confucius, Plato, Aristotle, Kant have spoken of developing moral virtues and good moral character. However, when we analyse the different ethical standards, we find that the traditional Ethical theory of Justice emphasises the human faculty of reason as the paradigm of morality. Its approach is individualistic and it emphasises on abstract and normative values. The Ethics of Care is a comparatively recent ethical trend advocated by the feminist philosophers who consider the importance of emotion over reason as a human trait. Care is regarded as a virtue that focuses on love and empathy. It has an integrative approach that considers the self as embedded in psycho-social relationship in a community. Its foundation is contextual and relative. This kind of ethics can be a tool of curriculum planning and framing educational policies. It will help to provide a broad outlook to the teachers as well as the students who will be sensitive to the ideas of others and understand any subject-matter from a wider perspective. This kind of ethics will enrich the teaching-learning process and foster the qualities of love and care among the stakeholders. As a consequence, it will strengthen global peace and harmony by mitigating various problems through patient hearing, dialogue

and interaction. It will enable the students to be sensitive and caring global citizens.

Keywords: Care, Empathy, Reason, Emotion, Peace.

Transformative learning

It is a novel approach in the field of education. Its aim is to observe and examine ourselves as well as the world around us from a broad and integrated perspective. This kind of education evokes critical analysis and thought in the individual minds. It gives importance to dialogue and communication. Such an approach in a way enables an individual to look at any issue intensively from other points of view different from his own perspective. The goal of education is complete development of individual personality in a society. Both the individual and social aspects of a human being contribute to build up a harmonious world. Ethics plays a significant role in the formation of character. It helps a student to know about the moral concepts like right, good and their applications. It is my observation that the Ethics of Care, a recent trend in moral philosophy, can be a tool of curriculum design and planning. The qualities of love, benevolence and empathy that are highlighted in this particular kind of ethics should be fostered in the minds of the students. The progress of the teachers too will be affected by this kind of ethics whereby learning process will be more inclusive and flexible. These qualities highlighted by the ethics of care are intimately associated with motherhood and nurture. In this connection, I wish to point out the key features of Care Ethics that were primarily denigrated as domestic qualities and hence kept outside the purview of morality.

Ethics of care

Carol Gilligan, Virginia Held, Marilyn Friedman, Annette Baier are prominent feminist philosophers who voiced their views against traditional morality that denigrates women. They focus on feminine psychology that is particular, concrete and contextual. It is different from the masculine perspective of abstraction and universality. Neglect of women originates from the idea that private sphere of family is natural and therefore, outside the moral purview. It is to be noted that psychological development of men and women are not identical. There are various factors responsible for this difference;

one of them is social upbringing, education and expectation. According to many feminist thinkers, women are the society's primary caregivers all over the world. They rear children, look after the old and the sick people. The values with which women are associated are interdependence, community connection, sharing, emotion and trust. Men are normally associated with traits like independence, boldness and rationality. Care focused feminism suggests various explanations for why society label certain values as feminine while few virtues as masculine. Few of them point to their separate biologies, their different psychosexual traits and the manner in which the society labels their identities.

The seed of discrimination penetrates in the social culture gradually. Whereas the feminine virtues in a patriarchal society are considered subordinate to the male virtues, the care focused feminism considers these female virtues as human strength and not weakness.

When we study the views of eminent philosophers about women, we find that many of them like Aquinas and Aristotle assigned a low and degraded status to them. That procreation was the ultimate purpose of God to create the female species was advocated by Aristotle and St. Thomas Aquinas. Women, in general, were ascribed a subordinate position in society. The qualities expected from a woman were submissiveness, timidity and obedience of the commands of the husbands. Allison Jaggar held that traditional western ethical philosophy does not consider the perspectives of women. Its ultimate root cause is patriarchy.

Nancy Hartsock is a materialist feminist. Her theory of standpoint epistemology is founded upon the Marxist theory that an individual's class position determines her epistemology. The bourgeois epistemology is determined by his favourable position where he controls the means of production. On the other hand, a proletariat conceives the world from the point of view of his labour and subjugation by the authority. In the light of epistemic theory, Hartsock presents her view of oppression of women. Women's labor is mainly constituted by mothering, cooking, cleaning, providing service to the old and the sick in the household. Hence, a woman's outlook towards the world is shaped by her position in the society that is quite different from men.

Ideology regarding women's role, status and function are determined by a particular mindset that perceives separate identity to male and female.

Simon De Beauvoir in her famous book "The Second Sex" has portrayed woman as the "other". She considers the biological characteristics of women – her procreation and nurturing of children as the determinant of her otherness.

The oppression of women who are ascribed a low status compared to men in society originate from misperception of their functions, roles and associated experiences. This kind of perception has been used as a tool of patriarchy that justifies its workings consciously as well as unconsciously to resist or silence women voices against discriminatory practices. This kind of estimation has been diagnosed as faulty by the feminist philosophers.

Ethics of care and its contribution

In the book "In a different voice", Carol Gilligan, the famous moral psychologist said that man engages in a kind of moral reasoning that is based on separation and autonomy. Justice, right, fairness are the male virtues. On the other hand, women stress on connections and relationships that lead to a different kind of moral reasoning based on interests and concerns. Many ethical philosophers have used the male norms as a criterion of moral development in the case of both men and women resulting in an obvious conclusion that women are less morally developed than men. Gilligan criticised this negative assessment and pointed out that the standard to evaluate moral development of women needs revision.

She criticized the scale used by her mentor Lawrence Kohlberg to measure moral development; she noted that the task is not to construct a new test to measure women's technique of moral reasoning. Rather a test is required to measure the moral reasoning of man and woman accurately. The fact is simple-moral reasoning is different for men and women. But difference does not imply a hierarchical division. She had added that a person has a marked ability to utter languages of both care and justice. Unfortunately, there is a tendency to undermine the care - focused thoughts and communications of adolescents as stupid or

unmanly. That rational, scientific and objective thinking are praised and caring features are generally devalued are pointed out by Gilligan. She has observed that young children who are not taught to suppress their feelings seem more moral than the adult folks. There are practical instances that corroborate the fact that young children who care for their relations perform such actions too. Responding to other people's interests and needs are symbols of moral strength according to Gilligan. That means the qualities of women that are devalued in a patriarchal society need to be respected and appreciated as indicators of moral progress of an individual.

Nel Noddings has observed that care ethics has influenced different fields of education like nursing, curriculum instruction, teacher training and educational philosophy. The important components of care ethics are engrossment, compassion, reciprocity and motivational displacement. Caring relation in the educational system promotes responsiveness and responsibility. The skill to perceive and address the wants and interests of the other enlightens the teaching-learning system, making it broad, varied and challenging. In spite of the above positive facts about care ethics, it has been underestimated by many philosophers.

Nel Noddings has noticed that culture favours a masculine ethics of justice over and above the feminine ethics of care. Actually, women can speak in both the language of justice and care. Justice is not a masculine hegemony after all. Women, in fact, enter the moral sphere through a different door than man. She is more prone to the values of caring than the values of justice. Whereas male reasoning is abstract, the female reasoning is enriched with concrete experiences of love, care and sharing.

According to her, care is not simply an attitude. Only good intentions do not suffice, there should be active involvement and participation in caring activities. She insisted upon the universal nature of the caring attitude which is as significant as the rational capacity. She added that since our caring memories may fade, we must use education to remember them and practise them frequently. The relation of natural caring is a human condition that we, consciously or unconsciously, regard as good moral practice.

In this connection, we can mention the view of Confucius, a famous Chinese philosopher regarding moral self-cultivation. His ideology bears resemblance to the feminist theory of care. According to him, human beings are social in nature. An individual is fundamentally a relational self and few social roles are ascribed to him that are associated with few responsibilities. “Shu” is an important concept in Confucian philosophy which means reciprocity. It is the responsibility of father to look after his son and give him proper education. In return the son should exercise filial piety, follow the instruction of his father and look after him in old age. Although Confucius supported patriarchal social structure, yet what is important is his emphasis on relationship. It means that each person understands his place in society not in abstraction but in relation to others. He emphasised on social virtues that encourage healthy relationship among people. There are many senses of the term “Ren”, the most important one is humaneness or benevolence. It encompasses the concepts of kindness and compassion. Its exercise presupposes a knowledge of human character with the help of which a good character can be distinguished from an evil one. “Shu”, the concept of reciprocity, underlines the Golden Rule of Confucianism, that is “do not do to others what you would not wish them to do to you”. It is a kind of perception that enables one to place oneself in somebody else’s place and examine the matter from the perspective of the latter. The virtues mentioned by him are loyalty, respect towards the parents and ancestors, faith and trust.

“Ren” as an important social virtue insists on a natural relationship between the individual and community. One’s identity is constituted by relationship. Individual interests, needs and aspirations need to be harmonised with the welfare of the community. He gave emphasis on family feeling and respect that strengthen the foundation of society.

Conclusion

We find that the feminist ethics of care that bears similarity with Confucian ethics encompasses an inclusive, participatory and integrated view of the world. It tries to focus on the issues and grievances of not only friends, relatives but also distant people in distress and in general, universal humanity. An equitable social

structure depends on the qualities of love and reciprocity. In this age of self-aggrandizement and self-gratification, the curriculum should include such topics like human virtues of goodness, care and benevolence to make the students sensitive to other's pains and problems. Emotions are to be valorized and their role in teaching- learning process cannot be neglected. Care ethics contributes to enrich pedagogical activity in practice. Empathy is to be cultured and exercised to build up a responsible society.

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Philosophical Perspective of Transformative Learning on Education with Special Reference to Guru-Shishya Parampara

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Abstract: The Guru-Shishya Parampara is an ancient Indian tradition of mentorship-based learning and it offers a profound philosophical perspective of transformative learning on education. Rooted in Vedic and Upanishadic thought, this system emphasizes the relationship between the teacher (Guru) and the student (Shishya) where knowledge transfer occurs not merely through academic instruction but also through spiritual, emotional, and moral guidance. This present paper explores the evolution of the Guru-Shishya Parampara from its origins in ancient India to its contemporary adaptation in the digital age and highlights its transformative learning on philosophical perspective. The study adopted content analysis for data analysis from different times of literature. The investigation analyzes how the Guru-Shishya Parampara has shaped educational practices offering a holistic approach that integrates intellectual, ethical, and spiritual growth. The core principles of personalized mentorship, experiential learning and self-realization are explored to demonstrate how this tradition fosters not only academic achievement but also the development of virtues such as compassion, humility and critical thinking. By examining the historical evolution and modern relevance of the Guru-Shishya Parampara this research

underscores its potential to shape transformative learning experiences in contemporary education where the focus is shifting from rote memorization to fostering wisdom, character development and holistic growth. Ultimately, integrating these principles into modern education can bridge the gap between traditional wisdom and contemporary learning, offering a path to nurturing well-rounded, virtuous individuals capable of contributing meaningfully to society.

Keywords: Philosophical Perspective, Guru Shishya Parampara, Transformative Learning, Holistic Development

Introduction

Education is a fundamental pillar of societal as well as national development. It gives shaping of individuals and communities by imparting knowledge and fostering personal growth. In modern times, there has been increasing recognition of the limitations of traditional education systems which often prioritize rote learning and standardized testing over holistic development. In this context, the Guru-Shishya Parampara an ancient Indian tradition of mentorship-based learning offers a valuable philosophical perspective for transforming education today.

India has a long history of conducted on system of education (Karve, 2023) on the philosophical foundations. India has a great culture of several art forms that are closely related to many aspects of life and are still practiced today and are transmitted from one generation to the other one through the Guru Shishya Parampara (Menon, 1978). The Indian viewpoint holds that the purpose of human existence is to develop via both internal and external experiences until a person lives in God, realizes his spirit and becomes divine in his knowledge, desire and joy. In the process of attaining this life-changing experience, the guru occupies a unique position. The two primary aspects of the relationship—intimacy with the guru and surrender of the shishya. It is thought that when a pupil has self-disciplined and is in tune with the guru then occur real teaching takes place. In this process involves a lot of teaching, modeling and influence. Its poly-variant ness is one of the guru-shishya relationship of the most notable features. It demonstrates how all-encompassing this relationship is. Dynamics of this Parampara always show that the guru is the prominent factor to

whole transformation of the shishya served as its foundation (Pal & Chakrabarti, 2024). The core of India's oral tradition is the Guru-Shishya Parampara, which represents the dynamic and educational connection between teacher and student. The tradition, which dates back to the time of the great Indian sages and this tradition is indicated the ardent shishya's total emotional, intellectual and spiritual surrender to the guru (Das, 2013). The guru-shishya relationship was a spiritual relationship and monitoring tradition in Indian religion and culture in which teaching was passed down from guru to shishya. It was believed that the relationship was cornerstone on the guru's genuineness as well as the student's respect, commitment, devotion, obedience and that it was the finest approach to transmitted advanced knowledge. The pupil eventually masters the wisdom that the guru represents (Sharma, 2014).

The Guru-Shishya Parampara offers a powerful philosophical foundation for transformative learning and education in the modern world. By emphasizing the importance of personalized mentorship, experiential learning and holistic development, this ancient tradition provides valuable insights into how we might rethink education in a way that nurtures not just intellectual growth but the moral, ethical and spiritual dimensions of the individual. In a rapidly changing world, where education is often reduced to the acquisition of marketable skills, the Guru-Shishya Parampara reminds us of the deeper, more transformative purpose of learning. A purpose that is rooted in wisdom, self-realization and the pursuit of truth.

Objectives of the Study

- To analyze the philosophical foundations of Guru-Shishya Parampara evolving since ancient time to present era.
- To investigate the role of Guru-Shishya Parampara in transformative learning of students.

Research Questions of the Study

- How has the Guru-Shishya Parampara evolved since ancient time to present era?
- How can Guru-Shishya Parampara bring transformative learning in education?

Methodology

The present paper analyses literatures relating to Guru-Shishya Parampara in different time periods through content analysis.

Discussion**○ Evolution of Guru-Shishya Parampara: A philosophical perspective**

During the ancient period of India, the teacher or guru played an important role for not only to impart knowledge but to transform lives. The Gurukula system was associated with numbers of ethos. Here, the Guru was a spiritual and intellectual guide and while the Shishya (disciple) lived with proximity their teacher who taught not just academic knowledge but the art of living (Yadav, 2024). Since ancient to present Guru-Shishya Parampara has gradually changed to teacher-student relationship and Guru replaced teacher. In this context, approaches to classroom teaching have evolved considerably over passed down thousands of decades. This progress has been spurred by the development of several learning principles and methods of instruction, including active learning, student-centered learning, collaborative learning, experiential learning, and problem-based learning (Slavich & Zimbardo, 2012). Now-a-days transformative learning is a fundamental structural change of the learner in their perspective by the teacher. (King, 2002). Reflection of blended-learning is a paradigm shifting in the field of teaching and learning process which replace of traditional mode. This new method involved traditional face-to-face instruction with digital technologies. Both methods offline and online learning are combined making a novel idea of blended learning, it including for offline learning like traditional classroom instruction and for online learning like ICT-supported learning. It offers opportunities for learner to learn such as computer-assisted learning (CAL), constructive learning, and collaborative learning and through this platform become a knowledgeable pupil from every aspect (Bashir et al., 2023). Teacher as a critical facilitator for student learning regarded in ICT and globalization era (Proctor, 2018). This tradition has deep philosophical underpinnings and analyzing its evolution involves understanding the various stages it has gone through, from its roots in ancient Indian thought to its present-day manifestation.

○ **Ancient Period (According to Oak's 15000 BCE to 550 AD)**

The Guru-Shishya relationship in the Vedic and Upanishadic times was built on the concepts of knowledge (jnana) and spiritual awakening. The primary focus was on transmitting spiritual wisdom and rituals. The Guru was seen as the embodiment of wisdom, guiding the student towards self-realization and moksha or liberation (Gurunathan, 2022). The relationship was hierarchical, with the Guru being highly revered, often worshipped, and viewed as a divine intermediary. Teacher was the spiritual father of his pupils in ancient times, teachers were considered to be sages, philosophers, or priests who imparted wisdom and knowledge to their students (Shukla, 2023). On other hand the student was expected to approach the Guru with humility, complete submission (Shraddha) and devotion (Bhakti). The transmission of knowledge was often done in an oral (Gautam, 2023) experiential manner with intensive learning under the Guru's direct guidance.

○ **Medieval Period (550 AD to 17th century AD)**

The medieval period in India starts from about the 550 A.D. to the middle of the eighteenth century, i.e. before the British rule (Biswas, 2016). During this time, integration of Hinduism, Buddhist, Jainism and Islamic cultures were created an environment where diverse educational traditions coexisted. Several rulers Hinduism, Buddhism, Jainism and Islamic were played a crucial role in reshaping the education system like that Akbar and other influential persons (Bella, 2024). Despite having different epistemological, ontological and metaphysical realities these schools discussed the ultimate aim of liberation that is freedom from the cycle of birth to death and were founded on fundamental ideas like non-violence and the law of karma (Srivastava, 2017). Apart from the emergence of Bhakti (devotion) and Dvaita (dualism) in the medieval period reshaped the Guru-Shishya dynamic. The Guru became a guide not only for spiritual wisdom but also for personal devotion and emotional growth. In the Bhakti movement, the Guru was seen as a mediator between the devotee and God. The Guru was revered almost as divinity themselves and the focus shifted to devotional practices and the path of love and devotion. In this context, the student's focus was

now on devotion or surrender to the Guru, and the Guru-student relationship was more personal and emotionally charged. The transmission of wisdom was through oral discourse and engagement with sacred texts. These times considered as a guru were Saints like Kabir, Ramanuja (Sarvananda, 2024), Guru Nanak and Sree Chaitannya Mahaprabhu.

○ **Colonial Period (17th century AD to 1947 AD)**

With the advent of colonialism and modernization, the Guru-Shishya tradition began to evolve with more emphasis on rationality, science, and education. The relationship also adapted to the rise of individualism and secularism in the post-colonial era. The Guru in this period moved beyond merely being a spiritual teacher to becoming a mentor in both spiritual and academic spheres (Shukla, 2023). Gurus such as Mahatma Gandhi, Rabindranath Tagore, Swami Vivekananda, Aurobindo and others took the role of guiding students in navigating the modern world while also integrating spiritual wisdom (Srivastava, 2017). Parallely, the student now became more of a learner than a devotee. They sought to balance traditional wisdom with modern ideas and were more inclined to question and reason.

○ **Contemporary Period (1947 onwards)**

The Guru-Shishya Parampara has evolved in response to globalization, technological advances and the integration of global knowledge systems. Philosophically, it now includes a blend of traditional values with modern educational techniques and spiritual practices. The Guru continues to play a pivotal role but may also function as an online teacher, spiritual leader or mentor, often blending traditional and contemporary forms of teaching (Srivastava, 2017). Now -a-days the student learns through online courses, webinars, and digital platforms, but the relationship is still grounded in mutual respect, intellectual exchange and personal development. Such as Sadhguru and Sri Sri Ravi Shankar have brought the Guru-student relationship into the global sphere, allowing spiritual wisdom to be spread through modern means.

Guru-Shishya Parampara as a facilitator of Transformative Learning

Guru or teacher is regarded in great revere and significance in

Indian society who is a source of all wisdom and learning (Marathe & Wagani, 2022). “The guru-shishya relationship is a central element of the Indian knowledge system. The guru is not merely a transmitter of information. The guru helps the student navigate the path of self-discovery, encouraging questioning, critical thinking and the application of knowledge in practical life” (Pandit & Sameera, 2024, p.4). In the modern classroom, teacher not only impart knowledge but also assist students in becoming a good citizen for our nation. The core principles of transformative learning in education obey by Guru or teacher and helps to change the student beliefs, behaviour and emotions in their perspective of worldview (Mei et al., 2022). A well student always touches with and absorb in Guru or teacher’s virtues in added in their life (Nair, 2016) and the teacher helps through learning process for its.

In this context, a teacher gives the future of students is shaped in the classroom where the formal teaching-learning process takes place under the proper guidance of the teacher. As the teacher in this process and a future maker of children, a teacher needs to embody the qualities of a philosophical perspective. As a teacher is well-known in the Indian system of education since Vedic literature to Vedanga, Puranas and classical poetry and different schools of philosophy can apply this core principles associate with in these texts to stress educational problems and systematic structure a promising future for the students. Teachers who pass down this deep knowledge of Indian traditions through classroom instruction which is deeply rooted philosophical perspective in Indian context but western countries are conduct on teaching-learning process in the classroom approach to psychological aspect. “The Indian knowledge system emphasizes the cultivation of values such as truthfulness, non-violence, compassion and selfless service. These values are considered essential for character development and are integrated into the educational process through storytelling, moral instruction, and experiential learning. This approach aims to create a learning environment that nurtures the holistic development of students” (Pandit & Sameera, 2024, p.4). The philosophical perspective of the Guru-Shishya Parampara and how it transforms students’ learning in education, is highlighted through some the key components:

○ Personalized Instruction

The Guru provides one-on-one, personalized guidance to the Shishya, tailoring lessons to the student's needs (Goswami, 2024). When a shishya does 'gurugriha vasa', he continuously comes in the contact of the Guru. This continuous association brings a subtle change in shishya in long run. The shishya gets transformed slowly by slowly with the daily dealings of Guru. The Guru, side by side knows the shishya personally and can teach him as per his personal requirement. Thus, the Shishya transforms himself through the Guru. The learning process is experiential and transformative, involving intellectual, emotional and spiritual growth.

○ Mentorship and Guidance

Mentorship extends far beyond academic teaching and it plays a crucial role in the holistic development of the Shishya. The Guru provides guidance in cultivating essential virtues such as patience, humility, self-discipline and ethical conduct which are vital for personal growth and social harmony. The mentorship involves personal interactions where the Guru offers wisdom drawn from life experiences to helping the Shishya navigate both practical and existential challenges (Serenade Team, 2023). The Guru teaches the importance of resilience in the time of adversity, encouraging the Shishya to embrace life's lessons with grace and integrity. The relationship has one of deep trust where the Guru imparts life philosophies that like Ahimsa (Nonviolence), Satya (Truthfulness), Asteya (Non-stealing), Brahmacharya (Celibacy or Self-control), Aparigraha (Non-possessiveness). This equips the student with the emotional and mental strength to make ethical decisions and fostering a sense of responsibility. Ultimately, this mentorship nurtures the Shishya's character and preparing them for both worldly success and spiritual fulfilment (Pal, 2023).

○ Experiential Learning

The guru shishya Parampara has emphasis on experiential learning. This learning is grounded in direct experience rather than just theoretical instruction. The Shishya's education involves active participation in real-life situations like that chore of 'Gurugriha' (cooking, cleaning, building shelter etc), daily services to guru, collect to Yajna material, participating in debate, do

begging, where they gain practical knowledge through hands-on experience. The close personal relationship with the Guru allows for dynamic dialogue and reflection, fostering a deeper understanding of concepts that transcend textbook learning. This experiential approach encourages the Shishya to apply wisdom in daily life, learning from both successes and challenges. Through this process, the student internalizes knowledge is gaining not only intellectual insights but also practical wisdom that is rooted in lived experience (Goswami, 2024). This holistic form of learning nurtures a deeper and more meaningful connection to the teachings.

○ **Holistic Knowledge Transmission**

Guru with his profound wisdom, transmits all kinds of knowledge. His transmission of knowledge extends beyond just academic learning (Apara Vidya) to include ethical, moral, and spiritual wisdom (Para Vidya). Apara Vidya focuses on intellectual development, such as understanding scriptures, sciences, and arts. Guru also imparts Para Vidya, which is concerned with the deeper, transcendent aspects of life, including values like truth, compassion and humility. The Guru helps the student cultivate qualities like integrity, discipline and mindfulness, preparing them to contribute meaningfully to society while fostering spiritual awakening. He imparts knowledge through oral tradition, storytelling, conduct on debate, meditation, lectures, discussions, practical demonstrations and living examples (Goswami, 2024). It also chores of guru's house, to visit out side village for begging. In this process, the shishya losses his 'Ahankar'. This brings holistic growth in students. As a result, the student evolves into a well-rounded individual and capable of navigating both material and spiritual realms with wisdom and purpose.

○ **Intellectual Growth**

In the Guru-Shishya Parampara, intellectual growth plays a pivotal role in the shishya's life. who receiving not only academic knowledge but also it is a tool to think critically and solve problems effectively. The Guru creates an environment where intellectual curiosity is nurtured and guiding the student through complex concepts and encouraging inquiry. Through discussions, debates and personalized attention of the Shishya learns to analyze,

question and synthesize ideas to developing a deeper understanding of the subject matter. The Guru's mentorship is essential in sharpening the student's cognitive abilities, fostering independent thinking while also imparting wisdom and experience. This intellectual development is not confined to rote learning but encourages the application of knowledge in real-life and preparing the Shishya to face challenges with clarity and insight. Ultimately, the Guru's guidance helps the Shishya cultivate a mindset that values knowledge, reflection and continuous learning.

○ **Character Development & Spiritual Growth**

The process of learning in the Guru-Shishya system emphasizes the development of the student's character and spiritual growth. The student's personal transformation occurs through maintenance of Brahmacharya observance live in Gurugriha. This time, Guru not only imparts wisdom but also guides the Shishya in cultivating honesty, compassion, self-discipline, respect (Mukherjee, 2024) moral values, ethical conduct, inner virtues, devotion and gratitude to God. Through this relationship, the student learns to embody principles such as humility, discipline, compassion, and self-awareness. The transformative nature of this system encourages the Shishya to deepen their connection with their true self, nature and the divine (Manyaa, 2023). As a result, the learning process fosters character development and leading to spiritual awakening for virtuous individual. This journey is one of continuous self-reflection, learning and transformation.

Transformative learning on education occurs entire of this teaching-learning process. Guru encourages intellectual growth, emotional maturity, ethical behaviour, and spiritual development making it a transformative process that shapes students into well-rounded individuals.

Findings

- Guru-Shishya Parampara has changed from ancient period to contemporary. The ancient time Guru was considered as spiritual father. But in mediaeval period, Guru was considered as spiritual father as well as a mediator between the devotee and God. Then in the colonial period, Guru was the mentor

bridging between spiritual and academic sphere. After the contemporary period, Guru become a teacher and a facilitator both for traditional method and digital platforms.

- The Guru Shishya Parampara helps the student's transformative learning. The teaching-learning process based on personalised instruction, holistic knowledge transmission, intellectual growth, mentorship & guidance, experiential learning, character development & spiritual growth.

Conclusion

The Guru-Shishya Parampara offers a profound and transformative model for education that goes beyond the confines of conventional teaching methods. Rooted in ancient Indian philosophy this mentorship-based learning system emphasizes holistic development like intellectual, emotional, ethical and spiritual while nurturing the student's potential through personalized, experiential and transformative learning. Over the centuries, this tradition has adapted to various socio-cultural contexts from the Vedic period to the modern era while retaining its core principles of respect, devotion, and self-realization.

As this research has highlighted the Guru-Shishya Parampara, fosters not only academic growth but also personal transformation guiding the Shishya toward a deeper understanding of themselves, their purpose and their connection to the world. This relationship encourages critical thinking, ethical conduct and spiritual awareness thus shaping individuals who are not just knowledgeable but also virtuous and self-aware. In today's rapidly evolving educational landscape where knowledge is often commodified and fragmented the Guru-Shishya tradition serves as a valuable reminder of the deeper purpose of education to foster wisdom, self-discovery and holistic growth.

Integrating the principles of the Guru-Shishya Parampara into contemporary education can lead to more personalized, experiential and transformative learning experiences. By bridging the gaps between traditional wisdom and modern educational approaches this timeless tradition offers valuable insights that can guide the future of education toward a more meaningful and transformative purpose ensuring that students develop not only intellectual competence but also moral and spiritual depth.

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Underpinning Ethics and Values through Transformative Learning : A Qualitative Study

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Abstract : Transformative Learning serves as an effective approach in critical thinking. It assists us in addressing real-world issues and experiential learning. It is beneficial for students to confront ethical dilemmas directly, promoting both personal and professional development. This qualitative research examines the incorporation of transformative learning principles into ethics education to improve moral reasoning, critical reflection, and decision-making skills. This research utilized a purposive sampling method to choose 20 Educators from University level (IGNOU) through semi-structured interviews and focus group discussions to collect data. Participants took part in experiential learning, role-playing, and reflective writing exercises to encourage transformative learning. Ethics is highly essential for transformative learning. It enhances this by promoting growth and the reflective learning process. This research adds to the increasing conversation on educational reform by showing how transformative learning and ethics can foster personal development, social responsibility, and lifelong learning. It advocates for support at the policy level, professional development, and collaborative strategies to transform education into not only a means of knowledge acquisition but also a path of self-exploration and ethical dedication. This study highlights the transformative

potential of interdisciplinary methods, merging philosophy, social sciences, and practical applications to form a comprehensive educational experience. By combining transformative learning and ethics, educators enable students to engage actively in their own development. For this research, the investigator employs data analysis through coding, thematic identification, and data triangulation. The results suggest that transformative learning enhances self-awareness, moral accountability, and improves the capacity for scientific reasoning. Therefore, the study aims to bridge the gap between theoretical ethics education and practical application. This also assists in developing insights for educators and institutions.

Keywords: Qualitative study, Applying, Transformative Learning, Ethics Education.

Introduction

Ethics and values serve as the bedrock of human interactions, influencing individual behaviors, societal norms, and organizational practices. They affect decision-making, steer social justice efforts, and offer a moral framework for addressing complex global issues. In an ever-connected and rapidly evolving world, individuals and communities encounter ethical challenges that require critical reflection, empathy, and flexibility. As the global environment changes, there is an increasing necessity for frameworks that promote a deeper understanding and integration of ethics and values. Among these frameworks, transformative learning stands out as an essential educational approach that encourages the development of ethical awareness and value alignment through critical reflection and experiential learning. This process transcends simply gaining new knowledge; it involves reconfiguring the lenses through which individuals view and interact with the world. Transformative learning is especially pertinent to ethics and values, as it entails scrutinizing deeply ingrained norms, addressing cultural biases, and nurturing inclusive perspectives. It motivates learners to go beyond superficial comprehension and to thoughtfully engage with moral complexities, ultimately resulting in the internalization of ethical principles that can guide decisions.

In spite of its potential, the significance of transformative learning in supporting ethics and values has garnered limited empirical investigation, especially from a qualitative standpoint. Although the existing literature emphasizes the significance of transformative experiences in promoting personal development and professional skills, there is a scarcity of thorough examination regarding how these experiences shape ethical frameworks and value systems. This study seeks to fill this void by analyzing the lived experiences of individuals who have participated in transformative learning processes, particularly focusing on how these experiences affect their ethical comprehension and value orientations.

Furthermore, transformative learning is fundamentally experiential, highlighting the significance of lived experiences in forming ethical and value-driven frameworks. Kolb's (1984) experiential learning theory supports this viewpoint, proposing that learning takes place through a cyclical process of concrete experience, reflective observation, abstract conceptualization, and active experimentation. Through participation in transformative experiences, individuals can not only gain intellectual insights but also nurture emotional and relational abilities that are crucial for ethical decision-making and value alignment.

A vital aspect of transformative learning is the function of dialogue and community. Participating in dialogue with others cultivates a sense of shared understanding and collective meaning-making, which are essential for navigating complex ethical problems. Freire (1970) underscores the significance of dialogue as a means for empowerment and liberation, allowing individuals to critically scrutinize power dynamics and strive for social justice. In the realm of transformative learning, dialogue acts as a means of bridging differences, promoting empathy, and fostering a sense of moral responsibility.

Nonetheless, the journey of transformative learning is not without obstacles. It frequently entails a certain level of discomfort and disorientation as individuals face deeply entrenched beliefs and assumptions. This journey, termed a "disorienting dilemma" by Mezirow (1991), serves as a crucial catalyst for transformation. While these dilemmas may result in substantial ethical and value-

based advancement, they may also provoke resistance, anxiety, and uncertainty. Recognizing how individuals navigate these challenges is vital for crafting learning environments that effectively aid transformative processes.

The importance of this study is rooted in its investigation of how transformative learning can act as a mechanism for nurturing ethics and values in varied contexts. By employing a qualitative approach, this research aspires to capture the intricate, nuanced experiences of individuals who have undergone transformative learning journeys. It seeks to reveal the processes by which critical reflection, experiential learning, and dialogue contribute to ethical development and value creation. Moreover, this study explores the barriers and facilitators that affect the transformative learning experience, offering insights on how educators, organizations, and communities can establish conditions that nurture ethical growth.

The outcomes of this research bear significant implications for both theory and practice. From a theoretical standpoint, it adds to the expanding body of literature on transformative learning by emphasizing its pertinence to ethics and values. It also enhances existing frameworks by incorporating insights from related disciplines, such as moral psychology, experiential learning, and social justice education. From a practical perspective, the study furnishes actionable recommendations for educators, trainers, and leaders who aim to create transformative learning experiences that promote ethical awareness and value alignment.

In a world marked by environmental crises, social inequities, and political division, the capacity to critically engage with ethical issues and act in accordance with core values has never been more crucial. Transformative learning provides a pathway for developing these skills, equipping individuals and communities with the necessary tools to address moral complexities and effect positive change.

Literature Review

The challenges of preparing medical students for 21st-century medicine were examined by Gille, F., and Nardo, A. (2020). They also developed a research program in Ethics Education that assesses educational designs not only based on the “output” they

produce, but also on their value as a preparatory activity that enhances instruction and discussion in conventional course settings. A variety of theoretical and empirical approaches that have conceptualized learning in that way and aim to apply them to the field of ethics education were uncovered in the study. The researcher aims to investigate new teaching strategies in medical ethics education while maintaining discussion-based approaches to ethics education.

Finding the elements that encouraged students to learn transformatively was the goal of this study. Breaking out of comfort zones, having important learning experiences, and maintaining motivation throughout the process were identified as these variables. Each of these primary themes or aspects had a number of subthemes grouped beneath it. New and varied ways of thinking, enhanced interpersonal and relational abilities, project management proficiency, and resilience were among the transformative learning outcomes made possible by these elements. These attributes align with education for sustainable development and global citizenship and would be helpful in tackling global sustainability concerns (Tien et al. 2020).

The results demonstrate that when students reflect on their critical thinking instruction and learning experiences, they place a strong emphasis on the process of interacting with others and with themselves. They do this by concentrating on the subject—the thinking person—and how they relate to their own thinking rather than the external object. According to Indrasiene et al. (2023), students place a strong emphasis on putting their theoretical knowledge into practice by following the teacher's example.

Statement of the Problems

In this research study researcher want to focus in this problem:

“Underpinning Ethics and Values Through Transformative Learning: A Qualitative Study”

Research Objectives

- To investigate the ways in which transformative learning processes appear in ethics education.
- To pinpoint essential experiences that lead to changes in moral reasoning and ethical conduct.

- To analyze the effect of critical reflection and discussion on students' ethical viewpoints.

Rationale of the Study

Values and ethics are crucial in determining how people behave, make decisions, and interact with others in society. Fostering ethical leadership and responsible citizenship requires an understanding of how these concepts are created, absorbed, and used. Using a qualitative technique to document the lived experiences of people going through major changes in their moral viewpoints, this study investigates the process of transformative learning as a way to enhance ethical understanding and value development.

According to Mezirow's (1991) theory, transformative learning entails a fundamental shift in how people view and understand the world. It is a dynamic process in which strongly held attitudes, values, and beliefs change as a result of critical reflection and discussion. Transformative learning offers a potent paradigm for analyzing how people reframe their ethical opinions through critical reflection, discussion, and hands-on learning in the context of ethics and moral education.

Given the prevalence of ethical quandaries in professional and educational contexts, this study is especially pertinent. Organizations and institutions are placing a greater emphasis on ethical training, yet conventional approaches might not adequately prepare people to handle morally challenging situations. This study aims to comprehend how people critically re-evaluate their ethical frameworks, what causes these shifts, and how they incorporate new principles into their personal and professional life by investigating transformative learning experiences.

Rich, in-depth tales that provide light on the emotional and cognitive aspects of ethical transformation are captured using a qualitative methodology. In order to create more effective ethics training programs that go beyond memorization and promote true moral development, the findings will be incorporated into educational and professional development initiatives. The ultimate goal of this research is to strengthen the contribution of transformational learning in developing morally aware people who can make moral choices in a changing world.

Research Design

- **Approach:** Qualitative study utilizing a phenomenological design to comprehend students lived experiences in ethics education.
- **Rationale:** This approach captures the subtleties of transformative learning as it pertains to ethics.

Participants

- **Sample:** 20 students enrolled in an M. S. W course at IGNOU.
- **Sampling Method:** Purposive sampling to select participants who have engaged in activities involving ethical dilemmas, case studies, and reflective exercises.
- **Demographics:** A diverse group in terms of age, cultural background, and academic discipline.

Data Collection Methods

- **Interviews:** Semi-structured interviews investigating students' experiences and reflections during the course.
- **Reflective Journals:** Students' written reflections regarding their learning experiences and ethical decision-making.
- **Focus Groups:** Group discussions designed to capture the impact of peer discourse on ethical reasoning.

Data Analysis

Thematic analysis was employed to pinpoint patterns and themes connected to transformative learning.

Coding (Thematic)

Thematic Analysis in Qualitative Research with an Example. To grasp the conduct of thematic analysis, let's put it into practice with a research topic related to Transformative Learning in Ethics Education. Transformative learning emphasizes critical reflection and changing viewpoints, which can be investigated qualitatively via interviews, focus groups, or written reflections. Research Example: Topic: Exploring Transformative Learning in Ethics Education. Objective: Explore how students in ethics education undergo transformative learning and how it affects their moral reasoning and ethical decision-making.

Steps for Thematic Analysis**○ Familiarization with the Data**

Begin by reviewing the gathered data (e. g., interviews, reflective journals) to comprehend participants' experiences.

Example:

Interview excerpt:

"Before this course, I perceived ethics as black and white. Through discussions, I recognized there are numerous perspectives to consider, and it transformed my thinking regarding moral dilemmas."

Initial Observation: The course prompted a change in perspective.

○ Generate Initial Codes

Assign tags (codes) to pertinent sections of the data to identify significant trends.

Example:

Data: "The case studies we discussed helped me see how cultural differences influence ethical decisions."

Code: Cultural Awareness

Data: "I had to question my previous beliefs about what is right and wrong after hearing others' perspectives."

Code: Challenging Assumptions

Data: "The course gave me tools to analyze ethical dilemmas systematically."

Code: Skill Development

○ Search for Themes

Organize similar codes to create broader themes that embody essential concepts in the data.

Example:

Codes: Challenging Assumptions, Questioning Beliefs

Theme: Perspective Transformation

Codes: Cultural Awareness, Empathy Building

Theme: Developing Ethical Sensitivity

Codes: Skill Development, Structured Reasoning

Theme: Practical Tools for Ethical Analysis

○ **Review Themes**

Polish themes to guarantee they are clear, distinct, and backed by the data.

Example

Examine the theme Perspective Transformation to confirm it encompasses all occurrences of students questioning and altering their assumptions.

Verify for overlap between Cultural Awareness and Ethical Sensitivity to prevent redundancy.

○ **Define and Name Themes**

Explicitly describe what each theme signifies and assign thoughtful names.

Example:

Theme 1: Perspective Transformation

Characterized as the process of critically examining and reshaping previously held beliefs regarding ethics.

Theme 2: Developing Ethical Sensitivity

Characterized as the capability to acknowledge the influence of various cultural and contextual elements on ethical decision-making.

Theme 3: Practical Tools for Ethical Analysis

Characterized as obtaining frameworks and methods to systematically tackle ethical dilemmas.

○ **Write the Report**

Deliver the findings in a cohesive narrative, supported by participant quotes.

Example:

Theme 1: Perspective Transformation

“Many participants reported shifts in their ethical viewpoints. One student reflected, ‘I realized my black-and-white thinking was limiting and started to appreciate the complexities of ethical issues.’”

Theme 2: Developing Ethical Sensitivity

“Students highlighted the importance of cultural awareness in ethical reasoning. As one noted, ‘Understanding others’ cultural backgrounds helped me see why they approach problems differently.’”

Theme 3: Practical Tools for Ethical Analysis

“Participants emphasized the value of frameworks provided during the course. A participant explained, ‘Having a structure for analyzing dilemmas made me feel more confident in making ethical decisions.’”

Key Insights and Contributions

- Transformative Impact: The class promoted significant self-reflection and a shift in ethical viewpoints.
- Practical Application: Learners acquired tools for making ethical decisions in real-world situations.
- Increased Awareness: Enhanced sensitivity to cultural and contextual elements improved their moral reasoning.

This instance illustrates how thematic analysis offers a structured approach to derive meaningful insights from qualitative data, in line with the aims of transformative learning research.

Qualitative Data Analysis Report

○ **Objective 1: To Examine How Transformative Learning Processes Manifest in Ethics Education**

The findings under this objective reveal that students’ engagement with ethics education often leads to profound shifts in their perspectives and understanding of moral principles. The qualitative data indicates that transformative learning occurs through several mechanisms, notably through critical reflection, experiential exposure, and disruption of preconceived assumptions. For instance, participants frequently reported that prior to the course, they equated ethics with rule-following or surface-level compliance. However, through course activities such as debates, reflective journaling, and exposure to diverse case studies, students began to understand ethics as a value-laden process involving interpretation, empathy, and contextual judgment.

The coding of student responses highlighted several recurring patterns. For example, when a student stated, “I now realise ethics is more about values and impact than I did when I thought it was just about following the rules,” it reflected a change of perspective, a key element of transformative learning. Another statement, “I realized my point of view was incomplete and biased after the group debates,” captured the theme of contesting presumptions, showing how discourse and peer engagement challenge entrenched beliefs. This transformation is rooted in Mezirow’s theory of perspective transformation, where learners reassess previously held frames of reference. Reflective journaling, noted in statements like, “I was able to consider my own values and how they influence my choices thanks to journaling,” also played a critical role by encouraging critical introspection, enabling students to reevaluate their internal value systems and ethical reasoning processes.

These findings underscore the transformative nature of ethics education when students are encouraged to not only acquire knowledge but to interrogate it in relation to their experiences, assumptions, and societal contexts. The shift from passive to active engagement with ethical dilemmas facilitates a deeper and more personal connection to moral learning.

○ **Objective 2: To Identify Key Experiences that Contribute to Shifts in Moral Reasoning and Ethical Behavior**

The analysis under this objective identifies the specific experiences within the ethics course that significantly contributed to the evolution of students’ moral reasoning and ethical behavior. Students emphasized the importance of interactive and experiential learning tools such as case studies, debates, peer feedback, and reflective writing. These activities did not merely provide knowledge; they actively involved students in moral reasoning, enabling them to grapple with ethical complexity in real-world contexts.

For instance, students described how group discussions introduced them to a diversity of viewpoints, pushing them beyond the confines of their own beliefs. A student mentioned, “I learnt about various viewpoints that I had not previously thought about

thanks to the group discussions,” illustrating the theme of the impact of group learning. This exposure fosters cognitive dissonance, a crucial trigger for moral development, as students reconcile conflicting views.

Similarly, case-based learning was found to be highly effective. Statements like “Case studies made the theories more relatable by demonstrating to me how moral quandaries arise in everyday life,” reflect the theme of gaining knowledge from real-world examples. These practical illustrations help bridge the often-abstract nature of ethical theory with concrete application, making ethical concepts more tangible and personally meaningful.

Moreover, assignments that prompted students to reflect on personal experiences had a profound impact. Students reported that such tasks made them reconsider personal decisions and their underlying values. Feedback, both from peers and instructors, served as a powerful form of constructive criticism. Thus, the key takeaway from this objective is that transformative ethical development is heavily reliant on engagement with authentic, dialogic, and reflective experiences. These activities encourage students to move beyond theoretical understanding towards internalizing ethical reasoning as part of their personal identity and behavior.

○ **Objective 3: To Explore the Impact of Critical Reflection and Discourse on Students’ Ethical Perspectives**

Under this objective, the findings suggest that both critical reflection and discourse serve as pivotal elements in reshaping students’ ethical viewpoints. The qualitative data reveals that structured reflective exercises (such as journaling and essays) and open discussions (in class or groups) provide students with opportunities to reevaluate their ethical beliefs and values in light of new information and perspectives.

Reflective journaling emerged as a key tool in fostering self-awareness and ethical introspection. A participant shared, “I was able to challenge my presumptions about right and wrong by writing reflective journals,” indicating that critical reflection allowed them to revisit and revise their assumptions. This aligns with Mezirow’s concept of “reflective discourse,” where learners

critically examine their experiences and the values that underpin them.

Discussions, both formal and informal, further enriched ethical understanding by exposing students to multiple viewpoints. As one student noted, “I became aware of viewpoints I had not previously considered when we discussed problems in class,” underscoring the importance of cooperative dialogue. This form of social learning deepens ethical reasoning by allowing students to engage in moral discourse, test their arguments, and empathize with others.

Cultural diversity within the classroom also played a significant role. Students acknowledged how stories from peers of different backgrounds challenged their assumptions and broadened their perspectives. Additionally, students emphasized how engaging with ethical theories and applying them to current dilemmas enabled them to understand the relevance of abstract concepts. The ability to bridge theory and practice was crucial in grounding their ethical knowledge in practical settings.

Overall, the impact of dialogue, reflection, and cultural exchange cannot be overstated in the process of ethical formation. These tools not only foster moral clarity but also promote humility, empathy, and critical engagement with complex ethical issues.

Discussion

○ Transformative Learning Impact

The research verifies that transformative learning methods such as critical reflection and changes in perspective are effective in ethics instruction.

Students displayed enhanced moral reasoning and the capacity to handle intricate ethical challenges.

○ Role of Discourse

Peer conversations were essential in nurturing empathy and cultural awareness, in line with Mezirow’s focus on dialogue.

○ Practical Implications

Ethics instructors ought to incorporate reflective journals, case studies, and organized discussions to promote transformative learning.

Cultural diversity in case studies improves ethical sensitivity and global consciousness.

Findings

This qualitative research emphasizes the significance of employing transformative learning concepts in ethics instruction.

Students not only reconsidered their beliefs but also acquired practical tools for ethical decision-making and increased cultural awareness.

These results highlight the necessity of integrating reflective and dialogical methods into ethics programs.

Conclusion

This qualitative inquiry demonstrates the transformative potential of ethics education when approached through the lens of reflective and dialogic learning. Across all three objectives, it is evident that transformative learning processes - especially critical reflection, peer discourse, exposure to real-life cases, and feedback - significantly influence students' moral development. The data supports the idea that ethics education must move beyond content delivery toward engaging students as moral agents capable of deep reflection and active participation.

Students' ability to articulate changes in their ethical outlook, their responses to complex scenarios, and their engagement with diverse viewpoints point to a heightened moral awareness and sophistication. The findings also support the integration of reflective journals, debates, group discussions, and case studies as core pedagogical strategies in ethics curriculum.

Instructors are encouraged to create safe spaces for discussion, encourage cultural diversity, and employ reflective practices that challenge students' beliefs and foster ethical growth. These approaches will not only deepen ethical knowledge but also prepare students to navigate moral dilemmas in their personal and professional lives with integrity, empathy, and critical insight.

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Influence of Yoga Philosophy on Mental Health and Well-being

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Abstract : Yoga philosophy, with its ancient roots in India, has gained global recognition as an effective tool for enhancing mental health and well-being. This paper explores how the principles and practices of yoga, including meditation, mindfulness, and ethical disciplines, contribute to improving mental health. By examining existing literature, the study investigates the impact of yoga on stress, anxiety, depression, and overall emotional stability. The research adopts a qualitative approach to analyze the psychological benefits derived from the application of yoga philosophy. This paper highlights the transformative role of yoga in enhancing mental clarity, emotional regulation, and overall mental wellness.

Keywords: Yoga philosophy, mental health, well-being, meditation

Introduction

Yoga, originating from the ancient philosophical traditions of India, is more than a physical practice. It embodies a comprehensive system for enhancing both the body and mind through spiritual, mental, and ethical disciplines. The philosophy

of yoga is grounded in achieving mental peace, emotional stability, and spiritual enlightenment, primarily through practices such as meditation, mindfulness, and ethical living. Recent scientific studies have affirmed the positive effects of yoga on mental health, particularly in reducing symptoms of anxiety, depression, and stress (Harvard Health, 2020).

Mental health issues such as stress, anxiety, and depression have become pervasive in contemporary society. As individuals seek alternative and complementary methods for mental well-being, yoga offers a holistic approach to restoring balance in mind and body. The present research investigates the influence of yoga philosophy on mental health, focusing on how its practices contribute to enhancing mental clarity, emotional resilience, and overall well-being.

This paper aims to explore the effects of yoga philosophy on mental health and well-being by analyzing relevant literature and examining both the physiological and psychological impacts of yoga. It emphasizes the need to integrate yoga practices into modern mental health interventions to promote overall wellness.

Yoga philosophy is based on a systematic approach to mental and physical well-being. The core teachings of yoga are derived from ancient texts like the Yoga Sutras of Patanjali and the Bhagavad Gita. Patanjali's Yoga Sutras present a framework for mental discipline that includes the eight limbs of yoga (Ashtanga Yoga), which guide practitioners in physical postures (Asana), breath control (Pranayama), sensory withdrawal (Pratyahara), concentration (Dharana), meditation (Dhyana), and ultimate enlightenment (Samadhi) (Patanjali, 2002). These practices are aimed at achieving harmony between body and mind, resulting in better emotional regulation, reduced stress, and increased mental clarity.

Research has consistently shown that yoga improves various aspects of mental health. According to a study by Gothe et al. (2016), yoga significantly reduces symptoms of depression and anxiety by promoting relaxation, self-awareness, and emotional regulation. Yoga practitioners report feeling less stressed and more balanced due to the incorporation of breathing exercises and meditation, which activate the parasympathetic nervous system (NCCIH, 2020).

A crucial aspect of yoga philosophy is the practice of meditation, which fosters mindfulness—a state of being present and aware without judgment. Mindfulness-based practices are widely recognized for their mental health benefits. Research by Kabat-Zinn (2003) indicates that mindfulness meditation, a technique deeply embedded in yoga philosophy, helps individuals manage stress, improve mood, and reduce symptoms of anxiety and depression. Furthermore, regular meditation enhances cognitive functions such as attention, focus, and emotional regulation (Zeidan et al., 2010).

The ethical principles of yoga, known as Yamas (restraints) and Niyamas (observances), form the foundation for mental health and well-being. These ethical guidelines emphasize the importance of compassion, non-violence, truthfulness, and self-discipline in daily life. By adhering to these principles, individuals cultivate a positive mindset, reducing negative emotions such as anger, jealousy, and greed (Feuerstein, 2001). Studies have shown that individuals who integrate these ethical practices into their lives experience greater emotional resilience and psychological stability.

Objectives

- To explore the role of yoga philosophy in enhancing mental health by reducing symptoms of stress, anxiety, and depression.
- To analyze the impact of yoga philosophy on emotional regulation, mental clarity, and overall well-being.

Methodology

The research adopts a qualitative approach, utilizing a thematic analysis of secondary data obtained from existing literature on yoga philosophy and its impact on mental health. A review of peer-reviewed journals, books, and research articles forms the primary data sources. The literature is analyzed to identify recurring themes regarding the relationship between yoga practices and mental health outcomes. The study focuses on understanding the psychological benefits derived from yoga's mental discipline, meditation practices, and ethical principles.

Role of Yoga Philosophy in Enhancing Mental Health by Reducing Symptoms of Stress, Anxiety and Depression

Yoga philosophy plays a significant role in alleviating mental health issues, especially stress, anxiety, and depression. Numerous studies suggest that yoga can reduce these symptoms by promoting relaxation, increasing self-awareness, and cultivating emotional balance. The physical postures (asanas) in yoga, which require deep breathing and focus, activate the parasympathetic nervous system and reduce the body's stress response. As a result, yoga practitioners report feeling more at ease, less anxious, and more grounded in the present moment (Harvard Health, 2020).

In particular, the practice of Pranayama (breathing exercises) has shown promise in alleviating symptoms of anxiety. A study by Gothe et al. (2016) found that participants who practiced yoga, including breath regulation techniques, experienced a significant reduction in anxiety levels. Deep, controlled breathing helps balance the autonomic nervous system, decreasing physiological signs of anxiety, such as rapid heartbeat and shallow breathing. Furthermore, the slow and rhythmic nature of pranayama increases oxygen flow to the brain, promoting a sense of calm and reducing cortisol levels, which are associated with stress (NCCIH, 2020).

Another important aspect of yoga that influences mental health is its integration of meditation and mindfulness. Mindfulness meditation, a key component of yoga philosophy, helps individuals focus on the present moment, reducing feelings of worry, fear, and rumination. Kabat-Zinn (2003) highlights how mindfulness meditation has been shown to lower stress and improve mood by promoting a greater sense of control over one's thoughts and emotions. Meditation encourages practitioners to detach from the mental chatter that often accompanies anxiety and depression, thus leading to improved emotional well-being.

Yoga's ethical practices also contribute to mental health by reducing negative emotions that may exacerbate feelings of anxiety and depression. The Yamas (restraints) and Niyamas (observances) are ethical principles in yoga that guide individuals toward a more harmonious existence. For instance, Ahimsa (non-violence) encourages compassion, while Satya (truthfulness)

promotes authenticity and acceptance. By integrating these values, yoga practitioners tend to develop more positive relationships with themselves and others, reducing feelings of frustration, anger, and jealousy—emotions often linked to mental health disorders.

In summary, yoga philosophy provides a holistic framework for addressing mental health issues such as stress, anxiety, and depression. The integration of physical postures, breath control, mindfulness, and ethical living promotes emotional regulation, reduces physiological symptoms of stress, and enhances overall well-being.

Impact of Yoga Philosophy on Emotional Regulation, Mental Clarity and Overall Well-being

Yoga philosophy fosters emotional regulation, mental clarity, and overall well-being by promoting mindfulness, self-awareness, and emotional resilience. The practice of meditation, in particular, enhances emotional regulation by helping individuals become more attuned to their thoughts and emotions, allowing for better control over their reactions. As Zeidan et al. (2010) suggest, mindfulness meditation, a core aspect of yoga, helps improve cognitive functions such as attention and focus, which are essential for emotional regulation.

One of the primary benefits of yoga is its ability to help individuals achieve mental clarity. Yoga practice involves focusing the mind on the present moment, whether through breath work or physical postures. This focus trains the mind to stay grounded, reducing distractions and mental clutter. Over time, this leads to improved concentration, clarity of thought, and greater emotional stability. As a result, practitioners report feeling more centered and balanced, capable of handling stressors with greater ease and resilience.

Additionally, the ethical principles embedded in yoga, such as self-discipline and self-compassion, enhance emotional well-being by encouraging positive behaviors and attitudes. The Niyamas, for instance, emphasize Svadhyaya (self-study) and Ishvara Pranidhana (surrender to a higher power), which promote self-reflection and the cultivation of inner peace. By practicing these principles, individuals develop a deeper understanding of

their emotions and behaviours, which aids in emotional regulation.

The physical practice of yoga (Asana) also contributes to mental clarity by releasing physical tension stored in the body. Chronic stress often manifests as tension in the muscles, which can impair mental clarity. Yoga postures encourage the release of this tension, allowing for improved circulation and mental focus. By aligning the body and mind, yoga facilitates a harmonious state of being that promotes both physical and emotional well-being.

Furthermore, the practice of yoga helps individuals develop greater resilience, which is crucial for navigating life's challenges. Yoga's emphasis on acceptance, patience, and non-attachment fosters a mindset that allows individuals to respond to difficult situations with calmness and perspective. This emotional resilience is critical for maintaining mental clarity and emotional stability in the face of adversity.

In conclusion, yoga philosophy significantly impacts emotional regulation, mental clarity, and overall well-being. Through mindfulness, meditation, ethical practices, and physical postures, yoga promotes a harmonious balance between body, mind, and spirit. This holistic approach enables individuals to cultivate emotional resilience, maintain mental clarity, and achieve a heightened sense of well-being.

Conclusion

The influence of yoga philosophy on mental health and well-being is profound and multifaceted. Through its practices of meditation, mindfulness, breath control, and ethical living, yoga offers a holistic approach to mental health that addresses both the psychological and emotional aspects of well-being. Yoga not only reduces symptoms of stress, anxiety, and depression but also promotes emotional regulation, mental clarity, and overall resilience. As modern society grapples with mental health challenges, yoga provides a valuable tool for cultivating balance, peace, and well-being. Future research should explore the long-term effects of yoga on mental health and the potential benefits of integrating yoga practices into mainstream mental health care.

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Assessing Awareness level of Mental Health among Juveniles: A Path towards Societal Well-being

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Abstract : Juvenile or Adolescent age is the most high-risk age of 21st century society. It is a high-risk time to maintain proper mental health within the human beings due to family expectations, work pressure and societal constraints. These continuous expectations create a pressure on the adolescent students. So, the preservation of the mental wellbeing is the matter of concern today. The objectives of the present study were to find out the need of juvenile mental health for societal well-being and to know the significant difference in the awareness towards mental well-being by the juveniles based on habitat area, gender based on castes. A self-made standardized scale was developed, its validity was checked by three subject experts, and the reliability (0.71) was tested by Cronbach Alpha method. In this Mixed method study, for qualitative analysis, systematic review design was used and in quantitative study, t test and ANOVA were used. The result revealed the need of mental wellbeing of the juvenile for societal welfare and there was significant difference in the awareness of juvenile mental health based on habitat area but no significance difference was observed in the awareness of juvenile mental health based on caste and gender.

Keywords: Awareness, Juveniles, Mental Health, Societal Welfare

Introduction

According to The World Health Organization (2019) approximately 10-20% of juvenile/adolescent individuals worldwide experience different mental health disorders including depression, anxiety, substance abuse, as well as psychosis. Research studies suggest that the prevalence of mental health problems among juvenile/adolescent individuals is higher, with up to 30-50% of adolescents who are being reported as having symptoms of anxiety, depression or stress (Sinha et. al., 2017). Though mental health is very common in our society in most of the cases they are not getting timely and proper care as well as treatment to solve out the issues. (Shim., et. al. 2022). Though there was a growing recognition as well as concern about the importance of having good mental health, there remains a significant gap in our understanding of the correlates, prevalence and consequences of different mental health issues among the individuals. So, it is the need of the hour to get concerned about the issues and provide proper training to the individuals for proper healthy and well-developed happy society.

Statement of The Problem

Adolescent/juvenile issue related to students is one of the most important concerns in 21st century. Though we all are aware of the emerging issues related to adolescents, due to societal stigmas, we often face difficulty in accepting and addressing it. The researcher in this present study wanted to measure the awareness about mental health among the juvenile students so that, they can themselves take care about the emerging issues. So, the statement of the following study was presented as: 'Assessing Awareness level of Mental Health among Juveniles: A Path towards Societal Well-being'.

Objectives

- To understand the need of mental well-being for societal welfare among the juvenile students.
- To find out the significant difference in the level of awareness in between the male juvenile students and female juvenile students about the need of mental health.

Assessing Awareness level of Mental Health

59

- To know the significant difference in the level of awareness in between the urban juvenile students and rural juvenile students about the need of mental health.
- To understand the significant difference in the level of awareness among the juvenile students based on caste about the awareness of the need of the mental health.

Research Question

- What were the need of juvenile mental well-being for societal welfare among the juvenile students?

Hypotheses

- There was no significant difference in the level of awareness in between the male juvenile students and female juvenile students about the need of mental health.
- There was no significant difference in the level of awareness in between the urban juvenile students and rural juvenile students about the need of mental health.
- No significant difference was observed in the level of awareness among the juvenile students based on caste about the awareness of the need of the mental health.

Definition of the Operational Terms

- **Assessing**
Assessing means measuring something, estimating or evaluating the nature.
- **Awareness**
Generally referred to as consciousness, by the word awareness, the researcher wanted to know about the recognition as well as perception of the individual adolescent/ juvenile students about the importance of mental health.
- **Juvenile/Adolescents**
Juvenile/Adolescents refer to the individual people who are in the process of developing from a mere child to a grown up adult individual. Generally, it starts with the onset of puberty and lasts till 18 years of age. Here in this study, juvenile referred to the students of class X.

○ **Mental Health**

According to WHO “State of well-being in which the individual realizes his/her own abilities, can cope up with the normal stresses of life, can work productively and fruitfully, and is able to contribute to his/her community. Here in this study the awareness of the juvenile students about the importance of mental health is measured.

○ **Societal Well-being**

Based on the idea of social justice, social upliftment as well as development, this process or program help the people in need for meeting their basic demands and needs.

Delimitations

- This study was delimited to adolescent/juvenile students only.
- Only 10 schools of South 24 Parganas and North 24 Parganas regions were taken for data collection.
- Students of class X were considered as samples.
- gender, caste and habitat areas were taken as categorical variables.
- The qualitative analysis of the research was done on secondary data only.

Significance of The Study

- The research will be helpful to learn the awareness level of the juvenile/adolescents about the mental health issues.
- Curriculum framers can frame the curriculum keeping in mind the mental health issues.
- The stakeholders can be aware of the possible interventions of the juvenile/adolescent students to provide good mental health.
- The parents will be aware of their wards’ probable mental health.

Review of Related Literature

Chadda., R. (2018). conducted a study entitled as ‘*Youth & Mental Health: Challenges Ahead.*’The objectives of the study were to find out adolescent issues and challenges and the researchers found out

various adolescent issues that can lead to the societal risks also. Carrion., et. al. (2019). conducted a study entitled as '*Children and Adolescents Mental Health: A Systematic Review of Interaction-Based Interventions in Schools and Communities*'. Systematic review design was followed to identify some areas related to adolescence mental health and the interventional strategies. Out of total 384 publications, 11 studies have made the inclusion criteria. Seven articles focussed on interventions of schools and also promote various supportive interactions involving teachers, families and different mental health professionals. Four articles discussed about the interventions engaging community members in dialogic interactions with adolescent and children. The result revealed that community members, parents, students, school etc. had a greater part to maintain mental health of the adolescents as well as the interventional program can decrease the mental health issues like anxiety, depression, lack of social skills etc. Naresh., N. & Shreyance., J. (2019) conducted a research study entitled as '*Adolescent Mental Health Issues, Challenges and Solutions*'. The objectives of the study were to find out the issues, challenges of adolescent mental health and how to solve the issues. The researchers conducted the study by review analysis systematically and concluded that due to the transitional period, they have tremendous mental issues leading towards suicide, adjustment problems etc and counselling can be a great help in this case. Cavioni., et. al. (2021). conducted a research study entitled as '*Adolescents' Mental Health at School: The Mediating Role of Life Satisfaction*'. The major objectives of the following study were to find out the relationship in between student-teacher relationship with the peers and life satisfaction had a connection with mental health and also, the relationship based on gender. The result revealed significant relationship in between positive relation with student teacher and peer with the mental health. Gender played insignificant role in this whereas the relationship in between mental health and peer and teacher student relationship decreased with the growing age. Santre., S. (2022). conducted a study entitled as '*Mental Health Promotion in Adolescents*'. The major objective of this study was to find out the various mental health issues and health promotional programs of the adolescent learners. The review based qualitative study was done by systematic review

design and it was found that schools must play a bigger part to promote positive mental health among the adolescents via curriculum development and various positive mental health related programs whereas various digital platforms used by the adolescents can be used to develop mental health of the adolescents. Barauskiene., et. al. (2023). in this research study entitled as '*Adolescent Perception of Mental Health: It's Not only about Oneself, It's about Others Too*'. wanted to identify the perceptions of adolescent people about the meaning of mental health, needs of good mental health, probable risk factors, issues and concerns and the role of professionals associated with mental health. Semi-structured in-depth interview via qualitative approach was done to analyse the data taken from 19 samples. The result revealed that adolescents were not only aware about their own mental health rather they preferred relationship with others in preserving happy mental state. Khalaf., et. al. (2023). conducted a study entitled as '*The Impact of Social Media on the Mental Health of Adolescents and Young Adults: A Systematic Review*'. The objective of this study was to find out the positive and negative effects of the social media on mental health of the adolescents. After going through systematic reviews of various articles, empirical and cross-sectional research, it was found that social media has effects on mental distress, suicidal tendencies, hazards, privacy concerns, cyberbullying etc. As a result, it was found that social media had good effect on adolescent communication, connection, conversation etc. Lee., et al. (2023). conducted a study entitled as '*Mental Health Awareness of Secondary Schools Students: Mediating Roles of Knowledge on Mental Health, Knowledge on Professional Help, and Attitude towards Mental Health*'. The major objectives of this study were to find out the awareness of mental health among the adolescent students at Malaysian Schools and the relationship in between knowledge and mental health, knowledge of professional help and mental health and attitude towards mental health. 450 samples were distributed self-administered questionnaire. SPSS and SmartPLS were used to analysis the data. The result revealed that knowledge had a major influence on mental health awareness, media had a great part to play on metal health, attitude towards mental health and knowledge on professional help. Attitudes towards mental health

had a great part to play in the mediating roles in between the familiarity of attitude towards mental health and mental health awareness. Lin., J., & Guo., W. (2024). conducted a study entitled as *'The Research on Risk Factors for Adolescents' Mental Health'*. The major objectives of this study were to find out the relationship between mental health issue of the adolescents with individual traits and personality, peer relation and school climate as well as family status and practices. 35 empirical articles were analysed by systematic thematic review design in this qualitative study and the result revealed the positive co-relation with each of the three layers with the good mental health of the adolescent learners.

While reading through the reviews on this topic, the researchers have found out that there were much research done on the need and importance of adolescent mental health, various researches were carried out to measure the mental health of the adolescent, the awareness level of mental health among the adolescent/juveniles and the role of stakeholders also for the development of mental health. But there was scarcity of research of awareness level of mental health in Kolkata and Howrah region based on gender, habitat area and caste they belonged to. So, the researcher took the specific objectives and hypotheses to find out the level of awareness of mental health among the juvenile students both quantitative as well as in a qualitative way.

Methodology**○ Variables**

For this study, the researchers took the adolescent/juvenile students as independent variables and the awareness of the adolescent/juvenile students about mental health as dependent variables and gender, habitat area and caste of the students were the categorical variables.

○ Population

All the adolescent/juvenile students of the secondary and higher secondary level schools of two 24 Pargana regions were the population of the study.

○ Samples

The researcher here took 5 schools from each district of South and

North 24 Parganas (Total 10 schools) by purposive sampling of non-probability sampling technique. Then from each school 10 adolescent/juvenile students were selected by simple random sampling of probability sampling technique. Total 100 juvenile students were taken here as samples.

Table 1: Sampling Distribution Table

Samples	Number of Samples
Male	41
Female	59
Urban	55
Rural	45
General Caste	33
SC/ST	33
OBC	34

○ **Research Design**

The researchers in this present study used mixed method research (Using both qualitative and quantitative measurement). A standardized close-ended likert scale questionnaire was developed to measure the level of awareness among the samples. The validity of the questionnaire was checked from three subject experts and the reliability was checked by Cronbach alpha method (0.72). For quantitative analysis, t test and ANOVA were used and for qualitative analysis of the research question, systematic review design was used where the past research on this topic were analysed.

○ **Data Collection Procedure**

The researchers went to the schools themselves in two 24 Pargana regions region physically as well as in some of the cases online data were collected. When the open-ended questionnaire was given to them, they were clearly guided how to fill in the questionnaire. Ample time was given to them for giving the responses. There was provision for writing gender, habitat area and castes on the questionnaire.

Data Analysis and Interpretation

Research Question: What were the need of juvenile mental well-being for societal welfare among the adolescent students?

○ Reduction of Violence and Crime

If the mental health problem of the adolescent people can be addressed and prevented at a very early stage, it will reduce the crime and violence in our society. Due to the mental instability, in adolescent period, the people can take wrong decision resulting in crime. Individuals who had mental health related issues can at all point of time be a part of the societal violence and criminal behaviour in society. (Halle., et. al., 2020). Different empirical works have shown that heightened risk of violence is associated with individuals in depression. (Yu., et. al., 2017).

○ Improvement of Economic Productivity

If the future generation of our country will be emerged in mental health issues, then there will be a huge problem, the human resource will be in problem as well as the GDP of the country. So, for a country, it is very much important that the inhabitants can have the good mental health so that they can contribute to the progress of the nation. "Economics and mental health are intertwined. Apart from the accumulating evidence of the huge economic impacts of mental ill-health and the growing recognition of the effects that economic circumstances can exert on mental health, governments and other budget holders are putting increasing emphasis on economic data to support their decision". (Knapp & Wong 2020). Poor unrecognized mental health can damage psychological functioning resulting in lost economic productivity as well as increased cost of the society. (Servili., 2012).

○ Academic Performance Improvement

Good academic score, academic achievement can be the result of good mental health of an individual. "Adolescent mental health and academic performance are intricately linked. The aspects of development, each influencing and being influenced by others". (Lee., et. al., 2024).

○ Social Cohesion Promotion

Adolescent mental health is essential for social cohesion like developing positive relationship with family, community members and friends. Social cohesion meant the good relationship with the persons living in a particular geographical territory has a link with the better mental as well a physical health. (Kingsbury., et. al.,

2019). Various background research concluded that developing neighbourhood cohesion can prevent different mental health problems like anxiety, depression etc. (Breedvelt., et. al., 2022).

○ **Reduction of Risk behaviours**

Different risk behaviours like reckless driving, substance abuse, unprotected sex can be the result of the adolescent problem and henceforth proper mental health is needed to protect the children from risk behaviours. Suicidal attempts and ideation are the most common adolescent risk behaviours and the outcome of poor mental health. (Polanczyk., et. al., 2014).

○ **Promotion of Healthy Coping Mechanism**

Coping mechanism is one of the important needs of having good mental health. Otherwise, problem solving skills will not develop within a person. Mental health education and program help in developing coping mechanism such as mindfulness, creative activities and exercise. Adolescent age is an age when different risk factors start developing. Proper mental health can develop coping strategies within them to face societal challenges. (Wang., et. al. 2021 & Stapley., et. al. 2022).

Hypotheses 1: There was no significant difference in the level of awareness in between the male juvenile students and female juvenile students about the need of mental health.

Table 2: The level of awareness in between the male juvenile students and female juvenile students about the need of mental health

Gender	Total No. of Students	Mean	SD	t test
Male	41	23.45	3.14	1.1300
Female	59	24.23	3.56	

Table 1 described that the mean gained score (23.45) of male juvenile students was lower than the mean gained score (24.23) of female juvenile students. The table t value 1.1300 was lower than the table t value 1.98 at 98 degrees of freedom at 0.05 level of significance. Henceforth the hypothesis was accepted, and it was proved that there was no significant difference in the level of

awareness in between the male juvenile students and female juvenile students about the need of mental health.

Hypothesis 2: There was no significant difference in the level of awareness in between the urban juvenile students and rural juvenile students about the need of mental health.

Table 2: The level of awareness in between the urban juvenile students and rural juvenile students about the need of mental health

Habitat Area	Total No. of Students	Mean	SD	t test
Urban	55	26.89	3.98	4.7184
Rural	45	23.45	3.14	

Table 2 described that the mean gained score (26.89) of urban juvenile students was higher than the mean gained score (23.45) of rural juvenile students. The table t value 4.7184 was higher than the table t value 1.98 at 98 degrees of freedom at 0.05 level of significance. Henceforth the hypothesis was rejected, and it was proved that there was significant difference in the level of awareness in between the urban juvenile students and rural juvenile students about the need for mental health.

Hypothesis 3: No significant difference was observed in the level of awareness among the juvenile students based on caste about the awareness of the need of the mental health.

Table 3: The level of awareness among the juvenile students based on caste about the awareness of the need of the mental health

Source of Variation	SS	df	MS	F value	p value
Between Groups	61.72	2	30.86	0.236	0.05
Within Groups	12652.82	97	130.44		
Corrected Total	12714.54	99			

Table 3 showed that the computed F value was 0.236 which was less than the critical F-value = 0.05. Henceforth, the null

hypothesis was not rejected. This indicated that there was no significant difference in the means between the three groups. So, no significant difference was observed in the level of awareness among the juvenile students based on castes about the awareness of the need for mental health.

Findings

- The need of the awareness of mental health among the juvenile students were found by systematic review design and they are follows- Prevention of mental health disorder, Promoting Healthy Coping Mechanism, Improving Economic Productivity, Promoting Social Cohesion, Reducing Violence and Crime, Improving Academic Performance, Promoting, Reducing Risk behaviours, promotion of the development of health.
- There was no significant difference in the level of awareness in between the male juvenile students and female juvenile students about the need of mental health.
- There was significant difference in the level of awareness between the urban juvenile students and rural juvenile students about the need for mental health.
- Urban juvenile students had better awareness level about the need of mental health than the rural juvenile students.
- No significant difference was observed in the level of awareness among juvenile students based on caste about the awareness of the need for mental health.
- It was found that the level of awareness of mental health depends on the parental attitude, teachers' concern and school curriculum.

Educational Implications

- The awareness level of the juvenile students about the mental health will be known. So that curriculum can be developed in such a way that it will help in the development of the mental health of the students.
- The teachers will also understand the existing mental health awareness among the juvenile students and prepare themselves to equip with such mental health wellness tips.

- New teaching learning strategies for maintaining good mental health will be used in lesson transaction.
- Various causes for developing mental health issues among the individuals can be identified.

Conclusion

In this complex society, we must sustain in a world where there are ample causes for mental health issues like anxiety, depression, mental disorder etc. and due to the physical and mental issues, adolescent/juvenile age is the time where an individual cannot fit himself/herself in a society. So, it is very much needed that they should have a higher level of awareness about mental health. So, the researchers in this study found out numbers of research that were actually done on adolescent/juvenile mental issues and there emerged level of concern in that issue. In case of gender specific and caste specific area, there was no difference in the level of awareness of mental health among the juvenile students but in case of habitat area significant difference emerged in the level of awareness of mental health among the juvenile students. So it is the need of the present time to raise the awareness level of the adolescent/juvenile students about the mental health issues so that the future citizens do not have to face any societal constraint.

Suggestions for Further Research

- Research can be done to measure the level of awareness of mental health among the other juvenile students.
- Research can be done on implementing curriculum in class for developing mental health of the students.
- This study can be done in other areas of West Bengal, of India and in the various educational organizations of the world.
- This study can be done in higher educational fields also.
- Research can be done to know the level of awareness of the need of mental health among the adult students.

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Education and Empowerment: Addressing Gender, Disability and Social Inequality

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Abstract : Despite the fact that education has the potential to change people and communities for the better, disadvantaged groups nevertheless face structural obstacles that make it difficult for them to have equal access. Present article dealt with how education can serve as a means of empowerment by addressing disparities related to gender, disability, and socio-economic status. Despite global commitments to inclusive education, challenges such as gender-based discrimination, inadequate support for learners with disabilities, and economic disparities persist, limiting opportunities for millions worldwide.

Through an interdisciplinary approach, present study explores policies, frameworks, and best practices that promote inclusive and equitable education. It draws on case studies from different regions to highlight successful interventions, including gender-responsive curricula, assistive technologies, teacher training programs, and financial support mechanisms for disadvantaged learners. An analysis is provided of the ways in which educational policies that promote empowerment have been shaped by global organisations, national governments, and grassroots movements.

Findings suggest that inclusive education is essential for breaking cycles of poverty, reducing social inequalities, and enhancing economic and political participation. Addressing these disparities requires a multi-stakeholder approach, involving policymakers, educators, communities, and learners themselves. Recommendations include implementing targeted scholarship

programs, increasing investment in special education, and promoting gender-sensitive learning environments.

By advocating for systemic educational reforms, present research underscores the transformative impact of education in fostering empowerment, reducing inequalities, and promoting social justice. Greater inclusion, resilience, and equity in society can only be achieved if all members have access to high-quality education.

Keywords: Inclusive education, empowerment, gender equality, disability rights, social justice, educational policy, equity in learning.

Introduction

Everyone knows that getting a good education may help you climb the social ladder and become independent. Nevertheless, disparities in educational opportunities persist due to entrenched structural and historical injustices. Especially in “low- and middle-income countries (LMICs),” substantial challenges arise from gender discrepancies, disabilities, and socioeconomic inequities. Comprehensive methods that improve access and guarantee fairness and inclusion in educational frameworks are necessary in light of these problems.

Present paper examines the multi-faceted nature of educational inequality, focusing on gender, disability, and socio-economic status. It also explores how these dimensions interact, reinforcing systemic disadvantages. The theory frameworks used to examine the impact of educational opportunities or lack thereof on empowering outcomes include Amartya Sen’s capacity approach and Pierre Bourdieu’s idea of cultural capital. Present article also deals with the power of education to eradicate inequality in India, highlighting both its revolutionary potential and the structural obstacles that stand in the way of its full realisation. Examining the achievements and shortcomings of the Indian educational system, present research delves into the profound impact of education on promoting equality.

Role of Education in Empowering Women

A foundational component of long-term growth and societal advancement is the emancipation of women. When it comes to

eradicating structural inequality, education stands out as a critical tool in India, a country where gender discrepancies are pervasive. Education is essential for attaining gender equality and is recognised as a basic human right by “The United Nations Development Programme (UNDP, 2020).” Education does more than only improve women’s personal skills; it also helps change society as a whole by breaking down barriers to participation and empowering marginalised groups.

Despite global progress, gender disparities in education remain prevalent, particularly in regions with entrenched patriarchal norms. According to UNESCO (2021), over 129 million girls worldwide are out of school, with higher dropout rates in secondary and tertiary education. Marginalisation is caused in large part by cultural norms, gender-based violence, and child marriage (United Nations, 2020).

The gender gap extends beyond access to educational attainment and learning outcomes. In many contexts, girls are disproportionately underrepresented in “STEM (Science, Technology, Engineering, and Mathematics)” fields due to implicit biases and socialization processes (OECD, 2019). Conversely, boys tend to lag in literacy achievements, highlighting the need for gender-responsive pedagogical approaches (UNESCO, 2021).

Women Education would act as a vital tool in empowering women in India. Present research also emphasizing impact of education on economic, social, and political dimensions. It also highlights the challenges that impede educational access and quality for women, particularly in rural and marginalized communities. Amartya Sen’s (1999) capacity approach is foundational to the idea of women’s empowerment since it highlights the significance of empowering people to reach their maximum potential by increasing their freedoms. Women may make better decisions, take part in economic activities, and fight restrictive social systems when they have access to education, which enhances their capabilities. Education has a crucial role in nurturing critical thinking and agency, according to Nussbaum’s (2000) feminist viewpoint. These qualities are vital for women to overcome patriarchal cultures.

In the Indian context, the interplay between education and

empowerment is influenced by socio-cultural factors such as caste, class, and religion. These intersecting identities often exacerbate educational disparities, making it imperative to adopt an intersectional approach to understanding women's empowerment (Crenshaw, 1989). In India, women's economic emancipation is fuelled by education. The World Bank reports that there is a positive correlation between women's educational attainment and their labour force participation rate and income (2019). By minimising economic reliance, educated women increase their chances of securing formal jobs, accessing entrepreneurial possibilities, and contributing to family income.

In India, women who have completed secondary school are 20% more likely to work than those who have not, according to research by Desai and Joshi (2019). Furthermore, educated women are better equipped to negotiate wages and working conditions, thereby challenging gender-based wage gaps. However, structural barriers such as occupational segregation and limited access to vocational training continue to constrain women's economic potential.

A woman's ability to take charge of her own life depends on her level of education, which in turn affects her health. When it comes to their reproductive health, women with higher levels of education are more likely to take preventative measures, use healthcare facilities when needed, and make educated choices. Women with more education use contraception more often and have lower rates of maternal death, according to "the National Family Health Survey (NFHS-5, 2021)." In addition, by enhancing children's health and nutrition, education promotes advantages that span generations. Subramanian et al. (2018) found that in India, children whose mothers had completed some kind of formal education had a lower risk of malnutrition and a higher chance of finishing high school. By improving both individual and community health, education acts as a multiplier impact.

If more women are to be politically active and socially mobile, society must invest on women education. Women with higher levels of education are more inclined to speak out against injustice, fight for equal rights, and participate in civic life. One example of how education may change lives is the quota system for women in

India's Panchayat Raj institutions, which are responsible for local government (Chattopadhyay & Duflo, 2004).

However, the representation of women in higher political offices remains limited, highlighting the need for greater educational investment. Social mobility, facilitated by education, enables women to transcend caste and class barriers, thereby promoting inclusive development. For example, educated Dalit women in India have been able to challenge caste-based discrimination and access opportunities previously denied to them (Thorat & Newman, 2010). Empirical evidence suggests that policies such as conditional cash transfers, gender-sensitive curricula, and mentorship programs can enhance female participation and success in education (World Bank, 2020). Additionally, addressing menstrual health management and ensuring safe school environments contribute significantly to reducing gender-based dropout rates (Sommer et al., 2015).

Government of India Initiatives in India for Women Empowerment

By lowering the prevalence of discrimination based on gender and increasing the availability of economic possibilities, education gives women and girls the capacity to make their own decisions. In order to achieve gender equality, the United Nations has recognised the importance of excellent education and has made it a "Sustainable Development Goal (SDG) 4" (United Nations, 2015). The Beti Bachao Beti Padhao (BBBP) plan, the "National Education Policy 2020" (NEP 2020), and the Kasturba Gandhi Balika Vidyalaya (KGBV) program are just a few of the educational policies and initiatives in India that aim to reduce gender inequality. The BBBP Scheme's Successful Implementation: The BBBP programme, which began in 2015, sought to increase girls' access to school and reverse the trend of falling child sex ratios. In order to promote female education, the effort focused on lobbying, community organising, and financial incentives. Female enrolment rates have improved and public attitudes towards girls' education have shifted in districts implementing BBBP activities, according to "the Ministry of Women and Child Development (2022)."

KGBV and Residential Schooling for Marginalized Girls the Kasturba Gandhi Balika Vidyalaya (KGBV) program, launched in

2004, provides residential schooling for girls from marginalized communities. Research by Jain and Singh (2020) found that KGBVs have improved literacy rates and retention rates among girls, especially those from “Scheduled Castes (SCs), Scheduled Tribes (STs), and minority groups.” The program’s success underscores the importance of targeted interventions in addressing educational disparities.

Digital Learning and Gender Inclusion in Rural India The COVID-19 pandemic highlighted digital inequalities in education, disproportionately affecting female students. However, initiatives like the ‘Diksha’ and ‘E-Vidya’ platforms provided alternative learning opportunities. Studies indicate that digital literacy programs in states like Kerala and Tamil Nadu have helped bridge the gender gap in education (Rao, 2021). Ensuring equitable digital access remains a key challenge for future gender empowerment strategies. By gaining an education, women in India may liberate themselves from patriarchy and become economically and socially independent. After drastic changes, there are still obstacles that must be overcome to have equal opportunity to get a good education. India can reap the benefits of its large female population and create a more just society by funding their education.

Despite its transformative potential, education for women in India faces numerous challenges. Poverty, cultural norms, and early marriage often force girls to drop out of school. According to UNESCO (2021), India accounts for one of the highest rates of female illiteracy globally, with significant disparities between urban and rural areas. Additionally, inadequate infrastructure, such as lack of sanitation facilities in schools, disproportionately affects girls’ enrollment and retention rates. Gender-based violence and safety concerns further deter women from pursuing education. Addressing these barriers requires a multi-pronged approach, including policy interventions, community engagement, and targeted investments in educational infrastructure.

Role of Education in Empowering Disabled Communities

Many different social, cultural, and environmental variables influence the kind and extent of disability. Despite the fact that this number is probably underreported because of stigma and different

definitions of impairment, the Census of India (2011) indicated that 2.2% of the population lives with a disability. People with disabilities in India continue to be trapped in poverty and social isolation due to the enormous obstacles they encounter in accessing education, finding work, and participating in society. As a fundamental component of human growth, education may break these patterns by providing people with disabilities with the information, competence, and self-assurance they need to face and overcome social obstacles. When people have a good education, they get the self-assurance, competence, and understanding that they need to become active members of society. Through education, people with disabilities may combat discrimination, increase their employability, and ultimately become financially independent. According to Sharma and Depler (2020), inclusive education has a multiplicative effect: it helps students with disabilities, but it also helps them typically developing classmates become more empathetic and cohesive.

The empowerment of disabled individuals through education is integral to achieving an equitable society. Education not only enhances cognitive and social skills but also fosters economic independence, self-confidence, and active citizenship. On the other hand, getting a good education may be a real challenge for people with disabilities (PWDs). In India, despite constitutional provisions and legislative efforts, the educational landscape for PWDs remains fraught with challenges. Present article explores the role of education in empowering disabled people in India, emphasizing the intersection of policy, practice, and societal attitudes.

The social model of disability, upon which the research is based, holds that social obstacles and attitudes, rather than any intrinsic qualities of the person, are the causes of impairment (Oliver, 1990). The emphasis in this model moves from “fixing” the person to eliminating structural disparities that prevent full engagement. When applied to the field of education, the social model stresses the significance of equitable opportunities and inclusive methods that cater to a wide range of student needs.

Improving one’s critical thinking, social skills, and self-confidence are three ways in which education gives handicapped

people more agency. In inclusive education, students with and without disabilities work together to dispel prejudice and build understanding. Further, education boosts employability, which means people with disabilities may make a financial contribution and become financially independent (Mitra & Sambamoorthi, 2008). New opportunities for inclusive education have arisen as a result of technological advancements. According to Sharma and Desai (2020), assistive technologies, including adaptive learning platforms, speech-to-text software, and screen readers, let impaired students get beyond obstacles and engage completely in class activities. By teaching them skills that are in demand in today's jobs, digital literacy initiatives provide people with disabilities even more agency.

By making reasonable modifications, inclusive education frameworks aim to include students with disabilities in regular classrooms. According to CAST (2018), "the Universal Design for Learning (UDL)" framework promotes adaptable lesson plans that meet the requirements of students with a wide range of abilities. Additionally, in order to promote inclusive learning environments, it is essential to have teacher training programs that concentrate on special education pedagogy (Florian & Spratt, 2013).

Government Initiatives in India

Through policy and legislation, India has come a long way in acknowledging the rights of people with disabilities. Discrimination against people with disabilities and the right to an inclusive education are both included in the "Rights of Persons with Disabilities Act (RPWD Act, 2016)." Equal educational opportunity for all students, including those with disabilities, is a central tenet of the National Education Policy (NEP) 2020. Infrastructure, teacher training, and resource allocation are still areas where these progressive policies are not evenly implemented (Singal, 2019). One organisation that helps students who are visually impaired is "the National Institute for the Empowerment of Persons with Visual Disabilities (NIEPVD)."

Education is a powerful tool for empowering disabled individuals, enabling them to overcome societal barriers and achieve their full potential. However, realizing the potential of education requires concerted efforts to address systemic inequities and promote inclusive

practices. Key recommendations include: Strengthening the implementation of existing policies, such as the RPWD Act and NEP 2020, investing in teacher training and the development of accessible learning materials, expanding the use of assistive technologies and digital learning tools, fostering community engagement and advocacy to challenge stigma and promote inclusion. By adopting a rights-based approach to education, India can create an inclusive society where disabled individuals are valued as equal participants in social, economic, and cultural life.

When it comes to legislation that helps people with disabilities get an education, India has made great progress. All students, regardless of ability, are required to participate in general education classrooms according to the 2009 Right to “Free and Compulsory Education Act.” The duty of educational institutions to provide appropriate accommodations is further emphasised under “the Rights of Persons with Disabilities Act (2016).” Furthermore, the importance of inclusive education is highlighted in “the National Education Policy (NEP) 2020,” which acknowledges the need for qualified teachers and assistive technologies to close the achievement gap (Government of India, 2020).

Barriers to Education for Disabled Individuals

Difficulties that Students with Disabilities Face in the Classroom
Several obstacles, such as physical inaccessibility, insufficient learning resources, and discriminatory attitudes, prevent children with disabilities from receiving a proper education. The globe Bank and the World Health Organization’s 2011 “World Report on Disability” estimates that more than 32 million disabled children throughout the globe do not attend regular schools. These children’s exclusionary experiences contribute to the perpetuation of marginalisation and poverty. The promotion of inclusive education relies heavily on community-based activities. Non-governmental organizations (NGOs) and disability rights groups’ advocate for policy reforms, raise awareness, and provide support services to disabled students and their families. Grassroots movements have been instrumental in challenging discriminatory practices and fostering a culture of inclusion.

Deep-rooted societal stigma and misconceptions about disability often result in low expectations and exclusion from mainstream

education (Das & Shah, 2014). Lack of infrastructure facilities for disabled people is other barrier for disabled education. There is a severe shortage of accessible infrastructure, including ramps, elevators, and renovated bathrooms, as well as accessible facilities, assistive technology, and instructional materials designed specifically for children with disabilities, in many schools.

A lack of training in inclusive education practices limits teachers' ability to support diverse learners effectively. Teachers often lack specialized training in inclusive pedagogies and disability-sensitive teaching methodologies (Agarwal & Sharma, 2021). Poverty exacerbates the challenges faced by disabled individuals, as families may prioritize the education of non-disabled children or lack the resources to access specialized services.

Education is a cornerstone of empowerment for disabled individuals, particularly in India, where structural barriers often impede progress. While legal frameworks provide a strong foundation, effective implementation, community awareness, and technological advancements are crucial for fostering an inclusive educational ecosystem. To close the achievement gap and enable people with disabilities to reach their maximum potential, a comprehensive strategy is required, one that includes changes to policies, improvements to infrastructure, and new ways of teaching. "The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)" is one piece of legislation that requires nations to make sure that education is accessible and inclusive (United Nations, 2006). Students with disabilities have better educational achievements in countries that have inclusive policies, such as Canada and Finland (Ainscow, 2020).

Role of Education in Reducing Inequality in Society

Inequality is a persistent and multifaceted challenge in India, manifesting in various forms, including economic disparity, caste-based discrimination, gender inequity, and regional imbalances. Despite significant economic growth in recent decades, the benefits have been unevenly distributed, exacerbating existing divides. By equipping people with the information, abilities, and chances to rise above their socioeconomic situation, education a basic human right and a catalyst for social change has the power to alleviate these disparities.

The capacities approach, put out by Amartya Sen (1999), which stresses the significance of increasing people's freedoms and chances to live lives they cherish, is the foundation of the research. Education is central to this framework, as it enhances human capabilities and enables individuals to overcome structural barriers. Additionally, the study draws on Bourdieu's (1986) theory of cultural capital, which highlights the role of education in reproducing or challenging social hierarchies. These theoretical perspectives provide a lens for understanding how education can either perpetuate or mitigate inequalities.

Disparities in educational opportunities and quality contribute significantly to India's economic disparity. Disparities in learning outcomes & access to higher education continue, despite the country's notable gains in boosting enrolment rates, especially at the elementary level (ASER, 2022). Students from low-income households are disproportionately enrolled in schools that lack enough resources, severely restricting their chances of achieving economic mobility. In contrast, Drèze and Sen (2013) found that high-quality education may help people escape poverty by giving them the tools to get higher-paying employment.

Caste remains a significant determinant of educational access and achievement in India. Historically marginalized groups, such as "Scheduled Castes (SCs) and Scheduled Tribes (STs)," continue to face discrimination and exclusion in educational institutions. The insufficient execution of affirmative action programs and the persistence of societal stigma have hindered their effectiveness in reducing these inequities (Desai & Kulkarni, 2008). Inclusive education policies that address both access and quality are essential for reducing caste-based inequalities.

Gender disparities in education remain a pressing concern in India, particularly in rural areas and among disadvantaged communities. A number of issues, including early marriage, domestic duties, and a lack of school safety, contribute to the high dropout rates among females, despite the fact that enrolment rates have increased (Kingdon, 2002). Reducing reproduction rates and improving child health are two of the many social advantages that accrue when females are given the opportunity to further their education (Sen, 1999).

Education has long been regarded as a powerful tool for breaking the cycle of poverty and mitigating social inequalities. In India, disparities in educational access and quality remain deeply entrenched, largely due to socio-economic stratification, gender biases, and regional disparities. Despite constitutional mandates and policy frameworks aimed at universal education, significant gaps persist. Poverty and Its Effects on Educational Opportunity How and where a person gets their education is highly dependent on their socioeconomic standing. Kids from low-income families have it worse when it comes to school resources, dropout rates, and malnutrition (UNICEF, 2019). Poverty, gender, and disability all interact to make educational gaps even worse. Economic inequality shapes educational paths, as Bourdieu's idea of social and cultural capital explains (Bourdieu, 1986).

Families with higher socioeconomic status can afford quality education, private tutoring, and extracurricular activities, reinforcing class advantages across generations (Reay, 2017). Interventions such as free school meals, scholarship programs, and digital learning initiatives can mitigate economic barriers to education. Empirical studies indicate that countries investing in equitable education policies experience higher levels of social mobility and economic growth (Hanushek & Woessmann, 2020).

Education empowers individuals with knowledge, skills, and competencies necessary for active participation in economic and social spheres. By providing equal learning opportunities, education reduces the intergenerational transmission of poverty and enhances social mobility (Sen, 2001). Studies indicate that increased literacy rates correlate with reduced income disparities and greater employment prospects among marginalized groups (Desai & Kulkarni, 2020).

India's educational landscape is characterized by significant regional imbalances, with states in the north and east lagging behind those in the south and west in terms of literacy rates and educational infrastructure (Mehrotra, 2006). These disparities are exacerbated by variations in state-level funding and governance. Addressing regional inequalities requires targeted interventions, such as increased investment in underperforming regions and the adoption of best practices from high-performing states.

India's education policies have increasingly emphasized equity and inclusion, as reflected in "the National Education Policy (NEP) 2020." The NEP advocates for universal access to quality education, with a focus on marginalized groups and underserved regions. However, the effectiveness of these policies depends on their implementation, which has often been hindered by bureaucratic inefficiencies and inadequate funding (Tilak, 2020). Strengthening governance and accountability mechanisms is critical for ensuring that policy objectives translate into tangible outcomes.

When it comes to eliminating educational disparities, community-based activities are crucial. Literacy initiatives, scholarship programs, and policy change lobbying have all benefited greatly from the work of non-governmental organisations (NGOs) and other civil society groups. "The Right to Education (RTE)" movement and similar grassroots efforts have brought attention to the significance of community involvement in determining educational results and galvanised popular support for equal access to education (Sadgopal, 2010).

Conclusion

Access to quality education may help level the playing field in India by opening doors to better jobs and higher incomes for everybody. But society needs to remove structural obstacles and make sure everyone can get a good education to see it realised. In order to combat long-standing gender inequalities, empower women economically, and ensure that individuals with disabilities are fully accepted in society, it is essential that they have access to high-quality education. Women, people with disabilities, and other marginalised groups in India may greatly benefit from access to quality education. By levelling the playing field in terms of education, employment, and decision-making chances, education does more than just boost individual capacities; it also promotes social advancement.

Affirmative action measures that help historically oppressed populations, increasing opportunities for preschool education and closing achievement gaps in early literacy and numeracy, By removing obstacles to girls' education and advocating for gender-sensitive teaching methods, Comprehensive development in India requires investment in failing areas, better education sector

governance, more community participation, and the use of grassroots initiatives to promote change. India can make the most of its demographic dividend and create a fairer society by making education a top priority for all students.

Inadequate infrastructure, discriminatory policies, and socioeconomic impediments are some of the ongoing obstacles to equal educational opportunity. It will need a multi-faceted strategy, including changes to policies, to solve these problems.

A multi-faceted strategy taking socioeconomic position, disability, and gender into account is necessary to address educational disparities. An equitable and progressive society may be achieved via educating all students, regardless of their socioeconomic status. To guarantee that all students have access to a quality education, raise awareness within the community, and implement targeted interventions to meet the needs of marginalised groups, it is crucial to have holistic policy frameworks, inclusive curriculum, and active community involvement. Communities may use education as a tool for social justice and sustainable development if they work to create classrooms where all students feel welcome and valued.

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Effects of the Right to Education Act on Educational Access for Marginalized Communities

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Abstract : The Right to Education (RTE) Act, enacted in 2009 in India, aimed to provide free and compulsory education to children between the ages of 6 and 14. While the Act has made significant strides in increasing enrollment rates, its impact on marginalized communities remains a subject of debate. This paper examines the effects of the RTE Act on educational access for marginalized communities, analyzing both the achievements and the persisting challenges. The study highlights issues related to infrastructure, social discrimination, quality of education, and policy implementation. The findings suggest that while the Act has improved enrollment, deeper systemic reforms are needed to address inequalities in educational access.

Keywords: Right to Education Act, marginalized communities, educational access, social inclusion, policy implementation.

Introduction

The Right to Education (RTE) Act, 2009, enacted on August 4, 2009, and implemented from April 1, 2010, marks a significant milestone in India's educational landscape. This legislation was enacted to provide free and compulsory education to children aged 6 to 14 years, ensuring universal access to quality education. The RTE Act operationalizes Article 21A of the Indian Constitution, which was added by the 86th Constitutional Amendment Act, 2002, recognizing education as a fundamental right. Under the

provisions of the RTE Act, the government is responsible for ensuring that every child receives primary education in a neighbourhood school without any financial burden on parents. The Act also mandates minimum infrastructure requirements, trained teachers, no detention policy till Class 8, and prohibition of discrimination or physical punishment in schools. Furthermore, private schools are required to reserve 25% of their seats for children from economically weaker sections (EWS) and disadvantaged groups.

The implementation of the RTE Act has significantly contributed to increasing school enrollment rates, reducing dropout rates, and promoting inclusive education in India. However, challenges such as poor infrastructure, teacher shortages, and quality concerns remain areas of policy focus and reform.

Education is a fundamental right and a key driver of social and economic mobility. The Right to Education (RTE) Act of 2009 in India was designed to ensure universal access to education, particularly benefiting disadvantaged and marginalized communities. However, despite legal guarantees, marginalized groups—such as Scheduled Castes (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), and economically weaker sections—continue to face barriers in accessing quality education. This paper explores the impact of the RTE Act on these communities and identifies the gaps that need to be addressed for effective implementation.

Legislative Framework of the RTE Act

The RTE Act mandates free and compulsory education for children aged 6 to 14 in government and government-aided schools. Key provisions include:

- 25% reservation for economically disadvantaged students in private schools (Section 12(1)(c))
 - Prohibition of discrimination and corporal punishment
 - Minimum infrastructure and teacher-student ratio requirements
 - Continuous and comprehensive evaluation (CCE) system
- Despite these progressive measures, the Act has encountered

challenges in execution, particularly in marginalized communities.

Impact of the RTE Act on Marginalized Communities**○ Increased Enrollment Rates**

One of the most significant achievements of the RTE Act is the increase in enrollment rates among marginalized communities. According to the Unified District Information System for Education (UDISE), enrollment of SC/ST children in schools has risen since 2009. However, retention rates remain a concern due to socio-economic factors and inadequate support systems.

○ Infrastructure Development

The RTE Act mandates basic infrastructure, including classrooms, toilets, and drinking water facilities. While progress has been made, disparities persist. According to the Annual Status of Education Report (ASER), many rural schools still lack adequate infrastructure, which disproportionately affects marginalized children.

○ Social Barriers and Discrimination

Despite the RTE Act's emphasis on social inclusion, caste-based and gender discrimination persist in many parts of the country. Studies show that children from SC/ST backgrounds often face prejudice from teachers and peers, leading to higher dropout rates. Additionally, girls from marginalized communities face further challenges due to cultural norms and safety concerns.

○ Quality of Education

While enrollment has increased, the quality of education remains a challenge. Reports from ASER indicate that many students in marginalized communities struggle with basic literacy and numeracy. The shortage of trained teachers and the implementation of the no-detention policy under RTE have also contributed to learning gaps.

○ Implementation Challenges

The 25% reservation in private schools for economically weaker sections has faced resistance from private institutions. Many schools fail to comply, and parents from marginalized communities often lack awareness of their rights under RTE. Bureaucratic hurdles further hinder effective policy execution.

Case Studies and Field Reports

Several studies and case reports highlight both successes and failures of the RTE Act:

- A study by the Centre for Policy Research (2016) found that while enrollment of disadvantaged students in private schools increased, retention and integration remained weak due to social exclusion.
- Reports from the National Commission for Protection of Child Rights (NCPCR) indicate that in states like Uttar Pradesh and Bihar, compliance with RTE provisions is inconsistent, affecting marginalized children disproportionately.
- Grassroots NGOs, such as Pratham, have played a crucial role in improving awareness and monitoring school performance in marginalized areas.

Recommendations for Strengthening RTE Implementation

To enhance the effectiveness of the RTE Act for marginalized communities, the following measures are recommended:

- **Strengthening Infrastructure:** Increased government investment in school infrastructure, particularly in rural and tribal areas.
- **Teacher Training and Sensitization:** Ensuring teachers are trained to be inclusive and address the needs of marginalized students.
- **Community Awareness Programs:** Conducting outreach programs to inform parents about their rights under RTE.
- **Monitoring and Accountability:** Strengthening mechanisms to ensure compliance with the 25% reservation in private schools.
- **Improving Learning Outcomes:** Revisiting the curriculum and teaching methods to enhance foundational literacy and numeracy skills.

Conclusion

The Right to Education Act has had a positive impact on increasing educational access for marginalized communities, but

significant challenges remain. While enrollment has improved, issues related to infrastructure, discrimination, quality of education, and implementation barriers continue to limit its effectiveness. Addressing these challenges requires sustained policy efforts, better resource allocation, and community participation. Only through a holistic approach can the goal of inclusive and equitable education be truly realized.

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Beyond IQ: Integrating Multiple Intelligence Theory in Indian Academic Education and Inclusivity of all Intelligences

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Abstract : This article investigates the incorporation of Howard Gardner's Multiple Intelligence (MI) theory into Indian educational practices and examines the difficulties that arose while it was being implemented across various learning environments. The study analyses the existing literature to identify recurring themes, research gaps, and successful strategies for applying Multiple Intelligence theory in educational settings. The analysis was done through various research articles, academic publications and research findings that focus on teachers' understanding of the MI, the students' reactions to the new teaching techniques and diverse methods of student evaluation. The study shows that although educational scholars agree on the theory of multiple intelligence, it is still difficult to make use of it effectively. Some teachers do not fully understand the theory and have difficulty changing their ways of teaching to meet students' diverse needs. Furthermore, schools that want to include kinaesthetic, musical and visual-spatial intelligence in their system need to spend more on infrastructure and resources.

Nevertheless, earlier studies have revealed that students gain

more enthusiasm, interest and do better academically when instruction is designed to match their dominant intelligence. This literature review concludes that a more diverse and inclusive learning environment is required to accommodate all types of intelligences. Additionally, evaluation and assessment approaches in schools should be more flexible in order to include non-cognitive intelligences that are frequently overlooked due to standardized testing.

The study suggests ways to enhance training for teachers, checks how the classrooms can be well equipped and shows ways to make the curricula broad-based to cater to the wide variety of interest of the students. Hence, the findings make a valuable contribution to broadening the application of multiple intelligence theory and provide strategies to overcome challenges in modern education.

Keywords: Multiple intelligences, academic performance, students.

Introduction

“Hide not your talents, they for use were made. What’s a sundial in the shade?” – Ben Franklin

Historically, academic achievement has been considered as a primary determinant of an individual’s intelligence in India. Despite significant advancements in modern education and attempts to accommodate diverse student needs, the conventional mind-set still persists. The traditional educational approach in India predominantly emphasizes logical-mathematical and verbal-linguistic intelligence, consequently recognizing exclusively students who exhibit proficiency in these two domains as intellectually capable. The Indian education system and cultural norms tend to disregard other forms of intelligence, including visual-spatial, kinesthetic, musical, interpersonal, intrapersonal, and naturalistic intelligence. Consequently, students who do not exhibit highly developed logical or verbal intelligence, but rather excel in other cognitive domains, are often perceived as less intellectually capable or entirely lacking in intelligence.

Theoretical Foundation

Howard Gardner introduced the theory of Multiple Intelligences

(MI), in his seminal 1983 book *Frames of Mind: The Theory of Multiple Intelligence* extended the idea that intelligence was a single quality that could be defined in terms of a child's capacity to do well on an IQ test which principally tested the logical, mathematical, and linguistic skills. Gardner proposed that intelligence is multifaceted encompassing eight distinct domains: linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal, naturalistic, and finally existential intelligence. How people use their intelligences which generally differ from person to person, helps define their ways of learning and understanding problems, as well as their thinking processes (Gardner, 1999). Unlike other generic IQ theories, MI theory implicitly acknowledges the diversity of human talents. It claims that academic performance alone cannot prove a person's full potential (Armstrong, 2017). Because of this shift, the approach to teaching has to address different abilities in students more actively. MI theory is now considered one of the main theories behind modern learning practices that focus on the student. Teachers need to be competent in acquiring the essential knowledge, skills, attitudes, and values that are needed to enhance the students' learning and development. Since educational practices are always changing and students come from diverse backgrounds and learn differently, teachers must ensure all students are supported holistically (Shulman, 1987). Teachers can use MI theory to create strategies that recognize how intelligence works. For example, an MI-informed teacher may use storytelling for linguistic learners, use different objects for bodily-kinesthetic learners and set up group activities for interpersonal learners (Tomlinson, 2001). MI theory supports students' participation, interest and success in learning by matching the teaching techniques with the students' intellectual requirements. It also calls for extensive training programs focused on intelligence as a developing concept that should be under development throughout the lifespan of both the educator and learner. Integrating MI theory into training courses for educators can also enhance other important teaching skills such as versatility, innovation, and ethical sensitivity.

Consequently, MI theory not only adds to the repertoire of

pedagogical practices but also is consonant with infinite student development and education.

Howard Gardner's Multiple Intelligence

Howard Gardner's multiple intelligence (MI) theory, introduced in the 1983 *Frames of Mind*, presents a paradigm shift in understanding human intellectual capacities. From traditional definitions of intelligence, which primarily focus on linguistic and logical-mathematical capabilities, Gardner identified eight distinct forms of intelligence, each representing a unique modality through which individuals process and apply knowledge.

- **Linguistic Intelligence** involves sensitivity to spoken and language, enabling effective communication, storytelling, and persuasion. Writers, poets, and orators exemplify this intelligence.
- **Logical-Mathematical Intelligence** is characterized by strong problem-solving skills, abstract reasoning, and numerical proficiency. Scientists, mathematicians, and engineers often excel in this domain.
- **Musical Intelligence** refers to the capacity to discern pitch, rhythm, timbre, and tone, which facilitates music composition, performance, and appreciation.
- **Bodily-kinaesthetic intelligence** manifests in physical dexterity and the ability to use the body expressively or skilfully, as seen in athletes, dancers, and surgeons.
- **Spatial Intelligence** is characterized by the skill to think in three dimensions, visualize spatial relationships, and manipulate mental images. Architects, artists, and designers frequently exhibit this intelligence.
- **Interpersonal Intelligence** reflects an understanding of others' emotions, motivations, and behaviours, enabling effective social interaction. Teachers, counsellors, and politicians often excel in this area.
- **Intrapersonal Intelligence** is the capacity for self-awareness, including recognizing one's feelings, goals, and motivations. It is often seen in philosophers, writers, and psychologists.

- **Naturalistic Intelligence** pertains to recognizing and categorizing elements in the natural environment, such as plants, animals, and ecological systems.

Later, Gardner posited the possibility of existential intelligence, which explores profound inquiries into the meaning of life, death, and the human condition (Gardner, 1999). While less empirically developed than other intelligences, it has sparked interest in philosophical and spiritual contexts. Each intelligence operates autonomously yet interactively, allowing individuals to use multiple intelligences simultaneously. For instance, a musician performing on stage may draw upon musical intelligence for rhythm, bodily-kinesthetic intelligence for physical coordination, and interpersonal intelligence to connect with the audience. This interconnectedness underscores the versatility and practical applications of MI Theory (Armstrong, 2017). Gardner emphasized that while all individuals possess each intelligence, their degree of development varies due to genetic predispositions, environmental factors, and life experiences. This diversity challenges the uniformity of traditional educational practices and supports a more individualized approach to teaching and learning.

Effective Teaching Competencies

Teaching competencies are a combined entity of knowledge, skills, attitudes, and professional values, which allows a teacher to facilitate learning and promote the growth of the learner. These competencies go beyond content knowledge and include knowledge of instructional methods, classroom management, assessment, and knowledge about learners and how they learn (Shulman, 1987). The teaching competencies have been conceptualized in a new way. Shulman (1986) first defined the notion of Pedagogical Content Knowledge (PCK) as a combination of subject matter and knowledge of how this content is to be taught. It forms the basis of current competency frameworks of teaching that capture the knowledge, skills, and attitudes, of teachers and the relationship between context and content of learning. Essential skills for successful teaching include:

- **Content Mastery:** A good knowledge of the topic and its basic principles.

- **Pedagogical Skills:** Able to design, deliver, and assess instructions in a way that fosters active learning.
- **Classroom Management:** Solutions for how to promote discipline others well as additional elements that contribute to establishing an effective learning environment
- **Assessment Literacy:** The knowledge of how to develop, analyse, and apply formative and summative assessment to inform instruction.
- **Cultural Competence:** Awareness of cultural, linguistic, and socioeconomic differences in a classroom environment.
- **Adaptability and Lifelong Learning:** Dispositions that relate to openness to learn new approaches to teaching, use of technology, and professional growth (Danielson, 2007).

The process of teaching competencies is a developmental process and therefore involves reflection, practice, and review. Though highly valuable brokers of knowledge and skills, the best teachers also nurture intellectual purpose, innovation, and character in learners (Darling-Hammond, 2006).

Practical Applications

- **Designing Lesson Plans Using MI Theory**

The application of MI Theory begins with lesson planning. Teachers adapting this approach aim to design instructional activities that address multiple intelligences, allowing each student to interact with the material in a way that matches their individual strengths. This inclusive approach enhances student engagement, fosters critical thinking, and promotes holistic learning. Effective MI-based lesson plans integrate activities targeting various intelligences. For example:
- **Linguistic Intelligence:** Incorporating storytelling, debates, and journaling.
- **Logical-Mathematical Intelligence:** Engaging students with puzzles, problem-solving exercises, and data analysis.
- **Musical Intelligence:** Using songs, rhythms, and compositions to explore concepts.
- **Bodily-Kinaesthetic Intelligence:** Introducing role-playing, physical experiments, or hands-on projects.

- **Spatial Intelligence:** Leveraging visual aids, models, and graphic organizers.
- **Interpersonal Intelligence:** Encouraging group discussions, peer teaching, and collaborative projects.
- **Intrapersonal Intelligence:** Including reflective writing, self-assessment tasks, and goal-setting exercises.
- **Naturalistic Intelligence:** Integrating outdoor activities, nature studies, and environmental exploration.
- **Existential Intelligence** involves pondering profound life questions, morality, and reasoning critically, nurtured through reflective journaling, debates, and discussions on moral dilemmas.

Educators can also improve their lesson plans by including interdisciplinary connections. For instance, a history teacher might use music from a particular era to engage musical learners, use historical events to appeal to bodily-kinaesthetic learners and analyze primary source documents for logical-mathematical and linguistic learners. Such diversified approaches ensure that content delivery resonates with all students (Armstrong, 2017). Moreover, technology offers innovative avenues for designing MI-based lessons. Digital tools like interactive whiteboard, educational apps, and virtual simulations allow teachers to present information in multimodal format, catering to multiple intelligences simultaneously (Ertmer & Ottenbreit Leftwich, 2010).

Tools and Techniques for MI Integration

Implementing MI theory in the learning environment requires various tools and techniques to foster a dynamic and engaging learning environment. These resources not only accommodate different learning styles but also enable teachers to meet the unique needs of individual students.

- **Technology Integration**
Educational technology is a powerful enabler of MI-based teaching. For example:
- **Linguistic Learner:** Digital storytelling platforms like Book creator.
- **Musical Learner:** Apps like GarageBand for composing music.

- **Spatial Learners:** Tools such as Google Earth and design software.
- **Logical-Mathematical learners:** Math-focused apps like Khan Academy.
These tools allow teachers to tailor their instruction to the unique needs of their students, fostering deeper engagement and understanding (McCoog, 2007).
- **Learning Centres**
Setting up learning centres within the classroom can facilitate MI- based activities. Each centre can focus on specific intelligence, allowing students to rotate through various stations and explore content in diverse ways.
- **Rubrics Tailored to MI Activities**
Rubrics designed for specific MI-based tasks ensure fair and consistent evaluation. For instance, a rubric for a group project might assess teamwork (interpersonal intelligence), creativity (spatial or musical intelligence), and problem solving (logical-mathematical intelligence).
- **Feedback loops**
Continuous feedback from teachers, peers, and self-assessment helps students to improve their skills and deepen their understanding. These interactive practices align with the methods suggested by MI Theory. Research supports the effectiveness of these assessment methods. A study by Shearer and Luzzo (2009) found that MI-aligned assessments not only helped to improve the students' performance but also enhanced their confidence and motivation. By allowing students to showcase their abilities in diverse ways, these assessments create a more equitable and inclusive evaluation framework.

Case Studies and Applications

Incorporating diverse intelligences into educational programs has shown significant benefits in improving students' comprehension and participation across various subjects. This approach recognizes and acknowledges that learners possess a range of intellectual capabilities, including verbal, quantitative, visual-

spatial, and other forms of intelligence, which can be utilized to boost academic performance. By aligning teaching methods with these varied intelligences, teachers can foster a more inclusive and productive learning experience. Some real-life applications and case studies are provided in the following sections.

○ **Enhancing Cognitive Abilities**

Nanda et al. (2018) studied the changes in cognitive abilities of students when MI theory is applied in their learning process. The study involved 3500 Indian children, both boys and girls. All of them were between 11 to 14 years old. The study found out that the children whose learning process had the intervention of MI theory had seen a significant surge in their cognitive abilities.

○ **Motivational Enhancement and Increased Self-Regulation**

Magda Madkour et al. (2016) conducted quasi-experimental research to find out the result of integrating multiple intelligences in English classes at higher education. The research highlights several crucial aspects of language acquisition using multiple intelligences, including: (a) the efficacy of MI theory in enabling students to leverage their diverse abilities for enhancing language proficiency; (b) the beneficial effects of multiple intelligences-based instructional strategies on meeting individual student needs; (c) the theory's capacity to enhance student motivation for acquiring advanced language skills; (d) the successful classroom implementation of multiple intelligences, which helped students grasp various language learning levels (phonological, lexical, syntactical, and semantic) through activities like journal writing, poetry composition, short story creation, and filmmaking; and (e) the impact of multiple intelligences tasks, particularly interpersonal and intrapersonal activities such as collaborative projects, on boosting students' social and cultural competencies, which are essential in language learning.

Barrientos-Fernández et al. (2019) conducted a study to show that studying music-related subjects alongside other subjects greatly helps in developing both executive and intellectual functions of learners. This investigation could potentially aid students in refining their study techniques, facilitating more efficient organization and planning of their daily academic

endeavours. Consequently, learners may develop enhanced self-management skills for their educational pursuits.

○ **Improved Academic Performance**

Karaduman & Cihan (2018) aimed to investigate if applying MI theory in teaching mathematics on geometric subjects to second graders showed any improvement in their academic result. Two groups of 30 student each were formed where one group went through traditional learning methods whereas the other group experienced teaching methods in alliance with the theory of MI.

It is seen that students of second grade of mathematics usually face difficulties in understanding the subject of geometric objects. The pre-test results didn't show much difference between the performances of the two groups. But the post-test results showed significant difference in the performance of the experimental group compared to its pre-test results.

Directions For Implementing MI in Classrooms

○ **Dominant Intelligences**

Even though it is evident that every child possesses all eight intelligences, children start showing what Gardner termed as "proclivities" (or inclinations) towards certain intelligences from a young age. Before we discuss about determining a student's most dominant intelligence, we must keep in mind that students can possess multiple intelligence strengths. One must avoid confining a student to a single intelligence box. Generally, a child is dominated by two or more intelligences.

Armstrong in his book on MI explains the best strategy for assessing a student's dominant intelligence is to simply observe how they think and act. He also makes an amusing point: we can figure out an appropriate evaluation strategy by looking at how a student misbehaves in class. Behaviours such as speaking a lot, day-dreaming, or gossiping can be signs of linguistic, spatial and interpersonal intelligences. However, these behaviours are labelled as misbehaviors as they do not align with the conventional attitude expected in a classroom setup.

○ **Children's Introduction to MI**

As important as it is for teachers to learn the methods and techniques to implement MI, it is essential for the children to be

introduced to this concept early in life. Researches in cognitive psychology regarding education shows that instructional approaches help children to identify their preferable learning approach (Marzano et al., 1988). When this kind of metacognitive activities are involved, children may customize their own ways to solve problems. This may also help them to adjust in new learning environments.

The idea is to help them understand that no one can 'not' be intelligent. We can help set the context of MI using simple relatable words for kids. For example, 'linguistic' can be termed as 'word smart' instead, 'interpersonal' as 'people smart' etc. The teacher just needs to make sure to give all the children a chance to see themselves as 'intelligent'. Examples of what Gardner calls 'end-states' can be used like:

- **Linguistic Intelligence:** Famous characters from stories that students have read in class (Word Smart)
- **Logical-Mathematical Intelligence:** Scientists students have studied about (Logic or Number Smart)
- **Spatial Intelligence:** Famous cartoonists or animators of their favourite shows (Picture Smart)
- **Bodily-Kinaesthetic Intelligence:** Famous sports personalities (Body Smart)
- **Musical Intelligence:** Famous rock stars, musicians, rappers, singers (Music Smart)
- **Interpersonal Intelligence:** Famous show hosts (People Smart)
- **Intrapersonal Intelligence:** Famous entrepreneurs (Self Smart)
- **Naturalistic Intelligence:** Famous adventurers, animal lovers (Nature Smart)
- **MI Integration at Different School Levels**

Roy (2021) conducted a study to examine the overall level of Multiple Intelligence in relation to gender, comparing male and female students. It also assessed the prevalence of various Multiple Intelligence dimensions common among adolescents. The primary aim was to provide a general evaluation of multiple intelligence in

school-going adolescents aged 14-17 years and to compare the status between male and female students in various private and government urban schools. It was discovered that the male students had a higher mean Multiple Intelligence score than females, though the difference was not statistically significant. The boys showed higher degrees of logical, bodily-kinaesthetic, and intrapersonal intelligence. Conversely, the girls showed greater musical intelligence, with the difference being statistically significant.

Gogebakan D. (2003) analyzed students' multiple intelligences according to their preferences and how these intelligences vary by grade level (first, third, fifth, and eighth) and gender. First-grade students showed a strong preference for linguistic and logical-mathematical intelligence, followed by spatial and bodily kinaesthetic intelligence. Third-grade students' dominant intelligences were interpersonal, spatial, logical-mathematical, and linguistic. For fifth-grade students, interpersonal, bodily kinaesthetic, spatial, and musical intelligence were more prominent.

Yaghoob Raissi Ahvan et al (2016) conducted a study on high school students to find the connection between multiple intelligences and academic performance among high school students. The study revealed that multiple intelligences are interconnected with each other while execution. Verbal-Linguistic and Visual-Spatial intelligences show moderate correlation with academic performance while the other intelligences show weak correlation with academic performance or no correlation at all.

Challenges and Barriers

○ The Problem with Selectivity

Benjamin (2002) points out the conflicts that arise when meritocracy and inclusive education are used together. He argues that it is difficult to involve children with special educational needs in mainstream teaching, because schools and their students are motivated by competition (Benjamin, 2002; Lloyd, 2008). Schools want every student to excel and also separate children by ability, therefore children with special needs may have trouble to move at the same pace (Zaffran, 2015). In their research, Smeding and his team (2013) discovered that students from low socioeconomic

backgrounds (i.e. first-generation students) generally perform worse on tests used to decide their outcomes, as opposed to tests designed for education (i.e. selective rather than educational evaluation). They claim that this issue which holds back first-generation university students, is a fundamental part of the way educational institutions are set up (Jury et al., 2017).

○ **Teacher Training**

Walela (2024) conducted a study demonstrating that although the inclusion of MI in education is accepted widely, the teachers' understanding of this theory is often very limited. Many of them have been unable to adapt new teaching techniques required to help students learn in their own way. Advanced training programs are required to train teachers and educators to fully adapt to the new emerging educational system (Abdelhak & Romaiassa, 2022).

○ **Infrastructure Limitations**

Walela (2024) mentions in his study that schools require additional facilities and resources to support kinaesthetic, musical, and visual-spatial intelligence. Research has proved that students respond positively when teaching methods align with their primary intelligence type. It potentially enhances their motivation, interaction, and academic performance. This review of literature concludes that the learning approach needs to be more diverse and comprehensive in order to accommodate all types of intelligences. Moreover, educational assessment and evaluation must become more adaptable, taking into account non-cognitive intelligences that have been overlooked in standardized testing.

Tambat (2024) investigates the incorporation of artificial intelligence into Indian secondary schools, examining how it corresponds with the goals of National Education Policy 2020. It shows AI advancements, including personalized learning systems and computerized assessment tools, while also keeping in mind the essential factors like data security, and the necessity for professional training of educators. This study also suggests strategies for the holistic implementation of AI in India's education sector, emphasizing the necessity of governmental backing, moral guidelines, and the enhancement of local technological infrastructure.

Future Directions

To properly execute the inclusion of MI into the Indian education system, innovative and personalized teaching methods should be implemented to fulfil every student's unique needs. Combining AI with MI can help educators make personalized strategies for diverse intellectual needs.

Harnessing AI Technologies

- AI can help in advancing learner-specific methods by customizing educational content to match students' primary intelligences, thus improving engagement and learning outcomes (Palarimath et al., 2024).
- AI can assist in identifying students' cognitive abilities, enabling more targeted educational interventions (Goswami & Sharma, n.d.).

Promoting Innovative Teaching Methods

- Innovative pedagogy based on MI theory can foster holistic development by incorporating varied teaching techniques that address both academic and non-academic skills.
- MI-based strategies nurture creative and problem-solving skills, crucial for the competitive educational environment of the 21st century (Palarimath et al., 2024) (Nanda et al., 2018).
- Educators can utilize MI to design and implement differentiated instruction, enhancing student motivation and engagement (Dermentzis, 2017).

Tackling Infrastructure and Training Obstacles

- Infrastructure limitations, especially in rural areas, present significant challenges to implementing AI and MI-based education (Singh & Jindal, 2024).
- Extensive training programs for teachers to equip them with skills necessary for effective integration of AI and MI in teaching methods (Singh & Jindal, 2024) (Walela, 2024).
- Public-private partnerships can help overcome infrastructure constraints and promote digital inclusion in education (Singh & Jindal, 2024).

While the integration of MI and AI in Indian education shows promise, it is essential to consider ethical and cultural factors.

Ensuring data privacy and addressing digital literacy gaps are essential for successful execution (Tambat, 2024) (Singh & Jindal, 2024). Moreover, creating a cultural diversity inclusive and personalized learning environment is crucial for the sustainable development of education in India.

Conclusion

Education serves as a tool for comprehensive development of every child. Using intelligence-based educational methods helps children develop their personality. Performance efficiency increases when students are involved in tasks that match their natural interests, talents and preferences. Educators should use what each student is good at to help them learn better. Letting students decide on their teaching method helps them get personalized guidance making them feel included. Utilizing natural ways of learning benefits students, since it aligns with their natural abilities. The study makes it evident that students achieve better outcomes and get motivated when education is tailored to their own needs. Analysis of the existing literature revealed that activities based on multiple intelligences improved a student's intelligence, ability to concentrate, decision-making, creativity and clarity of thoughts. Consequently, this study demonstrates the efficacy of teaching-learning process that serves every child's unique learning style.

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Role of Education in Reducing Economic Inequality among BPL Citizen in Rural India

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Abstract : India is a multivariate country in all its aspects like language, culture, class, caste, religion, creed and socio-economic status. Accessibility of quality education to all has been a major challenge in India. There is a number of disadvantaged groups, such as women, minorities, SCs and STs, OBCs, PwDs, EWSs, who are lagging behind others in the field of education. Educational research has consistently found home background (socio-economic status) to be an important determinant of educational outcomes, and economic research has shown that education strongly affects earnings. The prime goal of the Government of India is to take them together for the development of the nation. In accordance with that recently, the National Education Policy (NEP) 2020 also emphasizes the need to address the issues of students belonging to Socio-Economically Disadvantaged Groups (SEDGs). The students those who are belong to SEDGs, face day to day challenges and difficulties in accessing quality education due to socio-cultural, economic, and historical reasons. UGC has made some Interventions to make the HEIs Inclusive, Equitable, and Sensitive to SEDG (Socio-Economically Disadvantaged Groups). This research on Role of Education in Reducing Economic Inequality among BPL Citizen in Rural India employed a document review method within a qualitative research framework which combines primary and secondary sources,

including books, research articles, scholarly publications, magazines, research journals, e-journals, reports, and policy documents. Data collection involved thorough document review and archival investigation. Key themes identified from the collected materials were systematically coded and analyzed to provide a comprehensive understanding of the subject matter.

Major Findings of the Research is, the Socio-Economic Challenges Faced by Below Poverty Line (BPL) Citizens in Rural Indian Society were identified. The relationship between Education and Poverty was determined. The Interventions to make the HEIs Inclusive, Equitable, and Sensitive to SEDG were framed

Keywords : Education, Economic, Inequality, BPL, Rural.

Introduction

India is a multivariate country in all its aspects like language, culture, class, caste, religion, creed and socio-economic status. Accessibility of quality education to all has been a major challenge in India. There is a number of disadvantaged groups, such as women, minorities, SCs and STs, OBCs, PwDs, EWSs, who are lagging behind others in the field of education. The prime goal of the Government of India is to take them together for the development of the nation. In accordance with that recently, the National Education Policy (NEP) 2020 also emphasizes the need to address the issues of students belonging to Socio-Economically Disadvantaged Groups (SEDGs). The students those who are belong to SEDGs, face day to day challenges and difficulties in accessing quality education due to socio-cultural, economic, and historical reasons. As per NEP 2020- *Educational and Economic Backward Identity*:

- Non-Creamy Layer among Other Backward Classes (OBCs)
- Economically Weaker Sections (EWSs)
- Students from the vernacular medium schools
- First Generation Learners

Education is a powerful instrument for reducing poverty and fostering economic growth. In rural India, where a significant portion of the population lives Below the Poverty Line (BPL),

education serves as a critical enabler for socio-economic mobility. The rural economy is often characterized by limited access to resources, low literacy rates, and persistent economic inequalities. According to the World Bank (TOTO), education directly influences income levels, employment opportunities, and overall economic participation, making it a key driver in breaking the cycle of poverty.

The intersection of poverty and education becomes even more significant in rural areas, where systemic barriers such as inadequate infrastructure, gender disparities, and socio-economic exclusion limit opportunities for marginalized groups. The relationship between education and poverty is reciprocal: while education reduces poverty by enhancing skills and employability, poverty constrains access to quality education. This dynamic creates a persistent challenge for BPL families in rural India.

These issues requires a multi-dimensional approach. The first step involves examining the socio-economic challenges faced by BPL citizens in rural society, such as lack of access to basic services, unemployment, and social exclusion. By understanding these challenges, policymakers and institutions can identify targeted strategies for intervention. The National Education Policy (NEP) 2020, emphasizes inclusive and equitable education, particularly for Socio-Economically Disadvantaged Groups (SEDGs), highlighting the importance of Higher Education Institutions (HEIs) in creating opportunities for social mobility (Government of India, 2020).

Education plays a pivotal role in reducing economic inequality by providing individuals with the skills and qualifications needed to participate in the labor market. Studies have shown that higher levels of education are associated with increased earnings and reduced income disparities (Tilak, 2002). Therefore, understanding the relationship between education and poverty is critical for formulating effective policies.

Finally, framing interventions to make HEIs inclusive, equitable, and sensitive to SEDGs is essential to address the unique challenges faced by marginalized groups. Creating an educational ecosystem that is accessible and responsive to diverse needs can help dismantle systemic barriers and promote equitable growth.

This study aims to explore these interconnected objectives, contributing to the broader goal of reducing economic inequality in rural India through education.

Objectives

- To Examine the Socio-Economic Challenges Faced by Below Poverty Line (BPL) Citizens in Rural Indian Society:
- To find out the relationship between Education and Poverty
- To frame the Interventions to make the HEIs Inclusive, Equitable, and Sensitive to SEDG

Objective 1: The Socio-Economic Challenges Faced by Below Poverty Line (BPL) Citizens in Rural Indian Society

This objective aims to identify and analyze the primary socio-economic obstacles that BPL individuals encounter in rural areas. By exploring issues such as access to basic amenities, healthcare, education, and employment opportunities, the study seeks to provide a comprehensive understanding of the hardships faced by this demographic. This examination is crucial for formulating targeted interventions that can effectively address and mitigate these challenges.

○ Access to Basic Amenities

BPL citizens in rural India face significant challenges in accessing essential amenities such as clean drinking water, sanitation, and electricity, which exacerbates their living conditions and perpetuates poverty. According to the Ministry of Rural Development (2021), only 18% of rural households have access to piped water, a crucial resource for daily life and health. The limited availability of piped water forces many families to rely on distant or contaminated sources, increasing the risk of waterborne diseases. Additionally, only 37% of rural households have access to improved sanitation facilities, a statistic that highlights the widespread lack of hygienic toilet options and proper waste disposal systems. This deficiency contributes to the prevalence of open defecation, which poses severe health risks, particularly for women and children. The scarcity of electricity further compounds these issues, as many BPL households experience frequent power outages or lack access entirely, hindering educational

opportunities, economic activities, and overall quality of life. Improving access to these basic amenities is essential for breaking the cycle of poverty and fostering sustainable development in rural areas. Efforts to enhance infrastructure, such as the installation of piped water systems and sanitation facilities, alongside expanding rural electrification programs, are critical steps toward addressing these challenges and improving the livelihoods of BPL citizens.

○ **Healthcare Access**

Healthcare access remains a critical issue for Below Poverty Line (BPL) citizens in rural India, exacerbated by inadequate infrastructure and resource distribution. The National Health Profile (2020) highlights a stark rural-urban disparity, with a doctor-to-patient ratio of 1:2000 in rural areas, well below the WHO's recommended ratio of 1:1000. This imbalance is compounded by the concentration of 70% of healthcare facilities and medical personnel in urban centers, where only 30% of the population resides (National Health Profile, 2020). Consequently, BPL individuals in rural regions face significant challenges in accessing timely and quality healthcare services, leading to poorer health outcomes. The shortage of medical professionals, coupled with limited healthcare infrastructure, underscores the urgent need for targeted interventions to enhance rural healthcare delivery and address disparities. Efforts to improve medical facilities, increase healthcare personnel, and ensure equitable distribution of resources are crucial steps towards mitigating the health disparities faced by BPL citizens in rural India.

○ **Educational Opportunities**

The educational challenges faced by Below Poverty Line (BPL) citizens in rural India are starkly evident from the findings of the Annual Status of Education Report (ASER) 2020. The report highlights that a significant proportion, specifically 50%, of rural children in grade five can only read at a grade two level, underscoring a critical deficiency in foundational literacy skills. This educational lag severely constrains the future prospects of BPL individuals, limiting their access to higher education and vocational training opportunities essential for economic mobility. Contributing to this issue are inadequate school infrastructure, including classrooms and facilities, a shortage of qualified

teachers, and a lack of sufficient learning materials. These factors collectively impede effective learning and skill development among rural BPL children, perpetuating the cycle of poverty by denying them the tools necessary to compete in an increasingly competitive job market and contribute meaningfully to the economy (ASER Centre, 2020).

○ **Employment Opportunities**

Employment opportunities in rural India present significant challenges for Below Poverty Line (BPL) citizens, primarily centered around the agricultural sector. The Periodic Labour Force Survey (PLFS) 2019-2020 highlights a concerning rise in rural unemployment rates, reaching 7.4%, underscoring the sector's vulnerability to seasonal fluctuations and declining profitability. Many BPL individuals resort to informal or casual labor, which not only lacks job security and benefits but also perpetuates poverty due to unstable income streams (PLFS, 2019-2020). The reliance on agriculture further intensifies vulnerabilities, as climatic variations and market uncertainties contribute to income instability. Efforts to diversify rural economies beyond agriculture are crucial to mitigate these challenges. Programs promoting skill development, entrepreneurship, and small-scale industries could potentially provide more stable and sustainable employment opportunities for rural BPL households, thereby fostering economic resilience and reducing poverty in these communities.

○ **Implications and Recommendations**

The socio-economic challenges faced by Below Poverty Line (BPL) citizens in rural India necessitates targeted and comprehensive interventions. Enhancing rural infrastructure, particularly by expanding access to clean water and sanitation facilities, is crucial as it directly impacts health and well-being. Strengthening rural healthcare systems through increased deployment of medical professionals and improved facilities is essential to address the significant healthcare disparities observed in rural areas. Improving the quality of rural education is equally vital, requiring better teacher training and increased availability of educational resources to enhance learning outcomes and equip BPL children with necessary skills for future employment. Additionally, promoting non-agricultural employment opportunities and

supporting small-scale industries can diversify economic opportunities in rural areas, providing stable livelihoods and reducing dependency on seasonal agriculture. These interventions, if implemented effectively and sustainably, have the potential to uplift BPL citizens, break the cycle of poverty, and contribute to inclusive growth and development in rural India.

Objective 2: To examine the relationship between education and poverty**○ Education Reduces Poverty in Both Rich and Poor Communities**

Education is a pivotal tool in alleviating poverty across various socio-economic strata. In rural India, educational attainment has a direct correlation with income levels and poverty reduction. Recent data indicates that individuals with higher educational qualifications are more likely to secure employment in non-agricultural sectors, which typically offer better remuneration and job security. A study analyzing the role of tertiary education on rural development found that higher education significantly contributes to economic diversification and poverty alleviation in rural areas.

Table-1 : Employment Distribution by Education Level in Rural India (2021)

Education Level	Agricultural Employment (%)	Non-Agricultural Employment (%)
Illiterate	80	20
Primary Education	65	35
Secondary Education	50	50
Tertiary Education	30	70

Source : Transforming rural economies through tertiary education in India

○ Education's Linkages with Economic Growth

An educated workforce is essential for economic growth, as it enhances productivity and fosters innovation. In India, the rural economy has emerged as a significant driver of economic growth, outpacing urban areas, largely due to increased government

spending on infrastructure and education. This investment in rural education has facilitated the adoption of new technologies and improved agricultural practices, contributing to overall economic development.

○ **Education Improves General Living Standards**

Education significantly enhances living standards by improving health outcomes, increasing access to employment opportunities, and empowering individuals to make informed decisions. In rural India, educational initiatives have led to improved sanitation practices, better maternal health, and reduced child mortality rates. For instance, greater maternal education rates have led to a 4.6% decrease in the odds of stunting among children.

Table 2: Impact of Maternal Education on Child Health in Rural India

Maternal Education Level	Child Stunting Rate (%)
Illiterate	50
Primary Education	35
Secondary Education	20
Higher Education	10

Source : How does education affect poverty? It can help end it.

○ **Home Background Greatly Influences Educational Outcomes**

The socio-economic status of a household profoundly affects educational attainment. Children from economically disadvantaged backgrounds often face challenges such as lack of access to quality schools, inadequate learning materials, and the necessity to contribute to household income, which can impede their educational progress. A study on educational inequality in India highlights that urban areas have historically reported higher rates of literacy compared to rural areas, with disparities exacerbated by factors such as gender and caste.

○ **Absolute Poverty Reduces the Ability to Learn**

Extreme poverty adversely affects cognitive development and learning abilities due to factors like malnutrition, lack of

educational resources, and unstable living conditions. In rural India, children from impoverished households are more susceptible to health issues that impair concentration and academic performance. The Annual Status of Education Report (ASER) 2022 indicates that 80% of students in Grade 3 in rural schools could not read a Grade 2 text, underscoring the impact of poverty on learning outcomes.

○ **Poverty Reduces Educational Enrollment**

Economic hardships compel many families to prioritize immediate financial needs over education, leading to lower enrollment and higher dropout rates. In rural India, children, especially girls, are often required to assist with household chores or work to supplement family income, resulting in interrupted or discontinued education. Despite initiatives like the Samagra Shiksha Abhiyan, challenges persist in ensuring consistent school attendance among children from economically disadvantaged backgrounds.

Table 3 : School Enrollment Rates by Gender in Rural India (2021)

Gender	Enrollment Rate (%)
Boys	85
Girls	75

Source : Educational inequality - India

Objective 3: Framing Interventions for Inclusive, Equitable, and Sensitive Higher Education Institutions (HEIs)

Higher Education Institutions (HEIs) play a pivotal role in shaping societies by fostering knowledge, innovation, and social progress. However, to truly serve as engines of equitable growth and social justice, HEIs must address the diverse needs of students from Socio-Economically Disadvantaged Groups (SEDGs). Framing interventions to make HEIs inclusive, equitable, and sensitive involves designing policies, practices, and environments that ensure access, participation, and success for all, particularly marginalized groups.

○ **Inclusivity in Higher Education Institutions (HEIs)**

Inclusivity in Higher Education Institutions (HEIs) aims to create

a learning environment that values and respects diversity, ensuring equitable access and opportunities for all students, irrespective of their socio-economic background, gender, cultural identity, or disability. It involves recognizing systemic barriers and implementing targeted measures to address them. The concept of inclusivity goes beyond merely admitting marginalized students; it also emphasizes fostering an environment where they can thrive academically, socially, and emotionally.

○ **The Significance of Inclusivity**

Inclusivity in HEIs is critical for ensuring that education serves as a catalyst for social mobility and economic progress. By dismantling structural barriers, HEIs can empower students from marginalized communities to access quality education, gain meaningful employment, and contribute to societal development. The United Nations Sustainable Development Goal (SDG) 4, which advocates for inclusive and equitable quality education, underscores the transformative potential of inclusive educational policies. Marginalized groups, including those from socio-economically disadvantaged backgrounds, are often excluded from educational opportunities due to systemic inequalities such as financial constraints, discrimination, and geographic inaccessibility (United Nations, 2015).

○ **Evidence of Successful Inclusive Practices**

Globally, countries that have adopted progressive inclusion policies in higher education have demonstrated significant improvements in enrollment and retention rates among underrepresented groups. For instance, the UK's Office for Students (OfS) has implemented targeted outreach programs that focus on increasing participation among students from disadvantaged backgrounds, including those with disabilities, ethnic minorities, and first-generation college students. Initiatives such as financial aid packages, mentorship programs, and community engagement activities have proven effective in addressing barriers and supporting student success (OfS, 2020).

A key example of such initiatives is the provision of need-based financial assistance and scholarships, which mitigate the economic burdens faced by students from low-income families. Coupled with academic support services like tutoring and skill-

building workshops, these measures help bridge the achievement gap between advantaged and disadvantaged students. Moreover, fostering a sense of belonging through inclusive curricula, cultural representation, and student-led diversity initiatives plays a vital role in retaining marginalized students and ensuring their holistic development.

Policy Implications for Inclusivity

Creating inclusive HEIs requires a multifaceted approach. Policymakers and educational leaders must focus on:

- **Accessible Infrastructure:** Designing campuses that are physically accessible to students with disabilities through ramps, elevators, and assistive technologies.
- **Support Systems:** Establishing counseling centers, peer mentorship programs, and financial aid offices to address the diverse needs of students.
- **Curriculum Design:** Incorporating diverse perspectives and narratives into the curriculum to reflect the experiences of underrepresented groups and foster cultural sensitivity.
- **Faculty Training:** Providing training for faculty and staff on cultural competence and anti-discrimination to create an equitable learning environment.

Benefits of Inclusivity in HEIs

Inclusive policies benefit not only the marginalized students but also the entire academic community. Diverse classrooms encourage cross-cultural understanding, enhance critical thinking, and prepare students for global citizenship. Additionally, inclusivity in HEIs contributes to breaking the cycle of poverty by enabling students from disadvantaged backgrounds to access better career opportunities and improve their socio-economic status.

Equity in Higher Education

Equity in higher education entails creating conditions that actively address systemic barriers and inequalities, ensuring that individuals from Socio-Economically Disadvantaged Groups (SEDGs) have equal opportunities to access and succeed in higher education. Unlike equality, which assumes a level playing field and distributes resources equally, equity recognizes that individuals

begin their educational journeys from different starting points due to historical, social, and economic disparities. Therefore, equity focuses on providing tailored support to bridge these gaps and empower marginalized groups to overcome challenges.

Key strategies to achieve equity in higher education include targeted financial aid, scholarships, and mentorship programs, which have been shown to significantly improve the enrollment, retention, and success rates of SEDG students. Bailey and Dynarski (2011) highlighted that such interventions reduce the financial burden on disadvantaged students, enabling them to focus on their education and pursue opportunities for personal and professional growth. Furthermore, mentorship programs provide guidance, academic support, and role models, helping students navigate the complexities of higher education and enhancing their confidence and self-efficacy.

India's National Education Policy (NEP) 2020 underscores the importance of equity by recommending measures such as fee waivers for economically disadvantaged students, the development of gender-inclusive facilities to promote access for women, and the establishment of Special Education Zones in underserved regions. These zones aim to concentrate resources and infrastructure to support students from marginalized communities, aligning with global best practices in fostering inclusive education. Additionally, NEP 2020 advocates for the representation of underprivileged groups in academic leadership and decision-making, which is essential for creating policies that reflect diverse perspectives and address specific challenges faced by SEDGs. Systemic inequalities and levelling the playing field, equity in higher education not only enhances access for marginalized groups but also contributes to broader societal goals, such as reducing poverty, increasing social mobility, and fostering a more inclusive and just society. Ensuring equity requires a sustained commitment from policymakers, educational institutions, and stakeholders to design and implement strategies that empower all individuals, regardless of their socio-economic status, to achieve their fullest potential.

○ **Sensitivity to SEDGs**

Sensitivity to Socio-Economically Disadvantaged Groups (SEDGs) within Higher Education Institutions (HEIs) involves recognizing

and addressing the unique challenges these groups face in accessing and succeeding in higher education. This sensitivity requires fostering an inclusive institutional culture that values diversity, promotes equity, and actively combats discrimination. A key component of this is creating a supportive campus environment that enhances student engagement and retention, as highlighted by Tinto (1993). His research emphasizes the significance of belonging and integration within the academic and social fabric of institutions for student success.

To achieve this, HEIs must train faculty and staff in cultural competence, equipping them with the skills to understand and respond to the diverse cultural, social, and economic backgrounds of students. This training helps in creating a more empathetic and inclusive learning environment, where all students feel respected and supported. Implementing anti-discrimination policies is another critical step, as it ensures that institutional practices and behaviors align with the principles of equity and inclusion. These policies should include clear mechanisms for addressing grievances related to discrimination or bias. Representation of marginalized groups in leadership and decision-making roles is essential for fostering inclusivity. When individuals from SEDGs hold leadership positions, they can provide valuable insights into the challenges faced by their communities and advocate for meaningful reforms. This representation also serves as an inspiration for students from similar backgrounds, demonstrating that success and leadership are attainable. HEIs can enhance sensitivity by developing targeted support programs, such as mentorship initiatives, financial aid schemes, and peer support networks, tailored to the needs of SEDGs. These programs can help bridge gaps in access and participation, enabling students to overcome barriers and excel in their academic pursuits. By integrating these measures into their core practices, HEIs can create a more inclusive and equitable educational ecosystem, ensuring that every student, regardless of their background, has the opportunity to thrive.

Conclusion

Addressing the socio-economic challenges faced by Below Poverty Line (BPL) citizens in rural India is critical for achieving inclusive

growth and sustainable development. The persistent issues of limited access to basic amenities, inadequate healthcare infrastructure, poor educational outcomes, and insufficient employment opportunities continue to entrench poverty and inequality in these communities. These challenges highlight the urgent need for targeted and holistic interventions that address both immediate needs and long-term structural barriers. By improving access to clean water, sanitation, and electricity, strengthening rural healthcare systems, enhancing educational quality, and diversifying employment opportunities, policymakers can create a transformative impact on the lives of BPL citizens. The integration of innovative approaches, community participation, and evidence-based strategies will be key to ensuring the effectiveness and sustainability of these efforts.

Education is a transformative force with the potential to significantly reduce poverty and improve socio-economic conditions, especially in rural India. The evidence highlights that higher levels of educational attainment are closely associated with better employment opportunities, income diversification, and overall economic growth. Tertiary education, in particular, plays a pivotal role in enabling individuals to transition from low-paying agricultural jobs to more stable and lucrative non-agricultural sectors, thereby contributing to poverty alleviation.

The link between education and economic growth is evident through government investments in rural education, which have facilitated the adoption of advanced technologies and practices, boosting productivity and fostering innovation. Additionally, education enhances general living standards by improving health outcomes, reducing child mortality rates, and promoting informed decision-making. For instance, maternal education has been shown to significantly reduce child stunting rates, showcasing the intergenerational benefits of education.

The socio-economic challenges faced by Below Poverty Line (BPL) families, such as lack of access to quality schools and the necessity for children to contribute to household income, remain critical barriers. Extreme poverty exacerbates learning disparities by limiting cognitive development and impeding enrollment rates, particularly among girls. Despite initiatives like the Samagra

Shiksha Abhiyan, achieving consistent school attendance and improved literacy rates continues to be a pressing issue in rural areas. To address these challenges, there is a need for innovative, context-specific interventions. These could include community-driven education programs, targeted financial support for disadvantaged families, and infrastructure improvements in rural schools.

Higher Education Institutions (HEIs) have the transformative potential to address socio-economic disparities and foster a just, equitable society by embracing inclusivity, equity, and sensitivity toward Socio-Economically Disadvantaged Groups (SEDGs). Inclusive HEIs recognize and celebrate diversity, ensuring that students from marginalized backgrounds are not only admitted but also supported to thrive academically, socially, and emotionally. The integration of diverse perspectives in curricula, accessible infrastructure, and anti-discrimination policies are essential steps toward this goal.

Equity in HEIs goes beyond equal access, focusing on tailored interventions like financial aid, mentorship programs, and gender-inclusive facilities to bridge systemic gaps. India's National Education Policy (NEP) 2020 provides a roadmap for achieving equity by advocating for fee waivers, Special Education Zones, and inclusive leadership representation. These measures align with global best practices and highlight the need for contextualized approaches to reduce educational and economic disparities.

Sensitivity to SEDGs is vital in fostering an inclusive campus culture. Faculty and staff training in cultural competence, targeted support programs, and grievance mechanisms against discrimination contribute to a more empathetic and empowering environment. By valuing diversity and ensuring representation in decision-making, HEIs can inspire systemic change and encourage greater participation of marginalized groups in higher education.

Ultimately, creating inclusive, equitable, and sensitive HEIs is not just an ethical imperative but also a strategic necessity for societal progress. By empowering students from disadvantaged backgrounds, HEIs can break cycles of poverty, enhance social mobility, and contribute to sustainable economic development.

Moving forward, the collaboration of policymakers, educators, and communities is essential to implement innovative solutions and realize the vision of truly inclusive education systems.

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Technology and Digital Learning Environment: Trend in Education

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Abstract :

The paper entitled “Technology and Digital Learning Environment- Trend in Education” is based on literature review. The aim of the paper is to examine the transformative impact of Educational Technology on teaching and learning focusing the recent innovation in learning media. A paradigm shift in learning media from traditional text-based platform to immersive digital learning environment is shown by the findings. This evolution engages the learners with complex concepts in a more intuitive and interactive manner. The integration of multimedia elements, such as videos, simulations and gamification surely enhance the learning experience by making it more engaging and effective. The analysis suggests that educational technology has the potential to enhance learning outcomes significantly and to facilitate deeper understanding. The adoption of immersive digital learning tools emerges as a key trend with offering numerous benefits, including enhance engagement, improve retention and increase efficiency. Moreover, the aforesaid tools give personalised learning experiences by catering to the diverse needs and abilities of learners. The aim of the study is to provide educator, policymakers and researchers with actionable insight into the effective integration of immersive digital learning tools. With

regard to the current state of research in this field, this study gives information regarding the development of innovative and effective educational strategies. Finally, the findings of this study have the capacity to transform the educational landscape, providing learners with immersive, interactive and engaging learning experience that enable them to get success in the 21st century.

Keywords: Educational Technology, Digital Learning Environment, Personalized Learning, Immersive Digital learning.

Introduction

Since the 20th century, there has been a biggest change in the lives of the people. One can see this change in every aspect of life. At the heart of this change is the influence of science and technology. Our way of education is changing rapidly with the development in the field of technology. At the core of this transformation is Educational Technology, which has brought new and innovative ways in the process of teaching and learning, making education more accessible, engaging, and effective. A major change has been observed in the way educational content is being delivered. Traditional classroom-based instruction is now being supplemented with online learning platforms, digital resources, and multimedia tools. Now, with these technologies, teachers are able to construct immersive, interactive learning experiences with regard to each different learning style and ability. Educational Technology also supports personalized learning, where learners can learn at their own level of pace, concentrate on tasks where they show weakness, or anything else that a student may request. This means better learning, increased student interaction, and raised teacher productivity levels. In today's fast-paced learning environment, the use of multimedia elements such as videos, simulations, and gamification can be a game-changer. With the use of these interactive tools, educators can create dynamic learning experiences that engage students, increase motivation, and increase retention rates. Multimedia elements can also help in personalizing learning, catering to diverse learning styles, and providing immediate feedback—thereby improving learning outcomes. The interactive nature of these classroom tools engages the student in activities that promote participatory learning: it encourages student involvement, enhances collaboration, and

fosters critical thinking. Take videos, for instance: if a concept seems complex, breaking it down to very small bites would make them easily understood by students. Whereas simulations may relate to real scenarios where the learner gets to conduct experiments, experience mistakes, and learn problem-solving. Gamification, on the other hand, makes learning a game—challenging to be on top. Educators can transform the learning experience to make it much more engaging, effective, and memorable by embracing multimedia elements. This will ultimately empower students to be successful in a world that grows more complex and interconnected by the day. The present paper stresses the transformative influence of Educational Technology upon teaching and learning. It makes an in-depth analysis of the standard procedure of current research in this field and outlines the benefits, challenges, and future of Educational Technology. The Integration of Artificial Intelligence, Virtual Reality, and Augmented Reality in Educational Technology will henceforth bring about a paradigm change in the education sector by creating opportunities without parallel for personalized learning, improved engagement of students, and better academic results. With the rapidly changing face of technology, there is a great need to explore the potential of these emerging technologies in changing the educational landscape and to pinpoint the main challenges and limitations that have to be addressed to ensure their effective implementation. This paper presents an overview of the current trends, challenges, and future directions of Educational Technology in order to provide a wide-based understanding of the role that technology plays in shaping the future of education. It will also look at how educational technology affects students' results, teacher professional development, and effectiveness in institutions with a view of showing ways through which technology can be used to improve both the quality and equity of education. It will also address the role of policymakers, educators, and technology developers in using Educational Technology to support the diverse needs of all learners, thus promoting digital literacy and online safety. Underpinning this research is an attempt to contribute to the enhancement of a more inclusive, effective, and sustainable education system—one that will prepare students for success in the 21st century and beyond. It's a huge potential in Educational

Technology driving innovation and improvement in education—it's really vital that we do continue to explore and harness that potential, deploying it in such a way as to build an improved future for all learners

Objectives

- To examine the transformative impact of Educational Technology on teaching and learning.
- To investigate the recent innovations in learning media and their potential to enhance the learning experiences.

Literature Review

Chanunan and Bruckner (2017) in his research explores the current trends and impact of emerging educational technologies in higher education institutions, specifically in Thailand. The qualitative research done through literature review and semi-structured interview with ten university lectures from different universities across Thailand.

Rajesh, Ilyaraja and Kalaiselvi (2018) said the importance of developing innovative e-learning methodologies, prioritizing approaches that cater to diverse learning needs. They also examined the latest technological advancements in e-learning, recognizing its potential to empower learners and redefine the educational landscape. As e-learning continues to evolve, it is poised to become a cornerstone of modern education, enabling individuals to take ownership of their learning experience and paving the way for a more personalized and effective approach to knowledge acquisition.

Palanivel (2020) in his research on 'Emerging Technologies to Smart Education' said that the integration of emerging technologies is transforming the education sector, enabling the design of smart education system. The objective of this research was to study the emerging technologies that are used to design smart system.

Sariyatun et al. (2021) in their research examined the influence of digital educational resources on the development of social skills among students learning social studies. A quantitative comparison was made to assess the efficacy of digital materials versus

traditional textbooks in fostering social skills. The study involved 80 junior high school students, split into two groups: an experimental group of 40 students who used digital resources, and a control group of 40 students who used conventional textbooks. The results showed a notable difference between the two groups. The findings indicate that digital learning materials are more effective in enhancing students' social skills compared to traditional printed textbooks, highlighting the potential benefits of incorporating digital resources into social studies education.

Major, Francis and Tsapali (2021) said in their study this meta-analysis examines the impact of students' use of technology that personalises and adapts to learning level in low- and middle-income countries. Following a systematic search for research between 2007 and 2020, 16 randomised controlled trials were identified in five countries. Studies involved 53,029 learners aged 6–15 years. Coding examined learning domain (mathematics and literacy); personalisation level and delivery; technology use; and intervention duration and intensity. Overall, technology-supported personalised learning was found to have a statistically significant—if moderate—positive effect size of 0.18 on learning ($p = 0.001$). Meta-regression reveals how more personalised approaches which adapt or adjust to learners' level led to significantly greater impact (an effect size of 0.35) than those only linking to learners' interests or providing personalised feedback, support, and/or assessment. Avenues for future research include investigating cost implications, optimum programme length, and teachers' role in making personalised learning with technology effective.

Zhang (2023) in his research highlights the significance of data analytics and learning analytics in education. The use of big data analytics tools helps educators to have various insights like student's performance area of improvement and implementing data driven strategies along with the ethical consideration in connection with the use educational technology being addressed to ensure responsible and inclusive implementation. The paper also speaks of emphasizing the need for educators, policymakers to navigate challenges relating to education.

Shrivastav and Sharma (2023) said that the purpose of this

research is to analyze the effectiveness of technology use in education contexts, particularly how it impacts pedagogical practices and learner achievement. This research was conducted with a sample of 100 teachers and students from a school located in India whose main objective was to analyze the benefits and challenges of technology utilization in the education sector. The findings suggest that technology enhances student achievement with attending teacher's students reporting higher engagement and academic performance.

Methodology

Investigation into the impact of Educational Technology on teaching and learning practices becomes a multidimensional and multi-faceted task. In sum, the approach remains grounded fundamentally in a qualitative literature review. The approach calls for recognition of the effect of Educational Technology on the education system, which is nothing short of revolutionizing. Therefore, this present research is done with the aim of developing an in-depth understanding of the role of Educational Technology in designing the future of education through a critical analysis of the existing body of research and literature. The methodology adopted in this research features a deep study of academic databases through the usage of a host of relevant keywords and search terms. The above-mentioned comprehensive search yields a sizeable volume of information with respect to the state of Educational Technology, its usage, and its capacity to bring improvement in the process and outcomes of learning. This is achieved through critical review of the literature and research works. The objectives of the project are to outline the benefits and the challenges of Educational Technology and its capacity to improve the learning process and its outcomes. In addition, it will contribute to the debate concerning the proper usage of technology within an educational setting and will provide insights that can guide the development of novel and effective educational technologies. In this regard, the research methodology has been designed in a way that provides an in-depth contextual understanding of the inter-linking relationships between Educational Technology, teaching, and learning, informing the best practices while highlighting areas where further research is

needed. All things said and told, the goal of this research is to give an understanding of what Educational Technology is and the effect it would have upon the learning and teaching systems and how technology is to be brought into play in order to serve the cause of education.

Result and Discussion

The results show how Educational Technology changes learning. Teachers can use this technology to make lessons more engaging and interactive suiting different ways students learn. Data and learning analytics give useful information about how students do where they need to help, and if teaching methods work. These findings matter to teachers those who make education rules, and researchers. They can use this info to create new good education technology. For instance, what the study found about making learning personal and using different media can shape how we design education programs for each student's needs. In the big picture, this study adds to what we know about how Educational Technology affects teaching and learning. It also shows we need to look more into how to best use technology in schools.

This technological redesign in the learning sector remains contingent on the proper equipping of the learning environment with tools that are engaging, technically interweaved, and diverse in the implementation of teaching methods. Making virtual reality and adaptive platforms available, doing multimedia activities and converting them to reality with the help of virtual reality equipment are the best option in this regard; these devices are more likely to satisfy the needs of the students as opposed to conventional classroom-based group learning and standardized sets. Thus, in the result, the use of customization converts to the privileging of individual's learning styles to unlikeness, with the students achieving their best thanks to different rates and choices of learners, as well as through a thorough understanding and remembrance-of-learned-material.

In addition, the use of computers tends to change the conditions of education by providing a means for teachers to check the data credibility from students. In connection with learning analytics, the teachers get a report on their students' performance instantly, therefore this feedback system allows them to see where

the student is struggling and come up with the right technique to teach them. This approach may prompt the contact of an individual and consequently the whole plan for learning together with students and teachers to be realized.

For example, teachers can opt for the alternative of either completely changing the method they were teaching a particular group of students or providing extra resources to meet the need.

The results or outcomes of these findings are not confined only to the classroom. Governments and policymakers can make use of this information to make decisions about funding, infrastructure, and other initiatives depending on what emerges from this study in terms of the integration of technology in the education system. On the other, they could also pursue these visions to develop tools and teaching techniques that are more efficient through better constructed software after these interventions.

The discussion shows how Educational Technology reshapes learning. Research indicates that teachers can use Educational Technology to build engaging and hands-on lessons that fit various learning approaches and skill levels. Using data and learning analytics can give useful knowledge about how students do where they need to get better, and if teaching methods work well. What the study found matters to teachers those who make rules, and researchers. They can use these findings to help create new and good educational technology tools. For instance, what the study found about making learning fit each person and using different types of media can help shape how we plan teaching programs and methods that suit each student's needs. In the end, this study adds to the growing research on how Educational Technology affects teaching and learning. It also points out that we need to study more about how to best mix technology into schools and classes.

Conclusion

This literature review shows how Educational Technology has changed teaching and learning when it comes to new ideas in learning media. What we've found suggests that using digital tools that pull you in, like multimedia, videos, simulations, and game-like elements, can make learning better. These tools make learning

more interesting, work better, and fit each person's needs. The study's findings and what we talked about point out that Educational Technology could lead to better learning results, help students understand things more, and meet the different needs and skills of learners.

The use of immersive digital learning tools is becoming a big deal, with lots of upsides. These include getting students more involved helping them remember stuff better, and making learning more productive. This research gives teachers, decision-makers, and scientists practical tips on how to bring these tools into the classroom helping to create new and effective ways to teach. It could give students learning experiences that pull them in, let them interact, and keep them interested setting them up to do well in today's world.

The research adds to the growing body of literature on technology impact in teaching and learning highlighting the potential of immersive digital learning tools to alter the landscape of education. We should pay attention with regard to the design of a learning environment in which students and teachers can evolve also on an ongoing and uninterrupted basis. We are enjoying the success of promising education units that are modular, compact, and hence, its students are poised for future success. The ability of this paradigm will allow us to provide our students with the capacity, the expertise, and the ability to actually flourish in the 21st century. By contrast however, we enable educators and policy makers to put the tools and capability in place to deliver high quality learning for every student, to their individual needs.

Technology has drastically transformed not only how we teach but also the learning itself, by pushing the focus more towards a hands-on, participatory learning experience. Teaching does not consist only in lecturing, instead teachers are today able to communicate with students in new, interesting ways that could be used to bring together fun and interest in the lessons. This is the case for student engagement and, consequently, quality of learning and enjoyment of such learning.

By applying these tools, the teachers' capacity to address the needs of each and every student on an individual basis can be enhanced. The implementation of activity-based learning, dynamic

feedback and collaborative learning promotes the student's acquisition of learning material and promotes their access to support. Student involvement and engagement have been shown to increase risk for success. It's not just about the premium tools, but also how to put everyone at any maximum of students, through this experience. Education must be equitable and therefore inclusive to all, to the detriment of whoever they are and to the extent of the resources they have. The challenge is now one of establishing educational and policy environments where all learners can ultimately realize their potential.

Although, technology itself is about more than just cool lessons, in the end it is about better, accessible, and more relevant education for all learners. Providing each student with an appropriate individual needs assessment and promoting fairness, we can help them fulfill their potential in various ways.

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Technology and Artificial Intelligence in Modern Education: Benefits and Challenges

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Abstract :

There is no doubt that modern education is more dynamic and advanced than before. Various tools of technology and artificial intelligence have played a special role in modernizing the conventional education sector. We are more or less familiar with the various tools of technology and artificial intelligence used in education. The aim of this study is to discuss the role of Technology and Artificial Intelligence in modern education. For this study, information has been collected from various articles and websites. In this study, we see that technology and artificial intelligence have a special role in modern education. With this technology and artificial intelligence improving students in various ways in their learning, teachers are also using these tools to master their teaching strategies and easily improve their subject knowledge. The education of exceptional children has also been improved through the use of various tools of technology and artificial intelligence. While we are enjoying many benefits of technology and artificial intelligence in the field of education, we also have to face some challenges in using them in the field of modern education. We hope that in the near future we will be able to overcome many of the challenges of using technology and artificial intelligence in modern education. But we have to keep in mind if we want to maintain this progress of education and to keep pace with education over

time and to maintain the standard of education with all the countries of the world, then we need to apply more and more tools of Technology and Artificial Intelligence in the field of modern education.

Keywords: Technology, Artificial Intelligence, Education, Students, Learning.

Introduction

Education is an important factor in any society. Education is connected to everything in society. The standard of development of a society is determined by the prevailing education system of that society. Technology and artificial intelligence have impacted almost all aspects of society, the education system is no exception in that regard. The education system is also deeply influenced by technology and artificial intelligence. Currently, along with the changing social system, the education system is also undergoing massive changes. We are all familiar with technology and artificial intelligence in this modern education system.

Technology and Artificial intelligence provide the chance to tackle specific educational challenges that are unique to each student by utilizing a vast amount of knowledge in some manner structured and appropriate for use in the educational process. AI and technology have enormous potential for usage in the classroom. Along with the opportunity to customize and individualize the educational process, it also provides a chance to gather and evaluate vast amounts of data, identify difficult problems for which humanity currently lacks solutions, anticipate future challenges, and identify scenarios to lessen.

Meaning of Technology

Technology is the application of scientific knowledge, skills, tools, techniques, and processes to create solutions that solve problems, improve efficiency, and enhance the quality of life. It involves the use of various tools, machines, systems, and devices to perform tasks or achieve specific goals in different fields, including communication, healthcare, transportation, education, entertainment, and more.

Technology is the use of scientific knowledge for practical purposes or applications, whether in industry or in our everyday

lives. So, basically, whenever we use our scientific knowledge to achieve some specific purpose, we're using technology.

Meaning of Artificial Intelligence

Artificial Intelligence (AI) refers to the simulation of human intelligence processes by machines, particularly computer systems. It involves creating algorithms and systems that enable computers to perform tasks that typically require human intelligence, such as reasoning, problem-solving, understanding language, learning from experience, and making decisions.

Artificial Intelligence (AI) is the branch of computer science focused on creating machines or software that can perform tasks that typically require human intelligence. These tasks include reasoning, learning from experience, problem-solving, understanding language, and making decisions. AI systems are designed to simulate aspects of human cognition such as pattern recognition, decision-making, and sensory perception, allowing them to perform activities such as analyzing data, recognizing speech, interpreting images, and understanding natural language.

According to Coppin, is the ability of machines to adapt to new situations, deal with emerging situations, solve problems, answer questions, device plans, and perform various other functions that require some level of intelligence typically evident in human beings.

Whitby defined artificial intelligence as the study of intelligence behaviour in human beings, animals, and machines and endeavouring to engineer such behaviour into an artefact, such as computers and computer-related technologies.

Artificial intelligence and Technology have been embraced and incorporated into departments inside educational institutions as well as other aspects of the educational sector. The use of AI and technology in education has had a significant influence, leading in, among other things, increased effectiveness and efficiency in education administration, global learning, personalized and tailored learning, and better content. New applications of artificial intelligence in education are emerging as it continues to evolve.

It is closely related to academic and administrative duties, and different algorithms were developed based on the goals. Through

it, many forms of evaluations, behavioural patterns, and numerous other components can be acquired and supported.

Teachers and tutors usually have a lot of responsibilities, such as creating course plans and summaries, addressing parents, grading, assessment, and evaluation, among many other non-teaching tasks. The teachers have to dedicate a considerable amount of time and focus to each activity. However, nowadays, AI tools help and support teachers with those tasks, allowing them up to focus on other duties that call for a human touch, such as paying more worthy students, supervising projects, or engaging in academic conversations with students.

Benefits of Technology and Artificial Intelligence in Modern Education

○ Personalized Learning

Adaptive Learning Platforms: In today's age of technology, artificial intelligence has enabled students to customize education content according to their needs, learning style and progress. Due to which they are able to assimilate the content of education very well. Artificial Intelligence has tools that can identify areas of student strength and weakness and present learning content accordingly from simple to complex. They help students learn at their own pace and in their own time.

Intelligent Tutoring System (ITS): Various tools of technology, especially artificial intelligence, help students in personalized learning as well as providing them with feedback and guidance as needed. As a result, students can direct their learning process in the right way. These tools enable teachers and students to have one-to-one interaction and because of which very difficult content can be presented in a very simple way and students can absorb it very easily.

○ Access to Global Learning Resources

Online Learning Platforms: As a result of advancements in technology and the advent of artificial intelligence, many online learning platforms have been developed today. Where students access different types of educational content and courses in video form or text form through internet connection. Through such a platform, students from different parts of the world can connect

with the education process of different countries of the world. The trend of learning using such platforms is increasing day by day among students. Some of these platforms are: edX, Coursera, Khan Academy etc.

Global Collaboration Tools: We are all aware that collaborative learning is a particularly effective process. Collaborative learning is valued in all processes from past education to current education. A few decades ago, collaborative learning was possible only with teachers and classmates close to us. But today, collaborative learning is possible with teachers and students of any country using various technology tools. Now we can share knowledge by communicating through various online platforms by video conferencing and editing short documents through various apps.

○ **Automation of Administrative Tasks:**

Grading and Assessment: Many times, we find in some education institute that the syllabus could not be completed there. The reason for this is lack of time for teachers to take classes. Apart from teaching, teachers have to do various administrative work related to education, such as assessment of students at the end of the exam, grading, etc. But currently, such tasks are automated using various tools of artificial intelligence. As a result of which the workload of the teachers after the exam has been greatly reduced and they are able to spend that time on the teaching process.

Student Enrolment and Scheduling: Apart from the teaching process in any educational institution, there are various other administrative tasks, like student enrolment related, class schedule related, resource allocation related etc. Employees were employed to execute such works. As a result, doing all these tasks would have spent more time and also the possibility of human error. But now by the artificial intelligent base system such tasks can be done accurately in less time.

○ **Enhancing Engagement and Interactive:**

Gamification: Sports is one subject that attracts students. All types of students, young and old, have a passion for sports as well as attention. Naturally, whatever he does through play, his students do it attentively and they don't get bored. Nowadays, the

advancement of technology has created opportunities for learning through play. Through which they can learn a subject with interest as well as their retention capacity increases. Currently there are many gaming learning platforms that offer rewards, points to motivate learners and challenge them in various ways, students learn by overcoming those challenges.

Virtual Reality: Today we are all familiar with these two terms simulation and 3D model due to the advancement of technology. They are a process through which a phenomenon is presented to the students in the form of a video, and when it presented, it feels like the event is happening real in front of students, which attracts the attention of students greatly. All these technologies are currently being used to increase students' interest in education, increase focus on learning and make difficult content easier for students to understand. Especially in subjects like Medical, Engineer, History, Art etc, where practical or real experiments are required. Learning through simulation and 3D models is very effective in education for all those subjects.

Interactive Whiteboards and Smart Class Rooms: Currently, various educational institutions are emphasizing on smart classrooms and interactive white boards. These allow teachers to present content in multimedia form. As a result, the content can be presented to the students very easily and they can also learn very easily.

○ **Support for Special Needs Education:**

Assistive Technologies: If we observe we will find students with special needs in most classrooms. Such students face various barriers to learning in the regular classroom. Some can't see, some can't hear again some can't walk etc. problems are seen in them. Nowadays, different types of separate educational institutions are also found to provide education to students with special needs. By using various tools of technology and artificial intelligence, it is possible to remove various barriers related to their education. Students who cannot move, they can participate in the classroom through video conferencing from home. Content can be taught through text-to-speech for students who are blind. For those students who cannot hear, the content can be presented through video. Language translation tools can also be used for different

needs, all these tools are the result of advances in technology and artificial intelligence.

Customisable Learning Tools: As students with special needs face different challenges in education, they have to face special challenges to receive education in the classroom like normal students. But if the content can be customized and presented to them using various tools of technology and artificial intelligence, then the barriers in their education can be removed to a great extent. By this they can understand and access the educational content very well.

○ **Teacher Support and Professional Development**

AI Assisted Lesson Planning: One of the factors that determine the quality of teaching in the classroom is the teacher's lesson planning. Before entering the classroom, teachers should plan how much, which method, will be used to teach in any subject, accordingly he can present the content. Currently, various tools of artificial intelligence have made it much easier for teachers to lessons plan. Now teachers are able to lessons plan in less time, using different tools of artificial intelligence and that is increasing the quality of teaching.

Continuous Professional Development: Professional development is very important for any teachers. Because the more professionally developed the teacher is, the more efficiently he can provide education to the students. Nowadays, with the advancement of technology and the advancement of AI, teachers are able to enhance their professional skills by attending various online courses, attending various seminars and through AI driving platforms.

○ **Improved Accessibility and Inclusion**

Online Learning: We are all familiar with the process of online learning. If we go back a few decades, there was no boom in online learning. Online learning is the product of advancement in technology and artificial intelligence. Online learning has made teachers more accessible to students. Through this, students can participate online in the learning process conducted at a remote place according to their needs and at their own time without being physically present. Especially during the covid 19 pandemic this

online learning was the hope of students all over the world. We hope that in the future the online education process will reach the peak of improvement with the combination of technology and artificial intelligence. Then there will be no obstacle for anyone to take education through online.

Language Translation Tools: The medium of instruction i.e. language is an important factor in education. After one level of education, we do not get opportunity to continue education through mother tongue, even if there is an opportunity, learning materials in one's own language are rarely available. In that case students have to face problems. Nowadays we can translate learning materials from other languages into mother tongue using various tools of artificial intelligence. As a result, students who are weak in other languages, they can easily master the content through a translator.

Challenges to implement of Technology and Artificial intelligence in Modern Education

○ Digital Divide

If you look at various educational institutions in India, you will see that some have all the facilities of technology and some do not. Naturally, students in educational institutions that do not have the opportunity to use technology will lag behind, all the students who get this opportunity are progressing a lot. As a result, there is a difference in the use of technology between the students of the two types of institutions, digital divide is being created among the students of two types of institutions. It can be said that it is the main obstacle in the management of technology-based education system. We must strive to bridge this divide and create opportunities for all educational institutions to use technology.

○ Teacher Training

The application of technology and artificial intelligence in education will not be effective unless those tools are properly used by teachers. There are many teachers who do not know the proper use of all these tools. As a result, they cannot use them properly in the classroom. The reason for this situation is their lack of proper training. Therefore, to overcome this problem, they need to receive training in the proper use of technology and artificial intelligence tools.

○ Data Privacy and Security

Data privacy and security is very important today. The application of technology and artificial intelligence in education has made the problem to protect data privacy and security. Today, technology has reached such an advanced level that anyone can access other people's data strategically. In this case, educational institutions have to take maximum measures to protect students' data.

○ Lack of Human Element in Learning

Relationships are important in any work in human life. A sweet relationship develops between teachers and students when they teach students face to face in the classroom, they attached with them emotionally, empathically. This relationship has a distinct effect on student learning. But this type of relationship is not seen in technology and artificial intelligence tools-based education systems.

Conclusion

It is clear from the study that technology and artificial intelligence have significantly influenced the modern education sector. Currently, technology and artificial intelligence tools have emerged by which the education sector i.e. students, teachers and all people involved in education are benefiting. The students get to participate in the learning process in their own way, they understand the content very well. Teachers are also able to update themselves in time and they improve their professional skills by using these tools, also, through the use of technology and artificial intelligence, various administrative activities are being completed very easily and in less time. Finally, it can be said that the widespread use of technology and artificial intelligence in the field of education has some problems, but in the near future we hope that this problem will be completely solved. We need to make more efforts for the widespread use of technology and artificial intelligence in all educational institutions.

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Exploring Emerging Trends in Educational Technology and Digital Learning Environments: Challenges and Opportunities

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Abstract : Technology in education and digital learning environment have brought new dimensions to the quality of education. The current study sheds light on the impact, opportunities and challenges of emerging technologies in educational sector. Technologies such as artificial intelligence (AI), virtual reality (VR), gamification, cloud-based learning platforms and learning analytics have made the learning experience of students more personalized, engaging and effective. The challenges associated with the use of technology include the digital divide, cybersecurity concerns, and the integration of technology with conventional teaching methods. In the future, there is a need for policy formulation and research for the development of technology in education and its inclusive use. This study sheds light on the current status and future prospects of technology in the education sector, which will be helpful in improving the quality of education and creating an inclusive, innovative learning environment.

Keywords: Educational Technology, Digital Learning, Trends in Education, E-Learning Tools, Technology Integration

Introduction

Since 20th century, there has been a huge change in the way people live. This transformation is observable at all stages of existence. The root of this change is the influence of science and technology. In contemporary society, individuals reside in comfortable dwellings, benefit from life-extending medications, have significantly advanced transportation methods, and strive to enhance their quality of life. It is essential to acknowledge that the qualitative advancements in these areas would not have been attainable without the contributions of science and technology.

The present era is the era of science and technology. There is no aspect of human civilization where the impact of science and technology has not been felt. Education is an important aspect of human life. This technology or technique is being utilized in numerous ways within the educational sector, and understandably so. Consequently, a transformative shift is evident in both teaching and learning practices. Moving away from conventional methods, education has now taken on a new identity through the integration of technology. However, what led to the development of this education-focused technology? This concept did not develop in a day. This concept has changed in different ways at different times and has taken its current form through various changes.

Educational technology began with simple visual and audio-visual aids like charts, models, and maps to enhance teaching and learning. Later, advancements in physics and electronics introduced tools like projectors, tape recorders, radios, and televisions, which became part of educational technology. With the rise of mass media, education expanded to reach many people at once through radios, TVs, and computers, blending formal and informal learning. Programmed learning then emphasized self-learning and personal teaching with tailored materials. Finally, new methods like behaviour analysis, microlearning, and system approaches emerged, creating a broader concept of educational technology.

Digital learning environment is an innovative and new type of learning. This learning environment is completely different from traditional classroom learning. In this learning, an attempt is made to deliver learning experience to the students using ICT and

for this, Internet Service, Web-technology etc. are used. This is a generic term that refers to computer-enriched learning. However, it is broader than computer-based learning or computer-assisted learning. This type of learning environment is supported and facilitated by Internet-based connectivity and Web-enriched instruction. Students have to use recorded CDs or DVDs to acquire information about the relevant content and learning experience. In short, the concept of digital learning environment can be expressed in this way that in the present era, digital learning is a type of learning for which advanced 'multimedia facilities' and the application of Internet and Web-technology can be observed for its support and convenience, and students acquire knowledge using computers, laptops and mobile ICT (mobile ICT).

Studying emerging trends in educational technology and digital learning is important because it shows how new tools and methods can improve teaching and learning. It helps educators and policymakers adapt to changes, address challenges like unequal access to technology, and create better learning experiences for students. Understanding these trends ensures that education remains relevant and effective in a rapidly evolving world.

The paper aims to identify the latest trends in educational technology and how they influence teaching and learning. It explores how digital learning environments are being used and examines their benefits and challenges. The paper also seeks to propose ways to use these trends effectively for creating personalized and inclusive education.

This paper focuses on technologies like artificial intelligence, virtual reality, gamification, and learning analytics. It discusses their use in classrooms, online education, and informal learning. Additionally, it highlights the opportunities these technologies offer while addressing challenges like the digital divide and data privacy concerns. The paper provides insights into how these advancements can shape the future of education.

Literature Review

Vedpathak, M., & Mithari, P. (2024) in their research analysed the Harnessing Information Technology in Learning: Exploring

Emerging Trends and Innovative Approaches. This paper examines the evolving use of information technology in education, focusing on current trends like multi-agent educational systems, virtual worlds, and web-based learning. This study aims to highlight their potential to transform teaching and learning. Through a creative exploration of these innovative, and approaches, this paper aims to inspire educators and policymakers to embrace new paradigms in teaching and advanced learning.

Dietrich, A. (2024) in this paper focus to present a comprehensive review of original works that delve into the latest developments in education. This study revealed that the implications of these trends on teaching, learning, and educational outcomes, these abstract aims to inform educators, policymakers, and researchers seeking to innovate and adapt in response to the evolving needs of learners in the 21st century.

Alam, A., & Mohanty, A. (2023) emphasize mobility, interactivity, AI, and tools like augmented reality as key to transforming education. They advocate for a unified framework prioritizing personalized learning through intelligent tutoring systems and technological experimentation to enhance teaching models and meet learners' evolving needs.

Valverde-Berrocoso et al. (2020) conducted a systematic literature review on e-learning, analyzing 248 articles from top Educational Technology journals. Key findings include three main research areas: online students, online teachers, and curriculum-interactive learning environments. MOOCs emerged as the most studied e-learning modality, with the Community of Inquiry and Technological Acceptance Model as prominent theoretical frameworks. Case studies were the most commonly used methodology. The review highlights main themes, sub-themes, and methodological trends in e-learning research.

Mehta and Yadav (2024) explore the role of social and digital media platforms in enhancing teaching and learning in Indian schools. Social media platforms like Facebook and Twitter foster virtual communities, collaboration, and real-time feedback, creating inclusive, student-centered learning. Digital platforms, such as educational apps and multimedia tools, improve access to quality education in remote areas and support personalized, self-

paced learning through adaptive technologies. The study highlights the benefits, challenges, and potential solutions for effectively leveraging these platforms in Indian education.

Swargiary, K., & Roy, K. (2024) in this paper analysed the familiarity with, perceptions of, and preferences for Virtual Reality (VR) technology among Indian students, as well as the challenges and opportunities associated with its integration into the education system. This paper data was collected from 25000 students from grades 6 to 12 across various regions of India through stratified random sampling technique. This study revealed that the potential of VR in transforming Indian education but highlights significant barriers, such as cost and accessibility, that need to be addressed.

Emerging Trends in Educational Technology

Educational technology has transformed the way students learn. It provides access to various tools and resources that make learning more engaging and effective. Innovations like gamification and virtual reality have changed how education is delivered, creating exciting new opportunities for both teachers and students. These trends discussed in detail.

Artificial Intelligence (AI) in Education

The entire world has entered the digital age. Technology is now deeply intertwined with human life, especially in the field of education. Globally, educational institutions are embracing technology wholeheartedly, and the application of advanced technology is creating wonders in this field. Chief among these rapidly changing technologies is artificial intelligence, and its implications are far-reaching. Artificial Intelligence is transforming education by making learning more personalized and efficient. Adaptive learning systems use AI to adjust the content and difficulty level based on each student's abilities and learning pace. This ensures that students receive lessons tailored to their needs. Virtual tutors powered by Artificial Intelligence provide real-time assistance and guidance, offering explanations and answering questions as students learn. These tools make education accessible to learners in remote areas and help bridge gaps in traditional teaching methods by providing constant support.

Virtual Reality (VR)

Virtual Reality has moved away from the world of technology and entered a new world. Virtual Reality is a science-based imagination that is not real in the real sense but evokes consciousness like reality. In virtual reality, an artificial three-dimensional environment is created through computer-controlled simulation or modelling, where a feeling like reality is obtained. Simulation is the act of artificially applying something on a computer before doing it in reality. In learning-teaching activities, complex issues can be presented to students in a simple and intuitive way by simulating and modelling through virtual reality. Analysis and presentation of research results, molecular structure of complex molecules, DNA reading, which cannot be imagined in reality under any circumstances, are becoming possible to see through simulation in virtual reality environment. Its use is widespread in a large scale of medical science in the medical field. Virtual reality is widely used in the training of young surgeons and diagnosis of diseases, including complex operations, artificial organ addition, DNA review, etc. In military training, virtual reality can be used to create a realistic battlefield environment, providing soldiers with advanced and thorough training. In real wartime dangerous situations soldiers get to know in advance what to do right.

Augmented Reality (AR)

Augmented Reality (AR) enhances learning by blending digital elements with the real world, creating an interactive and visually engaging experience. Unlike Virtual Reality, which immerses users in a completely virtual environment, AR overlays digital content, such as images, videos, or 3D models, onto the physical world using devices like smartphones, tablets, or AR glasses.

In education, AR allows students to visualize complex concepts more effectively. For example, students can use Augmented Reality apps to see 3D models of the solar system, human anatomy, or historical landmarks, making abstract ideas tangible and easier to understand. Teachers can use AR to bring textbooks to life, where students scan a page and see animations or interactive diagrams that explain the topic in detail. The use of AR in education not only increases engagement but also helps cater to different learning styles, making lessons more inclusive and effective. By providing

immersive and interactive experiences, AR encourages curiosity and deeper understanding of subjects.

Gamification

Gamification adds game-like features to education, such as points, badges, leaderboards, and challenges, to make learning enjoyable and engaging. These elements motivate students to participate actively and encourage them to achieve their goals. For instance, students can earn points for completing assignments or solving problems and unlock rewards or advance to higher levels as they progress. This approach fosters sustained interest, healthy competition, and a sense of achievement while reinforcing educational concepts in a fun and interactive way.

Gamified tools like 'Duolingo', 'Kahoot!', 'Prodigy Math Game', and 'Quizizz' make learning fun and interactive. They use points, rewards, and leaderboards to engage students, encouraging healthy competition and collaboration. These platforms help students stay motivated and retain knowledge effectively.

Learning Analytics

Learning analytics uses data to improve teaching and learning by analysing student performance and behaviour. It helps teachers identify strengths, weaknesses, and learning patterns, enabling them to personalize lessons and provide targeted support. For example, tools can track how much time students spend on specific topics, their quiz scores, and engagement in activities. This information allows educators to adjust teaching strategies and offer interventions where needed, ensuring a more effective learning experience.

Several tools and platforms incorporate learning analytics to enhance education. For instance, 'Google Classroom' monitors student participation, assignment submissions, and grades, while 'Edmodo' tracks learning activities and assesses student performance. Indian platforms like 'BYJU'S' and 'Vedantu' use analytics to provide detailed progress reports and insights, helping students and parents focus on improvement areas. Similarly, 'Toppr' employs AI to identify weak topics and suggest adaptive practice questions, making learning more personalized and efficient.

Cloud-Based Learning Platforms

Cloud-based platforms store educational materials online, making

them accessible anytime with an internet connection. Students can access e-books, videos, and assignments, while teachers can share and update content easily. Platforms like 'Microsoft Teams' enable collaboration through shared documents, discussion forums, and real-time feedback. These tools ensure scalability, reaching many learners regardless of location.

Digital Learning Environments

Digital learning environments are technology-driven spaces that facilitate learning through digital tools and platforms.

○ Characteristics

Accessibility: Learners can access resources anytime and anywhere.

Flexibility: Supports self-paced and personalized learning.

Interactivity: Engages students with multimedia content, quizzes, and discussions.

Analytics: Tracks progress and provides insights for improvement.

○ Types

Learning Management Systems (LMS): Platforms like Moodle or Google Classroom organize content, assignments, and communication.

Massive Open Online Courses (MOOCs): Platforms like Coursera or edX provide free or paid courses to a global audience and SWAYAM provide free or paid courses to an Indian student.

Hybrid Models: Combine traditional classroom teaching with online learning, offering flexibility and variety.

○ Role in Learning

Collaboration: Encourages teamwork through shared documents, forums, and group activities.

Engagement: Interactive features like videos, quizzes, and gamification make learning more interesting.

Inclusivity: Ensures access to education for diverse learners, including those in remote or underserved areas.

Digital learning environments are transforming education by creating adaptable, engaging, and inclusive spaces for learners worldwide.

Benefits and Opportunities**○ Improved access to education**

Digital technology ensures 24/7 access to learning materials for students. Through e-books, video lectures, online courses, and live classes, students can get quality education from home. Especially, it is possible to increase educational opportunities in rural or marginal areas. Every student gets an opportunity to learn. Artificial intelligence can also be an additional help for students with special needs. Since its algorithm can analyse the student's skills and advise them accordingly, it can help students with special needs to progress at their own pace.

○ Improved engagement and personalized learning

Interactive content, gamification, and real-time feedback on digital platforms make students more engaged. Students can learn at their own pace. This makes the learning process more interesting and personalized.

○ Skill Development for the Digital Economy

Through digital learning, students can learn the technical skills needed for the future workplace, such as programming, data analytics, design, and cloud computing.

○ Cost-effective education

Online education makes education affordable by reducing travel costs, the number of teachers, and the need for printed study materials.

○ Access to international quality education

Through digital learning platforms, students get the opportunity to learn from world-class courses and teachers. This exposes them to international opportunities.

○ Collaboration and Teamwork

Digital learning platforms have opportunities for teamwork and discussion, which enhances student communication and teamwork skills.

○ Easy updates and resource sharing

Teachers can easily update or share lectures, notes, and other resources. Students can also access these resources in real-time.

Challenges and Limitations**○ Digital Divide and Inequality of Access**

Many students cannot take advantage of digital learning due to poverty, lack of internet connectivity, and limited access to digital devices.

○ Cybersecurity and Data Privacy Issues

Keeping students' personal information safe during online learning is a major challenge. Cyber-attacks, data theft, and misuse pose serious problems for educational institutions.

○ Resistance to Adoption of New Technologies

Older teachers or inexperienced institutions are hesitant to adopt new technologies. Lack of training and mental retardation increase this resistance.

○ Impact of Excessive Screen Time

Online learning forces students to spend long hours on screens, which can have negative effects on their physical and mental health.

○ Technical Issues

Internet connectivity issues, server downtime, and software limitations disrupt the continuity of digital learning.

○ Lack of Relationality

The lack of face-to-face interaction in online learning can hinder students' social and emotional development.

○ Lack of quality control

It is often difficult to control the quality of online courses and the quality of content.

While digital education has opened up new horizons in the field of education with its facilities, it is necessary to emphasize technology, policy, and awareness to overcome its limitations.

Future Directions

The future prospects of emerging technologies and digital learning environments in educational sector are very promising. Technological advances in the coming days will create new teaching methods that will make learning easier and more engaging for students. For example, the development of artificial intelligence (AI) will create personalized learning opportunities in

the future where content can be created according to the learning style of each student.

Virtual reality (VR) and augmented reality (AR) can open up a new horizon for the future of education, where students will have the opportunity to learn through real-life experiences. Students will be able to learn at their own pace. For example, biological processes or space-related topics can be realistically presented through VR in science classes. In addition, Internet of Things (IoT) and blockchain technologies will make education management more effective and secure.

New opportunities will also arise in the future in terms of research. For example, more research is needed on the psychological impact of using technology in education, strategies to reduce the digital divide, and the balance of technology between rural and urban education. In addition, it is important to formulate policies for the use of technology in education and ensure the proper implementation of those policies. The future of education will create an environment where technology, creativity, and inclusive learning will combine.

Conclusion

The continuous development of technology and digital learning environments in education has brought about a new revolution in the education system, which has taken a new direction in the field of education. Innovative technologies such as artificial intelligence (AI), virtual reality (VR), gamification, and cloud-based learning platforms have made the learning experience of students easier, more engaging, and more personalized.

However, challenges still remain in the use of these technologies, such as the digital divide, cybersecurity risks, and resistance to adopting new technologies. To address these challenges, effective policies, awareness-raising, and ensuring equal opportunities for all are needed.

Therefore, the future of technology-enriched education depends on creating an inclusive, innovative, and equitable environment. With proper planning and research, this new path of education will help build a sustainable and better society.

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Global Citizenship Curriculum and Transformative Learning: A Reflective Note

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Abstract :

In this era of fastest growing technology, bombarded knowledge, cultural variation and rapidly evolving society both the concepts of Global Citizenship Curriculum and Transformative Learning play a pivotal role in moulding and developing skilled manpower which is the worldwide need of this hour. According to Andrzejewski & Alessio (2013), global citizenship curriculum actually refers to an educational framework or structure that vividly focuses on developing pupils' understanding of global issues, cultural diversity, as well as social responsibility overall while on the other hand transformative learning is being designated as an alteration process of profound, and permanent change in an individual's perspective towards life and society, worldview and behavior as described by Mezirow (2000).

Moreover, global citizenship curriculum and transformative learning are interconnected concepts that reinforce each other as global citizenship curriculum can facilitate transformative learning by challenging assumptions, fostering empathy and promoting perspective transformation as a whole. The integration of global citizenship curriculum and transformative learning is significant because it can prepare global citizens, promote lifelong learning and foster social responsibility. This

meta research-based article tries to explore the concepts, principles and major tenets of global citizenship curriculum and transformative learning as well and reflect on their interrelation and significance in a comprehensive manner in a nutshell.

Keywords : Global Citizenship Curriculum, Transformative Learning, Principles, Interrelation.

Introduction

In this era of fastest growing technology, bombarded knowledge, cultural variation and rapidly evolving society both the concepts of Global Citizenship Curriculum and Transformative Learning play a pivotal role in moulding and developing skilled manpower which is the worldwide need of this hour. If we try to derive the term global citizenship curriculum we will see this is nothing but the amalgamation of two words, such as global citizenship and curriculum.

○ **Global Citizenship**

According to Wikipedia, global citizenship refers to a form/notion/concept of transnationality which envisages the idea of such an identity of an individual that transcends the political, social, geographical, economic as well as environmental borders and barriers, holding the broader responsibilities, ideologies and rights for belonging to the bigger community called “humanity” which makes them world citizens. Civic responsibilities, cultural awareness, environment as well as global economy are being considered as the four sub parts or components of global citizenship.

○ **Curriculum**

The word curriculum has been derived from the Latin word “*currere*” which signifies a path way that leads towards a goal or destination or race course. Curriculum is nothing but the amalgamation or some total of the subjects, activities and experiences. It is one of the most important components of education (Biswas, 2017). Therefore, Global citizenship curriculum refers to such a curriculum that entails and adopt the principles to transform a citizen into a global citizen which is the need of this hour.

○ **Global Citizenship Curriculum**

According to Andrzejewski & Alessio (2013), global citizenship curriculum actually refers to an educational framework or structure

that vividly focuses on developing pupils' understanding of global issues, cultural diversity, as well as social responsibility overall, while on the other hand.

○ **Transformative Learning**

Transformative learning is being designated as an alteration process of profound, and permanent change in an individual's perspective towards life and society, worldview and behavior as described by Mezirow (2000).

Objectives

This article tries:

- to explore the concepts, principles and major tenets of global citizenship curriculum and transformative learning as well.
- to reflect on the interrelation of global citizenship curriculum and transformative learning.
- to specify the implications and significance of global citizenship curriculum and transformative learning in a comprehensive manner.

Methodology

This is basically a meta research-based article that has been prepared through review of related literature which intends to explore and depicts different shades, perspectives and aspects of global citizenship curriculum and transformative learning and reflect on their interrelation and significance in a comprehensive manner in a nutshell.

A Reflective Note on Global Citizenship Curriculum

○ **Concept**

According to Andrzejewski & Alessio (2013), global citizenship curriculum actually refers to an educational framework or structure that vividly focuses on developing pupils' understanding of global issues, cultural diversity, as well as social responsibility overall.

○ **Major Principles**

Global citizenship curriculum is being guided mostly by the following principles:

- **Global awareness:** According to Andrzejewski & Alessio (2013), global citizenship curriculum helps to

understand global issues, trends, and systems which is the need of this hour.

- **Cultural competence:** According to Banks (2004), global citizenship curriculum prompts appreciating and respecting cultural diversity for uniformity and holistic growth.
- **Social responsibility:** Recognizing and acting upon one's responsibility to the global community is one of the most important principles of global citizenship curriculum as propounded by Andrzejewski & Alessio (2013). Some other aspects such as **civic responsibilities, cultural awareness, environment as well as global economy** are being considered as the four sub parts or components of global citizenship. These four dimensions are being also considered and adopted invariably as the most significant principles for making a global citizenship curriculum.

A Reflective Note on Transformative Learning

○ **Concept**

Transformative learning is being designated precisely as an alteration process of profound, and permanent changes in an individual's perspective towards life and society, worldview and behavior as described by Mezirow (2000).

○ **Major Principles**

Transformative learning is being guided by the following principles mostly:

- **Critical reflection:** Transformative Learning helps in examining as well as challenging one's assumptions and biases to promote critical reflection (Mezirow, 2000).
- **Emotional engagement:** Transformative Learning enhances experiencing emotional connections with other people and the learning material which is required for overall development and wellbeing (Dirkx, 2008).
- **Perspective transformation:** Undergoing a fundamental shift in one's perspective or worldview is one of the vital components of transformation in reality (Mezirow, 2000).

Relationship between Global Citizenship Curriculum and Transformative Learning

Global citizenship curriculum and transformative learning are very much interconnected with each other. Interrelation of these two concepts actually reinforce each other to a great extent. Thus, it can be consolidated that a global citizenship curriculum facilitates and fosters as well transformative learning by the following perspectives or dimensions such as:

- **Fostering empathy:** it helps the students from diverse backgrounds and thought to develop intense emotional connections with each other for fostering empathy and peace.
- **Promoting transformation of the perspectives:** it encourages the students to adopt and accept all the new aspects and worldviews which promotes growth and sustainability.
- **Challenging assumptions:** it encourages the students for being inquisitive to formulate and ask questions based on their assumptions about global issues and cultural diversity.

Significance of the Integration of Global Citizenship Curriculum and Transformative Learning

The significance of the integration of global citizenship curriculum and transformative learning is quite evident as it can help in:

- **Preparation of global citizens:** The integration of global citizenship curriculum and transformative learning helps the students to be well equipped with the necessary knowledge, skills, aptitude and attitudes to thrive well in this interconnected world.
- **Fostering global social responsibility:** The integration of global citizenship curriculum and transformative learning encourages the students for promoting social justice globally by taking action on global issues.
- **Promoting the process of lifelong learning:** Students are encouraged to continue learning and growing throughout their lives.

A Global Citizen – Attributes

An individual who is – having sound knowledge about the world

and holding responsibilities towards global benevolence. Participate almost in every stratum of the global community. Sharing mutual respect towards all sorts of diversities such as the political, social, geographical, economic as well as environmental diversities etc. Proactive towards seeking solutions towards any issues affecting humanity. Flexible as well as creative in nature. Promotes and demonstrate the desired skills like problem solving, critical as well as reflective thinking, decision making and judgement. Develops upgraded pedagogy. Participate in international community.

**Global Citizenship Curriculum and Views of NEP (2020)
– Motto in Higher Education**

NEP (2020), sets a broad pitch or bases of Global Citizenship Education through formulating a curriculum that fosters lifelong learning amongst the learner by making them aware of the world issues to become a promoter of more tolerant, secure, inclusive, sustainable, peaceful society which is the prime motto of GCE through transformative learning. It is associated with Sustainable Development Goal 4 (SDG 4) on education of the 2030 Agenda as adopted by the members of states of United Nations. This entails ensuring all the learners acquiring knowledge, values, attitudes as well as skills for promoting sustainable development through disseminating education for Global Citizenship as a whole.

Conclusion

Therefore, it can be said that Global Citizenship Education (GCE) through global citizenship curriculum refers to an approach to education that fosters global awareness, critical thinking, and action to address global challenges (UNESCO, 2018).in association with transformative learning global citizenship education aims to empower all the learners to become active global citizens who promote overall social justice, sustainability, and human rights which is mostly required to have a peaceful world life ahead.

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Empowering Educators through Micro-Credentialing: Transforming Professional Development Approaches

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Abstract :

The landscape of professional development for educators is evolving, with micro-credentialing emerging as a transformative approach to enhance teaching practices and lifelong learning. This descriptive type research explores the potential of micro-credentials to empower teachers or educators by providing flexible, personalized, and competency-based professional development pathways. Unlike traditional professional development models, micro-credentialing enables educators to acquire and demonstrate specific skills and competencies through targeted, evidence-based learning experiences. This study focuses the impact of micro-credentialing on teacher motivation, instructional efficacy, and professional growth, alongside its ability to address the diverse needs of educators in varying educational contexts. Some challenges and strategies for implementing this approach especially in Indian context have been discussed in this paper. Furthermore, this study highlights alignment of micro credentialing approach with vision of NEP 2020 for teacher development. The findings reveal that micro-credentials foster a culture of continuous improvement, enhance the agency of educators in their professional journeys, and create opportunities for recognition

and career advancement. This paper concludes by presenting actionable insights for integrating micro-credentialing into existing professional development frameworks, offering a transformative model that benefits educators, institutions, and ultimately, learners.

Keywords: Micro-credentialing, Professional Development, Transformative approach, Empowering educators

Introduction

In today's rapidly evolving educational landscape, the role of educators is more dynamic and demanding than ever before. Educators are the most important in-school factor for student success. For ensuring their effective services towards students' success, they must receive high-quality pre-service training and ongoing meaningful professional development once they are in service. With technological advancements, changing student needs, and a global emphasis on innovative teaching strategies, professional development for educators must transcend traditional models. Micro-credentialing has emerged as a groundbreaking approach to address these challenges, offering personalized, flexible, and competency-based learning opportunities."Micro-credentials offer a new way to validate the learning that educators accomplish throughout their careers." – Karen Cator (President and CEO, Digital Promise on "Micro-credentials: Driving teacher learning and leadership"). Micro-credentials empower educators to focus on specific skills, knowledge areas, or instructional strategies that align with their professional goals and classroom needs. "Micro-credentials empower teachers to take ownership of their professional growth by focusing on what they want and need to learn." – Thomas Arnett (senior research fellow, Clayton Christensen Institute on "Developing a Student-Centered Workforce through Micro-Credentials"). Unlike traditional professional development programs, which often prioritize standardized training, micro-credentialing recognizes the diverse experiences and aspirations of teachers. "The value of micro-credentials lies in their ability to break down complex skills into manageable, measurable units that are meaningful for individual educators." – Learning Forward. By validating skills in targeted areas, educators not only gain recognition but also enhance their ability to create impactful learning environments.

Objectives

- To explore the concept of micro-credentialing approach of professional development.
- To focus on the differences between micro-credentialing and traditional approaches of professional development.
- To describe the impact of micro-credentialing on teacher motivation, instructional efficacy and professional growth.
- To understand the challenges and implementation strategies of micro-credentials for educators' professional development especially in Indian context.
- To highlight alignment of micro credentialing approach with vision of NEP 2020 for teacher development.

Discussion

Objective 1: *To explore the concept of micro-credentialing approach of professional development.*

○ What is Micro –credentialing approach?

Micro-credentials are short courses as opposed to macro-courses that we often find in universities and colleges. A common definition of the term is difficult to find. Some of definitions of Micro-credentials are as follows:

Digital Promise (2017) (one of the first organizations to build a system of micro-credentials for educators): "Micro-credentials are digital certifications that verify an individual's competence in a specific skill or set of skills."

DeMonte (2017): "Micro-credentials are performance-based, personalized certifications that allow educators to develop and demonstrate their skills in real-world settings."

Timothy M. McCormick (2019): "...And rather than earning continuing education units or graduate credits, educators are earning "micro-credentials" in the form of digital badges, which capture both the skill the educator demonstrated and the evidence they used to prove their mastery of that skill."

European Commission Consultation Group (2020): "A proof of the learning outcomes that a learner has acquired following a short learning experience. These learning outcomes have been assessed against transparent standards"

UNESCO (2022): “Is a record of focused learning achievement verifying what the learner knows, understands or can do, includes assessment based on clearly defined standards and is awarded by a trusted provider, has standalone value and may also contribute to or complement other micro-credentials or macro-credentials, including through recognition of prior learning, meets the standards required by relevant quality assurance.”

○ **How micro – credentialing works?**

Micro-credentialing offers educators to learn that skill however they choose, collect the specific evidence and to be assessed by individuals chosen or trained by the issuing organization. The educators demonstrate competence in the skill through evidence; the micro-credential is then awarded in the form of a digital badge. So it can be interpreted that this approach involves following steps:

- **Skill Identification:** Specific competencies or skills are identified, often in collaboration with educators and institutions.
- **Learning Pathway:** Participants engage in focused learning experiences, which may include online courses, workshops, or independent projects.
- **Evidence Submission:** Learners submit evidence (e.g., lesson plans, student work, classroom videos) to demonstrate their competency.
- **Assessment:** Experts evaluate the submitted evidence against predefined criteria.
- **Credential Awarding:** Upon successful assessment, the participant receives a micro-credential in the form of a digital badge or certificate.

Micro-credentialing is a competency-based approach to professional development where individuals earn digital badges or certificates by demonstrating mastery of specific skills or knowledge areas. It offers a flexible, personalized, and targeted way to acquire and validate skills, making it ideal for educators and other professionals who seek continuous learning without committing to traditional, time-intensive programs.

○ **Example scenario**

Suppose a Teacher Enhancing Technology Integration Skills, and then the micro-credentialing approach would be like this:

- **Competency:** Using Google Classroom to improve student engagement.
- **Learning Pathway:** The teacher completes a short, online course on Google Classroom tools, participates in webinars, and explores best practices for online learning.
- **Evidence Submission:** The teacher creates a Google Classroom lesson plan, implements it in their classroom, and provides evidence such as screenshots, student feedback, and reflections on the outcomes.
- **Assessment:** An expert evaluator reviews the submitted evidence against clear rubrics to ensure the teacher has effectively applied the tool to enhance learning.
- **Outcome:** The teacher earns a micro-credential, such as “Google Classroom Integrator,” which can be displayed on professional profiles or resumes.

Objective 2: To focus on the differences between micro-credentialing and traditional approaches of professional development

A digital badge/ micro-credential approach to professional development inherently allows teachers to choose their own individualized path towards growth as opposed to a “one-size-fits-all” model (Berry et al., 2016; DeNisco, 2016; Grant S., 2014). Traditional professional development consists of in-service and workshop models that are often one-time trainings on isolated topics (Berry et al., 2016; Epp, 2017; Hervey, 2013). Here is an explanation of the aspects of differences between traditional professional development approach and micro-credentialing approach:

○ **Learning Format**

Traditional Professional Development typically involves workshops, seminars, or conferences that are conducted in person or online. These sessions are often one-size-fits-all and cater to a broad audience, regardless of individual needs or contexts. Example: A district-wide, one-day workshop on classroom management for all teachers.

Micro-Credentialing focuses on specific skills or competencies. It offers flexible, modular learning opportunities that can be

tailored to the educator's goals and classroom needs. Example: An online course specifically about managing student behavior during group projects, with evidence-based assessments.

○ **Focus and Scope**

Traditional Professional Development approaches are broad in scope, often aiming to provide generalized knowledge or strategies. Sessions may lack depth due to the need to address diverse participant backgrounds. Example: A professional development session on "Improving Literacy in K-12 Education."

Micro-Credentialing narrowly focused on developing specific, actionable skills or competencies, often tied directly to an educator's role or goals. Example: A micro-credential in "Teaching Phonics to Early Readers" for elementary educators.

○ **Personalization**

Traditional Professional Development limits personalization. Topics and content are often chosen by administrators, leaving little room for individual educators to address their unique professional goals or classroom challenges.

Micro-Credentialing is highly personalized. Educators select micro-credentials based on their interests, needs, and career aspirations, making it a learner-driven process.

○ **Assessment**

Traditional Professional Development often includes informal assessment or often it is absent. Educators may not need to demonstrate how they've applied the skills learned, and success is measured by attendance or participation rather than mastery. Example: Signing an attendance sheet at the end of a workshop.

Micro-Credentialing Includes evidence-based assessment. Educators must provide proof of applying their skills in real-world scenarios (e.g., lesson plans, videos of teaching, student outcomes). This ensures mastery and practical application. Example: Submitting a video of a classroom activity and reflecting on its impact.

○ **Time and Flexibility**

Traditional Professional Development approach is time-bound and rigid. Educators must attend sessions at scheduled times, which

may conflict with their teaching responsibilities. Example: A mandatory, all-day training session during a school break.

Micro-Credentialing approach is self-paced and flexible. Educators can complete learning activities and assessments at their own pace, fitting them into their schedules. Example: Completing an online course in short modules over several weeks.

○ **Recognition**

Traditional Professional Development involves participation that is often recognized with a certificate of attendance, which does not verify skill acquisition or application.

Micro-Credentialing provides digital badges or certificates that validate specific competencies. These credentials can be shared on professional platforms (e.g., LinkedIn) and added to resumes, offering evidence of tangible skills.

○ **Impact on Practice**

Traditional Professional Development impact is often indirect or difficult to measure. Educators may struggle to apply broad concepts to their unique contexts without follow-up support.

Micro-Credentialing directly tied to practice. Educators apply new skills in real-time and receive actionable feedback, making it easier to integrate changes into their teaching.

○ **Cost and Scalability**

Traditional Professional Development can be expensive and resource-intensive, requiring travel, venue arrangements, and expert facilitators. Scaling these programs is challenging.

Micro-Credentialing is often more cost-effective and scalable. Online platforms and modular content make it easier to reach educators worldwide.

Objective 3: To understand the impact of micro-credentialing on teacher motivation, instructional efficacy and professional development

○ **Impact on Teacher Motivation**

Digital badges serve as motivators, learning tools, and credentials of learning (Ahn et al., 2014; Berge & Muilenburg, 2016; Gamrat et al., 2016). Participants identified that being able to select the professional development areas of focus for them individually was

motivating (T.M. McCormick, 2019). Professional development programs researched in this study inherently allowed teachers to choose learning opportunities they wanted. Participants recognized the badges/micro-credentials themselves as being rewards as well as other extrinsic motivators connected to earned badges such as money and prizes. Overall impact of this approach on teacher motivation:

- **Recognition of Skills:** Micro-credentials provide tangible recognition for specific skills and achievements, enhancing motivation by validating educators' efforts and expertise.
 - **Personalized Learning Paths:** Teachers can select micro-credentials based on their interests, needs, and career goals, which fosters intrinsic motivation by giving them ownership of their professional growth.
 - **Immediate Applicability:** The ability to learn skills that can be applied immediately in their instructional practices keeps educators motivated and engaged.
 - **Incremental Progress:** Breaking professional development into manageable, focused units makes the process less overwhelming and more encouraging, leading to sustained motivation.
- **Impact on Instructional Efficacy of Educators**

Micro-credentialing as both an alternative pathway to educator re-licensure and as a means to enhancing educators' sense of efficacy...Micro-credentialing could be an efficacy-building experience (P.W. Erickson, 2019). Micro-credentialing impacts instructional efficacy of teachers or educators in following ways:

- **Competency-Based Approach:** By focusing on specific competencies, micro-credentials help educators to master particular teaching strategies or tools, enhancing their instructional effectiveness.
- **Practical Emphasis:** Most micro-credential programs incorporate hands-on learning and real-world applications, enabling educators to experiment with and refine instructional methods directly in their classrooms.

- **Feedback and Reflection:** Many programs include mechanisms for feedback and self-reflection, which are crucial for improving instructional practices.

- **Impact on Professional Development**

Micro-credentialing using digital badges provides a method of personalization that can be used in a multitude of professional development methodologies including face to face, online, and professional learning communities (Berry et al., 2016). In addition, micro-credentialing offers an individualistic approach to ongoing teacher professional development as well (Berry et al., 2016; Ferdig & Pytash, 2014). The digital badging/micro-credentialing program encouraged teachers to participate more in professional development, set goals for future learning, and pursue developed goals. Traditional professional development consists of in-service and workshop models that are often one-time trainings on isolated topics (Berry et al., 2016; Epp, 2017; Hervey, 2013). Teachers reported that this style of professional development is ineffective even though it continues to be the prevailing method of professional development delivery (Berry et al., 2016; Epp, 2017). Teachers desired a more personalized professional development experience but report dissatisfaction with the attempts by school districts (Bill and Melinda Gates Foundation, 2014; Epp, 2017). Professional development that employs a digital badging system can support a more personalized approach to teachers' professional development needs (Berry et al., 2016; Gamrat et al., 2014). Thus following can be considered as impact of micro-credentialing on professional development of teachers:

- **Continuous Learning:** Micro-credentialing encourages lifelong learning by offering ongoing opportunities to develop and refine skills in response to evolving educational demands.
- **Career Advancement:** Accumulating micro-credentials can create pathways to leadership roles or specialized positions, aligning with career progression goals.
- **Networking Opportunities:** Many platforms foster communities of practice, connecting educators with peers for collaboration and shared growth.

Objective 4: To focus on the challenges and implementation strategies of micro-credentials for educators' professional development especially in Indian context.

○ **Challenges of Micro-credentialing in Indian context**

Micro-credentialing, which involves awarding digital badges or certificates for specific skills or competencies, is emerging as a method for teacher professional development in India. However, several challenges hinder its effective implementation. After reviewing some articles, it has been considered as follows:

- **Lack of Clear Definitions and Accreditation:** The absence of standardized definitions and accreditation processes for micro-credentials leads to ambiguity regarding their value and recognition among educators and institutions.
- **Quality Assurance Concerns:** Ensuring the quality and credibility of micro-credential courses is challenging due to the diverse range of providers and the lack of established quality assurance mechanisms.
- **Resistance to Change:** Educators and institutions may resist adopting micro-credentials due to a preference for traditional professional development methods and skepticism about the effectiveness of new approaches.
- **Integration with Existing Curriculum:** Incorporating micro-credentials into existing professional development frameworks can be difficult, as it requires alignment with current curricula and teaching practices.
- **Time and Financial Constraints:** Teachers often face time limitations due to heavy workloads, making it challenging to engage in additional training. Financial barriers also exist, as high-quality professional development programs may be costly, particularly for educators in underprivileged areas.
- **Lack of Personalized Content:** A one-size-fits-all approach to professional development may not effectively address the diverse challenges in India's educational landscape, necessitating localized and specific content.

Addressing these challenges requires collaborative efforts from educational institutions, policymakers, and educators to establish clear standards, ensure quality, and create supportive environments for the adoption of micro-credentials in teacher professional development.

○ **Implementation Strategies in Indian context**

- **Collaboration with Stakeholders:** Partner with government bodies, NGOs, and ed-tech companies to develop and deliver micro-credential programs.
- **Pilot Programs:** Begin with small-scale initiatives in select districts to evaluate effectiveness before scaling.
- **Integration with Existing Policies:** Align micro-credentialing efforts with the NEP 2020 and state education initiatives.
- **Monitoring and Feedback:** Use data-driven approaches to track the impact of programs and make necessary adjustments.

Objective 5: To highlight alignment of micro credentialing approach with vision of NEP 2020 for teacher development.

The National Education Policy (NEP) 2020 envisions a transformative approach to teacher education and professional development, emphasizing continuous learning, skill enhancement, and adaptability to evolving educational needs. Micro-credentialing aligns seamlessly with this vision by offering a flexible, modular, and competency-based approach to teacher development. Below is a detailed write-up on how micro-credentialing aligns with the NEP 2020 vision for teacher development:

○ **Continuous Professional Development (CPD)**

NEP 2020 emphasizes the need for teachers to engage in lifelong learning and continuous professional development (CPD) to stay updated with pedagogical advancements, technological tools, and subject-specific knowledge. Micro-credentialing supports this by offering short, focused courses that allow teachers to acquire specific skills or knowledge without committing to long-term programs. These bite-sized learning opportunities enable

educators to upskill incrementally, aligning with the NEP's vision of fostering a culture of continuous improvement.

○ **Modular and Flexible Learning Pathways**

The NEP 2020 advocates for flexible and modular approaches to teacher education, allowing educators to tailor their learning experiences to their specific needs and contexts. Micro-credentials are inherently modular, enabling teachers to choose courses that address their unique professional gaps or interests. For instance, an educator could earn micro-credentials in areas like inclusive education, digital literacy, or formative assessment techniques, creating a personalized learning pathway that aligns with their career goals and classroom requirements.

○ **Competency-Based Learning**

NEP 2020 highlights the importance of competency-based education, focusing on the mastery of skills rather than mere completion of courses. Micro-credentials are designed to assess and certify specific competencies, ensuring that educators demonstrate practical skills and knowledge applicable to their teaching practice. This competency-based approach aligns with the NEP's goal of ensuring that teacher development programs are outcome-oriented and directly relevant to classroom needs.

○ **Integration of Technology**

The NEP 2020 underscores the role of technology in transforming education and teacher training. Micro-credentialing often leverages online platforms, making it accessible to educators across diverse geographical locations. This digital approach aligns with the NEP's vision of using technology to democratize access to high-quality professional development opportunities, especially for teachers in remote or underserved areas.

○ **Multidisciplinary and Holistic Learning**

NEP 2020 promotes multidisciplinary and holistic education, encouraging educators to develop a broad range of skills beyond their core subject expertise. Micro-credentials can be designed to cover diverse areas such as socio-emotional learning, critical thinking, environmental education, and arts integration. By earning micro-credentials in these areas, teachers or educators can adopt a more holistic approach to education, as envisioned by the NEP.

○ Recognition and Career Advancement

The NEP 2020 emphasizes the need for a robust system of recognizing and rewarding teacher achievements. Micro-credentials provide a formal mechanism for recognizing teachers' efforts to upskill and innovate. These credentials can be accumulated and showcased as part of a teacher's professional portfolio, potentially contributing to career advancement and performance evaluations. This aligns with the NEP's goal of creating a merit-based system that incentivizes professional growth.

○ Addressing Diverse Needs

NEP 2020 recognizes the diverse needs of India's education system, including the varying levels of teacher preparedness across regions. Micro-credentialing allows for targeted interventions, enabling teachers to address specific challenges they face in their classrooms. For example, an educator in a rural school might pursue micro-credentials in multilingual education or low-resource teaching strategies, while an urban educator might focus on advanced technology integration or project-based learning.

○ Collaboration with Higher Education Institutions

The NEP 2020 envisions stronger collaboration between schools and higher education institutions (HEIs) for teacher training. Micro-credentialing programs can be developed and offered by HEIs, ensuring that educators have access to high-quality, research-backed professional development opportunities. This collaboration can also facilitate the integration of micro-credentials into formal teacher education programs, creating a seamless continuum of learning.

Micro-credentialing is a powerful tool that aligns closely with the NEP 2020 vision for teacher development. By offering flexible, competency-based, and technology-driven learning opportunities, micro-credentials empower teachers to engage in continuous professional development, address diverse classroom needs, and adopt innovative pedagogical practices. As India moves towards implementing the NEP, micro-credentialing can play a pivotal role in building a skilled, motivated, and future-ready teaching workforce capable of transforming the education landscape.

Conclusion

The integration of micro-credentialing into existing professional development frameworks represents a transformative opportunity to align educator growth, institutional agility, and learner success in an evolving educational landscape. By prioritizing flexibility, personalization, and competency-based recognition, micro-credentials empower educators to pursue targeted skill development while fostering a culture of lifelong learning. Institutions, in turn, gain a dynamic tool to address emerging pedagogical trends, bridge skill gaps, and enhance their reputation as innovators in professional development. Learners ultimately benefit from educators equipped with cutting-edge expertise, ensuring richer, more responsive classroom experiences. For micro-credentialing to drive systemic change, stakeholders must collaborate to establish shared standards, promote recognition across institutions, and integrate credentials into broader certification frameworks. This shift from traditional, time-bound professional development to a modular, outcomes-driven model not only modernizes educator growth but also positions institutions as adaptive leaders in a competitive environment. Ultimately, the transformative potential of micro-credentialing lies in its ability to create a virtuous cycle: educators gain agency over their development, institutions cultivate a motivated and skilled workforce, and learners thrive under the guidance of empowered professionals. As the educational ecosystem continues to evolve, embracing micro-credentials is not merely an innovation—it is a strategic imperative to future-proof teaching, learning, and institutional excellence. By championing this model, we invest in a more equitable, responsive, and sustainable future for education.

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Featuring Multidisciplinary Approaches: Role And Its Impact to the Educational Landscape in 21st Century

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Abstract :

Education is the most dynamic and integrated part of the society, as it has a great influence in all spheres of life. In the current century, the demand of society seeks to have multidisciplinary approaches to fulfill the demands of individuals for their critical self reflection, perspective transformation and emancipation. Therefore, society leads to education and education leads to multidisciplinary approaches and in transformative learning which intensively emphasize on the deep, profound and lasting change in the individual, by involving a fundamental shift in the process of thinking, feeling and actions of the person. The purpose of this paper is to analyze the role of multidisciplinary approaches in education, to get an overview how it impact the learners of 21st century and the relationship between multidisciplinary approaches in transformative learning. The researcher have used secondary data from the available resources to meet the research objectives, moreover the researcher tend to have use of qualitative and empirical evidences which are available. The significant

findings of this research express that how multidisciplinary approaches playing a crucial role in the field of education and its interconnection with transformative learning.

Keywords: Integrated education, multidisciplinary approaches, transformative learning, societal changes.

Introduction

The world strives for efficiency and effectiveness because it leads to innovation, progress, and a sense of accomplishment. Achieving more with limited resources creates a feeling of fulfilment and drives economic growth, improving living standards and competitiveness. Making meaningful contributions and earning recognition foster a sense of purpose and personal satisfaction. Overall, being accomplished and successful is a universally desirable trait, driving individuals and societies to optimize their efforts and make the most of their time and resources. We're exploring new things in the 21st century, especially for learners, due to rapid technological advancements, changing workforce demands, and the shift to lifelong learning. The modern world requires learners to be adaptable, innovative, and equipped with skills like critical thinking, creativity, and problem-solving. Digital literacy and online collaboration are also crucial. To stay relevant, learners must continuously update their skills, making exploration and innovation essential for success in this fast-paced, interconnected world.

The concept of multidisciplinary approaches emerged in the 1950s-60s, influenced by interdisciplinary movements in academia, and gained momentum in the 1990s with advancements in technology and globalization. Multidisciplinary approaches facilitate comprehensive solutions to complex problems by integrating diverse fields of study. This convergence fosters holistic understanding, innovation, and adaptability, ultimately equipping learners with a versatile skillset to address the intricacies of the 21st century.

Objectives

- To analyse the role of multidisciplinary approaches in education.
- To explore how multidisciplinary approaches works in the progress of 21st century learners.

- To know the impact of multidisciplinary approaches on the society.
- To examine the impact of multidisciplinary approach in the outcome of the individuals.

Methodology

To meet the research objectives the researchers have used the secondary data from available resources like government documents, articles, relevant research papers which are already published. It is an empirical study which mainly focuses on qualitative information which will help to answer the research gap. This method also considered the use of related literature.

Multidisciplinary Approach

The word 'Multidisciplinary' consist of two words. First word is 'multi' which means many, more than one. Second word is 'disciplinary' which means 'relating to a particular field of study'. 'Multidisciplinary' refers to a combination of various disciplines as independent and separate components of learning, which allow students to work with in discipline specific parameters and attend discipline specific goals. In multidisciplinary approach, each discipline retains no integration between these disciplines is expected in a multi-disciplinary approach.

Multidisciplinary approach is like a bowl of mix fruit each fruit representing a single discipline. Multidisciplinary education refers to the juxtaposition of school subjects, yet with a retainment of disciplinary identities. In multidisciplinary studies, a topic or theme is addressed through the lenses of different subjects. For example, students can match their skills from science and art to create scientific illustrations or implement engineering and environmental science skills for sustainable design projects.

The multidisciplinary approach is part of an integrated curriculum. Beane, (1997) defines an integrated curriculum as an approach that aims to integrate learning across disciplines/ subjects that are usually still segmented in order to provide a bridge across other disciplines and help students in increasing their knowledge and understanding. In a multidisciplinary approach, each discipline is still privileged, but links between several disciplines are deliberately made. At different levels, students study

the same theme in different classes according to subject. This means that learning activities are carried out by discussing topics or problems in various disciplinary contexts.

Multidisciplinary approach and its relation with Education

Education has long been considered a crucial factor in achieving success in life. However, as we continue to evolve and expand our understanding of learning, it is imperative that our methods of education evolve as well. One such approach that has gained traction in recent years is the multidisciplinary and holistic model. This model not only breaks down traditional disciplinary boundaries but also promotes a flexible learning environment for students. It allows them to explore a variety of subjects and fields, from sciences and mathematics to humanities, languages, and social sciences, all while developing integrated competencies, including intellectual, aesthetic, social, physical, emotional, and moral. Gone are the days when students may question whether they can pursue mathematics and psychology simultaneously. With a multidisciplinary and holistic curriculum, this decision is solely based on their interests and potential career goals. This approach not only encourages a well-rounded understanding of the world but also fosters critical and creative thinking through the examination of a topic from multiple perspectives. As education continues to evolve, the implementation of a multidisciplinary and holistic approach is crucial for providing a well-rounded and adaptable education to our students.

○ Teaching and learning

Multidisciplinary approach in teaching and learning integrates diverse subjects and disciplines, fostering holistic understanding, critical thinking, creativity, and problem-solving skills, to prepare students for complex real-world challenges and interdisciplinary careers.

○ Critical thinking

Multidisciplinary approach effectively analyse and evaluate facts, arguments, claims, and belief. It synthesizes and make connections between information and opinions, interpret information and draw conclusions based on analysis.

○ Comprehensive understanding

The multidisciplinary approach enhances learners' comprehensive understanding by integrating diverse perspectives, promoting critical thinking, and fostering connections between seemingly unrelated concepts, leading to deeper insights, and a more nuanced understanding of complex issues.

○ Skill development

Multidisciplinary approach plays a pivotal role in skill development, enabling individuals to acquire diverse skills, adapt to new situations, and develop a versatile mindset, enhancing employability, innovation, and lifelong learning capabilities.

How multidisciplinary approach Influence educational landscape?

As we all know that education is a dynamic process it continues to change and adapt as per the requirements of the society, similarly the multidisciplinary approach is also a dynamic concept, as it continually evolves and adapts to new knowledge, technologies, and societal needs, requiring ongoing integration of new disciplines, perspectives, and methodologies. However, both the concepts are interconnected and interrelated with each other and has a directly influence. Its influence on education can be understood by the following points:

- Learning implementation with multidisciplinary approach
- Evaluation of learning with multidisciplinary approach
- Creative thinking and communication
- Change in curriculum
- Pedagogical skills for precise teaching process
- The understanding level of the learners
- Integration of disciplines in education etc.

Relevance of multidisciplinary approach with 21st century

The period from 2001 to 2100 is regarded as 21st century which is characterized by the rapid technological advancements, globalization and complex societal challenges. And these challenges and issues required the need of innovative and

multidisciplinary approaches to address. The 21st Century Skills are defined as a set of knowledge, skills, work culture, and character qualities that are widely acknowledged as being necessary for success in today's world, especially in various college programs and career or work environments, and can be applied in all academic areas in all types of education, career and society through the lives of learners (Tindowen, Bassig & Caguragan, 2017; Moyer, 2016). The partnership for 21st Century Skills (P21) developed a frame work for 21st-century education. This framework describes the skills, knowledge, and expertise that learners need to be successful in entering today's world of work. The 21st-century skills include (1) life and career skills, (2) learning and innovation skills, and (3) information media and technology skills. And to fulfill these demanding skills to transform learning multidisciplinary approach plays a significant role.

Recommendations made by NEP-2020 in this context

NEP-2020 recommends, "Large multidisciplinary universities and colleges will facilitate the move towards high-quality holistic and multidisciplinary education. Flexibility in curriculum and novel and engaging course options will be on offer to students, in addition to rigorous specialization in a subject or subjects. This will be encouraged by increased faculty and institutional autonomy in setting curricula. Pedagogy will have an increased emphasis on communication, discussion, debate, research, and opportunities for cross-disciplinary and interdisciplinary thinking," (NEP–2020). According to the National Education Policy (NEP-2020), a comprehensive, multidisciplinary approach to education should be adopted for the development of all human capacities, including intellectual, artistic, social, physical, emotional, and moral abilities. This approach should be implemented in all undergraduate programs, including those in professional, technical, and vocational fields.

Transformative power of Multidisciplinary approach

A multidisciplinary approach integrates elements from various subjects to illustrate a topic, broadening understanding and going beyond traditional curriculum boundaries. This effective educational strategy combines multiple academic disciplines to

redefine problems, find innovative solutions, and enhance complex situation understanding. In teacher education, a multidisciplinary approach can improve program quality and acceptability (Roy, K., 2022). By incorporating diverse perspectives, this approach fosters a more comprehensive and nuanced understanding of complex issues.

Importance of multidisciplinary in educational institutions

In today's heterogenous world scenario, multidisciplinary teaching anticipated to help students to know the world in better ways. It provides broader understanding of various subjects, significant for the diversified professional area, ensuring the collaborative learning environment where knowledge will be treated in more practical manner.

Execution of multidisciplinary approach and learning outcomes

From the above said explanation it is obvious that the concept of multidisciplinary approach is much beneficial for the learners of different levels. Whether it is primary, secondary or higher education the intervention of multidisciplinary approach improves the performance of the learners by providing a holistic understanding about different subjects by integrating all disciplines independently. After implementing this approach, the learners would be able to think critically, rationally and creatively moreover they would be able to eradicate the stereotypical ideas from their knowledge system to have a vast open-minded perspective.

Discussion and Conclusion

In the current situation our society is rapidly growing, evolving and changing, and there's nothing new with this because change is the only constant which no one can deny. With the technological integration and various innovations have been influenced a lot the present generation which leads to requirements of multidisciplinary approach for the transformative learning process to enhance to innate capabilities of the learners. The importance of it has also been realized by national education policy 2020, so it emphasizes on the needs of multidisciplinary for the learners

better future outcomes, apart from these importance and significance it has another vital aspect that is sustainability because, it helps us by integrating insights from diverse fields like ecology, economics, sociology, and technology, we can develop comprehensive solutions to complex sustainability challenges. This holistic approach fosters innovative problem-solving, balances competing interests, and promotes long-term sustainability.

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Multidisciplinary Approaches to Education in the 21st Century : A Comprehensive Study

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Abstract :

The rapid advancement of technology, globalization, and shifting workforce demands in the 21st century have necessitated a transformation in educational methodologies. Traditional subject-focused learning is increasingly being replaced by multidisciplinary approaches that integrate multiple fields of study to provide students with holistic knowledge and practical problem-solving skills. This research explores the theoretical foundations, pedagogical models, benefits, challenges, and future directions of multidisciplinary education. Emphasis is placed on interdisciplinary frameworks such as STEM (Science, Technology, Engineering, and Mathematics), STEAM (STEM + Arts), problem-based learning, and project-based learning. The role of technology in facilitating cross-disciplinary learning and its impact on educational outcomes is also examined. The study draws on case studies from countries that have successfully implemented multidisciplinary education to highlight best practices and policy recommendations.

Keywords: Multidisciplinary education, interdisciplinary learning, transdisciplinary approaches, 21st-century education, STEM, STEAM, experiential learning, problem-based learning.

Introduction

The 21st century is characterized by rapid technological innovation, economic interconnectivity, and complex societal

challenges such as climate change, public health crises, and ethical dilemmas in artificial intelligence. Traditional education systems, which focus on siloed knowledge in individual disciplines, often fail to equip students with the skills necessary to address these multifaceted issues. As a result, there is a growing movement toward multidisciplinary education, which integrates knowledge across fields to foster critical thinking, creativity, collaboration, and problem-solving abilities.

Research Objectives

- Examine the theoretical foundations of multidisciplinary education.
- Analyze key pedagogical models and their effectiveness.
- Explore the role of technology in facilitating interdisciplinary learning.
- Identify benefits, challenges, and future directions for multidisciplinary education.

Research Methodology

This research adopts a qualitative approach, including literature reviews, case study analysis, and an examination of education policies in various countries. Data sources include peer-reviewed journals, policy documents, and reports from educational organizations such as UNESCO, OECD, and the World Economic Forum.

Theoretical Foundations of Multidisciplinary Education

- **Defining Multidisciplinary, Interdisciplinary, and Transdisciplinary Education**
 - Multidisciplinary education involves drawing knowledge from multiple disciplines without necessarily integrating them.
 - Interdisciplinary education blends insights and methodologies from different fields to provide a cohesive learning experience.
 - Transdisciplinary education goes beyond individual disciplines, integrating real-world contexts to create new frameworks of understanding.

○ Theoretical Perspectives

- Constructivism (Piaget, 1950s): Learning is an active process in which students construct knowledge based on experiences.
- Experiential Learning Theory (Kolb, 1984): Learning occurs through concrete experiences, reflective observation, abstract conceptualization, and active experimentation.
- Multiple Intelligences Theory (Gardner, 1983): Different learners excel in different domains, supporting the need for cross-disciplinary approaches.

Key Approaches in Multidisciplinary Education**○ STEM and STEAM Education**

- STEM (Science, Technology, Engineering, Mathematics): Focuses on developing analytical, computational, and engineering skills to prepare students for technical careers.
- STEAM (STEM + Arts): Integrates creative disciplines such as visual arts, music, and design thinking to promote innovation and problem-solving.

○ Problem-Based Learning (PBL)

Problem-based learning engages students in addressing real-world issues, encouraging them to apply knowledge from multiple disciplines. Example applications include:

- Medical education: Teaching future doctors through case-based learning.
- Environmental science: Analyzing climate change from scientific, economic, and policy perspectives.

○ Project-Based Learning (PjBL)

Students engage in long-term projects that integrate multiple subjects. Examples include:

- Robotics projects: Combining coding, engineering, and physics.
- Urban planning models: Integrating geography, sustainability, and economics.

○ Inquiry-Based and Phenomenon-Based Learning

- Inquiry-Based Learning (IBL): Encourages students to ask questions and conduct research across disciplines.
- Phenomenon-Based Learning (PhBL): Popular in Finland, this approach allows students to study complex real-world issues, such as globalization, through an interdisciplinary lens.

Role of Technology in Multidisciplinary Education**○ Digital Learning Platforms**

- MOOCs (Massive Open Online Courses): Platforms like Coursera and edX offer multidisciplinary courses.
- Learning Management Systems (LMS): Tools such as Moodle and Blackboard facilitate cross-disciplinary collaboration.

○ Artificial Intelligence and Personalized Learning

AI-driven learning platforms personalize education by adapting content based on student progress.

○ Virtual Reality (VR) and Augmented Reality (AR)

Immersive learning environments enable students to explore complex concepts interactively.

Benefits of Multidisciplinary Approaches

- Critical Thinking and Problem-Solving: Encourages analytical reasoning by integrating diverse perspectives.
- Collaboration and Communication: Promotes teamwork across different fields.
- Creativity and Innovation: Encourages novel solutions to global challenges.
- Real-World Relevance: Prepares students for careers requiring cross-disciplinary knowledge.

Challenges and Limitations

- Curriculum Rigidities: Traditional education systems resist change.
- Assessment Difficulties: Evaluating multidisciplinary competencies is complex.

- Teacher Training: Educators require new pedagogical skills.
- Resource Inequality: Some institutions lack access to advanced learning technologies.

Case Studies and Examples

○ Finland's Phenomenon-Based Learning

Finland has successfully integrated phenomenon-based learning, allowing students to study global issues across multiple disciplines.

○ MIT Media Lab

MIT fosters interdisciplinary research that combines engineering, design, and social sciences.

○ International Baccalaureate (IB) Program

The IB curriculum incorporates interdisciplinary learning through its Theory of Knowledge (TOK) course.

Future Directions and Recommendations

- Policy Reforms: Governments must revise curricula to support interdisciplinary learning.
- Teacher Development: Professional training should focus on cross-disciplinary teaching methods.
- Technology Investment: Schools should integrate AI and VR tools to facilitate experiential learning.
- Industry-Academia Collaboration: Universities should work with industries to create multidisciplinary courses aligned with workforce needs.

Conclusion

Multidisciplinary education is essential for preparing students to address global challenges and thrive in diverse careers. By integrating various disciplines, leveraging technology, and fostering experiential learning, this approach equips learners with the necessary critical thinking, creativity, and problem-solving skills. However, its successful implementation requires systemic reforms, investment in teacher training, and the development of effective assessment frameworks.

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A Comparative Review of Language Policies in India

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Abstract :

Language is one of the elements for development of civilization and positive progress. In a multicultural country like India, language is an element that takes different forms on a regional basis. This diverse language repertoire is so rich and resourceful that India's National Education Policy has repeatedly encouraged the use of more than one language in education. In the present discussion, the language recommendations in the national education policies completed so far in India have been reviewed and the problems and solutions of implementing the multilingual policy in the current education sector have been discussed.

Keywords: Civilization, NEP, Multicultural, Encourage, Policy.

Introduction

Commentary is one of the elements for the achievement of progress in any civilization of the world. Countries where language education is particularly rich and accessible have strong inter- and inter-relationships within the country and with the rest of the world. A country as diverse as India is observed to have one of the richest and richest collections of linguistic literature which are quite outstanding in themselves. Among the national education policies completed so far in India, there is considerable disagreement about the language to be used as the medium of instruction in all areas of education including higher education and professional education. Therefore, a review of the

recommendations regarding languages in the national education policies will show that the importance and necessity of multilingual education in the current globalization will show a new direction to all those associated with the world of education. To fellow researchers and able to open an avenue of research on linguistic issues. In the present discussion a comparative discussion is first made. Among the language policies of the National Education Policies so far completed in India, the next step is to formulate an idea of how necessary and appropriate a multilingual education system can be in a country as diverse as India.

Statement of The Study

“A Comparative Review of Language Policies in India”

A discussion of the problem will develop a clear understanding of what the medium of education in a multilingual country like India should be at each level of education and the important views that have been expressed on the subject at various times.

Significance of The Problem

A discussion of this issue will lead to a clear understanding of the medium of education in India, along with a clear understanding of what major national education policies have essentially recommended for language education.

Literature Review

○ Executive Functions and Multilingualism

One of the central arguments for the cognitive advantages of multilingualism focuses on executive functions. Greve, Koch, Rasche, and Kersten (2024) expanded the scope of the cognitive advantage hypothesis by investigating goal adjustment flexibility, a critical cognitive ability, in multilingual individuals. Their findings suggest that multilinguals exhibit greater flexibility in adjusting their goals, a form of cognitive flexibility that extends beyond traditional EFs like working memory and attentional control. Interestingly, their study revealed no mediating effect of executive functions on this cognitive flexibility, suggesting that multilingualism may foster broader cognitive capabilities that are not fully captured by EF measures alone.

○ Metalinguistic Awareness and Cognitive Development

Dolas, Jessner, and Cedden (2022) conducted a study on multilingual learners, focusing on metalinguistic awareness, working memory, and first language (L1) lexicon size. Their research, grounded in the Dynamic Model of Multilingualism (DMM) perspective, revealed positive correlations between multilingualism and enhanced cognitive skills in these areas. Specifically, multilingual learners outperformed their monolingual and bilingual peers in metalinguistic awareness and working memory tasks, which suggests that multilingualism contributes significantly to cognitive development. The authors argue that multilingualism, rather than IQ-based giftedness, is a better predictor of cognitive abilities such as metalinguistic awareness and working memory, challenging traditional views on linguistic giftedness.

○ Cognitive Reserve and Aging

Multilingualism has also been linked to cognitive reserve, which refers to the brain's ability to cope with age-related changes and neurological damage. Kim et al. (2019) and Liu & Wu (2021) demonstrated that multilingual individuals may experience delayed onset of neurodegenerative diseases such as Alzheimer's. Bialystok et al. (2012) further supported this claim, reporting that bilingual individuals exhibited signs of Alzheimer's disease 4.5 years later than monolinguals, suggesting that lifelong bilingualism may serve as a protective factor against cognitive decline.

○ Debates on the Generalizability of Cognitive Advantages

While the majority of research supports the cognitive benefits of multilingualism, some studies challenge the generalizability of these findings. Paap, Johnson, and Sawi (2015) argued that the cognitive benefits of bilingualism might not be as robust as previously claimed, suggesting that individual differences in language proficiency and frequency of language use may moderate these effects. Similarly, the study by Greve et al. (2024) found no significant differences in executive functioning performance between monolinguals and multilinguals, raising questions about

the conditions under which multilingualism leads to cognitive enhancements.

Objectives of the Study

- To give the readers an informal idea about the language recommendations in the National Education Policy of India.
- To develop a clear understanding of the principles applied in the field of multilingual education.
- To gain an understanding of the advantages and disadvantages of implementing multilingual education in education in a developing country like India.

Methodology

The article is based on data collected from various journals, articles, books and websites. The methodology consists of a conceptual discussion on the highlights of the research ethics and the focus of this article is on the concepts of research ethics with the current educational research process.

Delimitation

- The present discussion is done only on language related policies among the various national education policies implemented so far in India.
- At present the discussion is limited to the recommendations of the various national education policies on what should be the medium of instruction in the Indian education system.

Findings and Discussion

Objective 1 : To give the readers an informal idea about the language recommendations in the National Education Policy of India.

Since the independence of India, there have been three National Education Policies which are National Education Policy 1968, National Education Policy 1986, National Education Policy 2020.

In the National Education Policy 1968, more emphasis is placed on the language formula, the first language must be the first language in this formula. The student's own mother tongue will be the second language and Hindi language in case of Hindi states and English or any modern Indian language

in case of Hindi native states. Third language must be English or any other modern Indian language in case of Hindi language states and English or any modern Indian language in case of Hindi states. This educational policy mentioned the provision of Sanskrit language education and the recognition of Sanskrit as a modern Indian language.

The National Education Policy 1986 recommended that provision of multiple language sources should be introduced in language education in India. In this regard, the recommendations for language teaching are:

- Application of Tri Language Formula Mentions that all states of India, especially South Indian languages, are given importance as modern Indian languages.
- Special emphasis has been laid on imparting education in various regional languages so that the various regional cultures of India can be developed.
- It is said to give special importance to the teaching of Sanskrit language, so that Indian heritage culture is important
- Special emphasis has been laid on giving status to Hindi as the national language
- The education policy emphasizes on providing multilingual education so that the students of India can engage with the culture and civilization of other countries of the world.

The main objective of this education policy was to provide equal education for all. It has been mentioned in the National Education Policy 2020.

- Mother tongue will be the medium of instruction for imparting education to the students at least up to class V. It is only then that the education policy also mentions that mother tongue can be kept as the medium of instruction of the students till class VIII
- Emphasis was placed on the trilingual formula so that students could acquire special proficiency in three languages
- The three-language formula lays special emphasis on the various regional languages, thereby broadening the education of the various languages that India has and developing cultural cohesion in Indian culture.

- Students will be proficient in two Indian languages along with one of which must be a regional Indian language. English language is considered as third language
- The National Education Policy 2020 notes that English must be a medium of communication and no attempt should be made to test a person's intelligence through the English language.
- The National Education Policy 2020 recommends that English language education should be imparted but not as a medium of instruction but should be observed throughout the curriculum.
- This National Education Policy emphasizes the importance of imparting multilingual education in order to maintain national cohesion and unity among the people of India.

Objective 2: To develop a clear understanding of the principles applied in the field of multilingual education

Principles of Multilingualism in Education:

- A multilingual policy in education is expected to benefit students who communicate in regional languages.
- First the students should be taught their own mother tongue subjects and then the students should be taught their state language subjects.
- The current National Education Policy of India has given special importance to the theory of multilingualism so the field of research on this topic should be encouraged.
- If students can all be comfortable in a multilingual environment, the learning environment will be warm and welcoming for students and people from different cultures.
- Students' parents should be encouraged to create this environment within the family to provide multilingual education.
- The inclusive environment trend in the current education system is a multi-lingual and effective one that needs to be taken by all along with the education sector.
- Learning about multilingualism can make communication easier and more open to all.

- As more and more people in the society are willing and enthusiastic about language learning and multilingual learning, the distance between people will decrease.
- If students are accustomed to a multi-lingual system, they can easily participate in lifelong learning.
- A student's range of knowledge is broadened if he/she is able to acquire knowledge in multiple languages.
- When people in the society are able to understand other people's language then they will be able to understand the happiness and sorrows of other people in the society as a result students will be able to develop empathy.

Objective 3: To gain an understanding of the advantages and disadvantages of implementing multilingual education in education in a developing country like India.

However, there are some disadvantages in creating a multilingual classroom or education system:

- Lack of skilled teachers is a significant problem in building these multilingual classrooms because there are not enough multilingual teachers in the society.
- In developing countries like India where providing primary education is difficult and difficult, providing multilingual education is particularly difficult.
- Subjects such as math and science are often difficult to teach in a multilingual classroom.
- Multilingual classrooms may have many types of students, but many times students are not able to express themselves to the teacher or their classmates, and as a result, the content is not always understandable to all students in a multilingual classroom.
- If the teacher is unable to understand the language of all the students in the classroom, there will be problems in the communication between the teacher and the students and the students with the other students which will disrupt the learning process in the educational institution.

Recommendations

- The behavior of the teacher will be such that they encourage

the students directly and indirectly about Indian culture and solidarity at all times.

- Teachers will periodically undergo training in multiple languages so that they can easily communicate with different types of people as well.
- Teachers will keep themselves updated by acquiring various training courses so that they can always adapt to all types of students.
- Emphasis should be placed on creating an inclusive environment in educational institutions.
- Initiatives should be taken to organize inter-state-based programs by the government and private sector, so that students can participate directly and indirectly in those programs and become respectful and caring towards the culture and language of different provinces and states.
- The teacher should also be associated with the students in various regional events to create awareness among the people in small areas about creating a multilingual environment.

Limitation

- In the present discussion, only language related recommendations are discussed, other issues such as teaching methods, curriculum, etc. are not discussed here.
- Only this discussion deals with the National Education Policy's policy on language education and the recommendations of various other commissions and research papers relating to language education are not discussed here.

Conclusion

Language is the bearer and bearer of our culture and heritage and it also fuses our culture with other cultures, making culture richer and richer. If multilingual education system can be developed then our education system will improve and expand. This educational system is capable of developing social development among the students along with helping in the character development of the student this education system helps to develop the sense of compassion and empathy in the students and this multilingual education system helps the students in their professional life. As

a result, students can get special benefits to communicate in other provinces if needed. Multilingual education system also helps in developing communication system among the students, but to implement this system properly in the society, awareness needs to be developed among the teachers and all those associated with the educational institutions and the parents of the students. Then it will be possible to easily develop an inclusive education system with this multilingual education system which is particularly useful and effective for the present era of globalization.

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Resourceful Educational Program Interpretations in Various Gradations of Comprehensive School in NEP 2020

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Abstract :

Comprehensive school perceives and answer the jumpers' needs of their learning convenience both different style and learning and guaranteeing quality to all not on access but rather additionally for progress. Evening out vocational opportunity incorporates the assessment of inside strolling distance providing private rundown of youngsters, affirmations and decreasing out rate and expanding the maintenance job kids through different measures innovative educational plan interpretations practices and address the necessities of various level students with handicaps and extra learning they are similarly valuable for the full understudy. Comprehensive school that produces level results for all understudies and make a move to that their showing climate and exceptionally receptive to the need of all including, those with handicaps and extra of the understudies. The review pertinent that the most common way of arranging and creating is to foster a bit-by-bit maker for extraordinary instructing that considers the factors of students, assets and offices that lead to fulfilment of foreordained goals. The overview techniques for research were utilized to basically assess the educational plan interpretations makers embraced. The material interprets the essential thought of comprehensive

training alludes the fundamental personality of consistent ideas defamations in the accompanying workshop lot.

Keywords: Education, School, NEP 2020, Job, Student

Introduction

The National Education Policy (NEP) 2020 envisions an educational system that is inclusive, equitable, and accessible to all students, regardless of their backgrounds or abilities. Comprehensive schools, which embrace a broad and holistic approach to education, are seen as key drivers of this vision. They are designed to cater to the diverse needs of students, ensuring that every child receives the support they require to succeed. This paper explores how educational programs in comprehensive schools are interpreted and implemented at various gradations, focusing on the role of curriculum development and the accommodations made for students with disabilities or extra learning requirements.

Background of the Study

In the context of India, the education system has long struggled with issues of access and inclusivity, particularly for marginalized groups such as children with disabilities. The NEP 2020 seeks to address these challenges by advocating for a more inclusive, flexible, and diverse approach to education. A comprehensive school system, as outlined in NEP 2020, aims to ensure that all students, regardless of their learning abilities, have equal opportunities to succeed. This research examines the implementation of these policies within schools and assesses the effectiveness of the measures adopted to create an inclusive environment for all learners.

Statement of the Problem

Despite the ambitious goals set by NEP 2020, there is limited research on the practical implementation of inclusive educational practices in comprehensive schools, particularly in terms of how they are addressing the needs of students with disabilities. This study seeks to fill this gap by evaluating the interpretations of educational programs and how they cater to diverse learners, thus contributing to a deeper understanding of the challenges and successes in implementing inclusive education within the framework of NEP 2020.

Objectives of the Study

- To examine how comprehensive schools interpret and implement the principles of inclusive education as laid out in NEP 2020.
- To evaluate the practices adopted by schools to address the needs of students with disabilities and those requiring additional learning support.
- To assess the effectiveness of these practices in improving educational outcomes for all students.
- To identify challenges faced by schools in ensuring inclusivity and equity in the learning environment.

Research Questions

- How do comprehensive schools interpret and implement inclusive educational practices as per NEP 2020?
- What strategies are employed by schools to meet the diverse learning needs of students, including those with disabilities?
- To what extent have these practices been successful in improving educational outcomes for all students?
- What challenges do schools face in adopting these inclusive educational practices?

Review of Related Literature

Kothari, R. (2021). Kothari discusses the transformative potential of NEP 2020 in advancing inclusive education in India. The paper analyzes the policy's approach to inclusion and its implications for future educational practices, highlighting the importance of teacher training, curriculum reform, and support systems to foster an inclusive environment for students with diverse needs. **Sharma, U., Forlin, C., & Loreman, T.** (2018). This comprehensive review examines international research on the impact of teacher education in implementing inclusive education. The authors analyze the effectiveness of various teacher preparation programs and identify best practices to improve the success of inclusive education worldwide, with a focus on professional development. **UNESCO.** (2017). UNESCO's guide offers practical strategies for ensuring inclusion and equity in education, addressing the global need for accessible and inclusive

learning environments. The document outlines best practices and case studies, aiming to support countries in creating educational systems that promote equity, participation, and achievement for all students. **WHO & UNESCO.** (2017). This collaborative report from WHO and UNESCO advocates for a human rights-based approach to inclusive education. It underscores the importance of providing equitable learning opportunities for all children, particularly those with disabilities, and discusses the policy frameworks needed to support inclusive practices at global and local levels. **Forlin, C., & Chambers, D.** (2011). Forlin and Chambers examine teacher preparation for inclusive education in rural Australia, with a focus on enhancing the capacity of special education teachers. They discuss the specific challenges faced by educators in remote regions and offer practical recommendations for professional development and support structures, aiming to improve the effectiveness of inclusive practices within these communities. **McLeskey, J., & Waldron, N. L.** (2011). McLeskey and Waldron explore the creation of inclusive schools through a systematic, student-centered approach to education. The paper highlights the importance of collaboration, differentiated instruction, and ongoing assessment in creating learning environments that are responsive to the diverse needs of all students. **Loreman, T., Deppeler, J., & Harvey, D.** (2010). This practical guide by Loreman and colleagues focuses on strategies for supporting diversity in the classroom. It provides actionable insights for teachers to implement inclusive practices, fostering an educational environment where all students, including those with disabilities, can thrive academically and socially. **Ainscow, M., & Miles, S.**(2008). Ainscow and Miles critically analyze global trends and suggest strategic actions for improving inclusion within educational systems, emphasizing the need for policy shifts and systemic changes to ensure all learners, regardless of background or ability, have equal opportunities in education. **Rouse, M.** (2008). Rouse's work delves into the relationship between inclusive education and special educational needs, focusing on the policies, practices, and developmental aspects of inclusive education systems. The paper highlights challenges in implementation and provides recommendations for improving the inclusivity of educational settings. **Hegarty, S.**

(2001). Hegarty provides an overview of inclusive education, focusing on the theoretical and practical aspects of integrating students with special educational needs into mainstream classrooms. The paper examines key strategies for ensuring effective inclusion and the roles of educators, policymakers, and families in supporting the educational success of all students.

Research Methodology

This study employs a descriptive research design using a survey-based methodology. Data were collected from a sample of comprehensive schools across different regions, focusing on their curriculum adaptations and strategies for inclusion. The sample includes both public and private schools that are in various stages of implementing NEP 2020. Data collection tools include structured questionnaires administered to school administrators, teachers, and special educators, as well as interviews to gather qualitative insights. The data were analyzed using both qualitative and quantitative methods to draw conclusions about the effectiveness of inclusive practices.

Analysis and Interpretation of the Study

○ Curriculum Adaptations

One of the key findings of this study is the extent to which schools are adapting their curricula to meet the diverse learning needs of students. While many schools are making efforts to differentiate instruction, the quality and scope of these adaptations vary significantly. Urban schools, with better access to resources, have more diverse and flexible curricula, incorporating assistive technologies and learning materials that cater to students with disabilities. These include the use of audio-visual aids, assistive learning technologies, and adaptive materials that support students with learning disabilities or physical impairments.

However, the implementation in rural or resource-constrained schools remains a challenge. Many rural schools still rely on traditional, one-size-fits-all teaching methods that do not adequately address the varied learning needs of students. This inconsistency in curriculum adaptation raises questions about how equitable access to quality education is achieved, especially in underserved regions.

○ Teacher Preparedness and Training

Teacher preparedness is a pivotal factor influencing the successful adoption of inclusive education practices. While many teachers understand the importance of inclusive education, the lack of specialized training is a significant barrier. The study revealed that most teachers feel unprepared to implement individualized education plans (IEPs) or to adapt teaching methods effectively for students with special needs. There was a strong demand for professional development programs focusing on inclusive teaching techniques, classroom management strategies, and understanding specific disabilities.

This is critical because teachers are the primary agents of change in the classroom. Without sufficient training, teachers may not be able to recognize or address the learning needs of students with disabilities, which limits the effectiveness of inclusive education practices. The study also highlights that despite the government's push for inclusive policies; many teachers have insufficient support or follow-through when it comes to incorporating inclusive strategies into daily teaching.

○ Infrastructure Challenges

Another major area of concern is the infrastructure in schools, which varies greatly across regions. Schools in urban areas generally have better infrastructure, such as wheelchair access, elevators, adaptive learning spaces, and specialized equipment for students with disabilities. These schools are more likely to have access to assistive technologies and resource rooms where students can receive individualized support.

However, rural schools face considerable infrastructure challenges. Many schools lack basic facilities such as accessible toilets, ramps for students in wheelchairs, and specialized resources for students with learning disabilities. These schools often rely on traditional methods of instruction and lack the technological aids necessary for inclusive teaching.

This disparity in infrastructure leads to an inequitable educational experience for students, as students in rural or underfunded schools are not given the same opportunities to succeed as those in urban schools. It raises the question of how the

NEP 2020 can bridge these infrastructural gaps and ensure that schools across India have the resources needed to support all students, regardless of their backgrounds or abilities.

○ **Student Outcomes**

Despite the challenges, the findings show that inclusive education has a positive impact on student outcomes when effectively implemented. Students with disabilities in inclusive schools generally show better social integration, improved self-esteem, and enhanced academic performance compared to those in segregated settings. Many teachers observed that students with disabilities, when provided with the appropriate support, engage actively in classroom discussions, collaborate with peers, and perform well in assessments.

However, the outcomes are not uniform. The quality of implementation of inclusive practices is the determining factor. In schools where teachers have undergone professional training and where the infrastructure supports inclusive learning, students with disabilities demonstrate noticeable improvements in academic skills, social skills, and personal development. In contrast, in schools where inclusive practices are only partially implemented or where teachers are not adequately trained, the outcomes are less favourable.

○ **Barriers to Full Inclusion**

Several barriers hinder the full implementation of inclusive education, despite the policy framework in place. These barriers include:

Resistance to Change: Some school administrators and teachers still hold negative perceptions about inclusive education, viewing it as a challenge or burden. This resistance to change is partly due to a lack of understanding about the benefits of inclusive education and the belief that special education should be isolated from mainstream classrooms.

Lack of Resources: Schools, especially in rural areas, face severe limitations in resources. Insufficient funding for assistive technologies, a lack of specially trained staff (such as special educators or counsellors), and inadequate teaching materials further exacerbate the problem.

Teacher Workload and Attitudes: Teachers are already overburdened with large class sizes and administrative duties. The addition of inclusive education responsibilities can seem overwhelming without proper support and resources, leading to burnout and ineffective implementation.

Policy Implementation Gaps: While NEP 2020 emphasizes inclusive education, its implementation on the ground is inconsistent. Monitoring and evaluation mechanisms are often weak, and there is little accountability for the execution of inclusive education policies. As a result, schools may not fully comply with the requirements of NEP 2020, or they may implement only superficial changes that do not substantially improve inclusion.

Findings

○ **Curriculum Adaptations**

Most comprehensive schools are adopting flexible and adaptive curricula that cater to the diverse needs of students, though the extent of this adaptation varies.

○ **Teacher Training**

There is a notable gap in teacher training on inclusive education, with many teachers expressing a need for more professional development in this area.

○ **Infrastructural Challenges**

Schools in rural areas face significant challenges related to infrastructure and access to resources for students with disabilities.

○ **Effectiveness**

The inclusion of students with disabilities has had a positive impact on the overall school environment, fostering a greater sense of community and collaboration among students.

Conclusion

The study highlights that while **NEP 2020** has set a strong foundation for inclusive education in India, its successful implementation faces several challenges. Comprehensive schools are making significant strides in adapting curricula and creating inclusive environments, but disparities in resources, teacher training, and infrastructure remain key barriers. Urban schools tend to fare

better due to better access to resources, while rural schools struggle with inadequate support systems. To fully realize the vision of NEP 2020, there is a critical need for **enhanced teacher training, improved infrastructure, and more equitable resource distribution**. By addressing these challenges, India can ensure that every student, regardless of ability or background, has access to quality and inclusive education.

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Multidisciplinary Approach to Enhance 21st Century Skills in Higher Education of Modern India in view of NEP 2020

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Abstract :

In the ever-changing context of contemporary India, the value of a multidisciplinary approach to higher education is highly emphasised. The educational systems of the 19th and 20th centuries were built on disciplinary knowledge. Finding answers to the issues facing contemporary India in the twenty-first century requires an understanding of both the dynamic relationships between disciplines and the advancements in knowledge as seen through their lenses. The swift advancement of science, technology, and information is what defines this century. Twenty-first century skills, which are new requirements to meet the more complicated challenges of life, have evolved along with the changes and advancements that take place. In these circumstances, education plays the most important role in ensuring that a generation is equipped with 21st century skills and prepared to compete on a global scale. The National Education Policy 2020 was the most anticipated and thought-provoking policy for Indians as this reorients the old teaching learning methods of education to authentic theoretical methods. India's NEP 2020 aims to align the new learning objectives with a world that is rapidly evolving due to globalisation and technological growth. With the implementation of NEP-2020, education in modern India has seen a radical transformation,

particularly in the promotion of a multidisciplinary approach in higher education. Exploring a multidisciplinary approach in higher education creates golden opportunities for students to develop and enhance all human capacities and skills.

Keywords : Multidisciplinary approach, 21st century skills, Higher education, Modern India, NEP 2020.

Introduction

In the past, education was confined to strict and limited viewpoints, serving more as a definition than a tool for cultivating critical thinking abilities. But this perspective has changed significantly since the National Education policy (2020) was introduced. By placing more emphasis on “how to think” than “what to think,” the learners are now in charge of their own education. One type of educational approach that combines several disciplines to produce a comprehensive learning experience is called multidisciplinary education. It is intended to promote an awareness of how different professions are related to one another and how they might be combined to improve problem-solving. When used in academic settings, such as schools and colleges, multidisciplinary education enables students to comprehend the subject matter more deeply by viewing it from the perspectives of several disciplines. This method fosters critical thinking, creativity, teamwork, and communication abilities. Furthermore, multidisciplinary education is a method of instruction that considers several fields, topics, and viewpoints. It encourages pupils to extend their education beyond conventional bounds, investigating various viewpoints and developing new abilities. Students can better integrate knowledge from several subjects and have a more thorough comprehension of any particular topic with this kind of learning. We can provide students more freedom and choice in their education by offering a bigger variety of choices. Students can develop their own opinions and points of view by investigating subjects from various perspectives thanks to this instruction.

Objectives

- To give a clear concept of multidisciplinary approach in education of modern India.

- To find out NEP 2020's recommendations for multidisciplinary approach.
- To understand the concept of 21st century skills in higher education.

Methodology

This paper's primary goal is to draw attention to the multidisciplinary approach to higher education that NEP-2020 suggests. The secondary data used in this study was gathered from a variety of sources, including books, journals, articles, websites, and more. Here, both descriptive and analytical methods are used.

Multidisciplinary Approach in Education

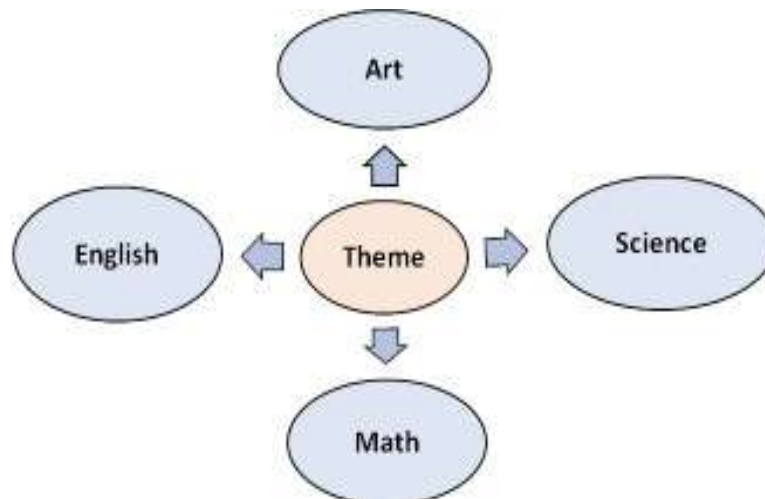
According to International Bureau of Education, there are three major kinds of teaching-learning approaches i.e., interdisciplinary approach, transdisciplinary approach and multidisciplinary approach. Interdisciplinary approach offers the integration of two or more diverse subjects or areas of knowledge and solves problems. Such kind of integration of different subjects helps students to tackle problems and get solutions which are beyond the scope of a single subjects. The three "C's"—collaboration, cooperation, and communication among disciplines in tackling a specific issue—are the fundamental tenets of interdisciplinary education. Transdisciplinary approach dissolves the boundaries of diverse subjects and integrates them to form a new set of knowledge. Such integration of different subjects from disciplines helps learners to connect new arena of knowledge. Multidisciplinary approach is age old concept of teaching-learning process since ancient gurukul system of India. It becomes a need of an hour. It offers integration of different disciplines and perspectives to covers an idea, topic or theme. In it, the same topic is studied from different disciplines. One of the biggest problems in higher education in the past was the absence of a multidisciplinary teaching method. Due to a lack of options, students were compelled to select a subject or stream that frequently did not suit their preferences. This made it clear that the Indian educational system needed to be redesigned, and the National Education Policy 2020 addressed this requirement. NEP 2020 seeks to close the current knowledge gaps and advance

comprehensive and integrated learning by emphasising interdisciplinary and transdisciplinary educational approaches. The policy aims to increase education's accessibility, diversity, and effectiveness because it acknowledges its critical role in influencing the world. Multidisciplinary education is essential in contemporary India, and NEP 2020 promotes an integrated and peaceful approach to education in order to satisfy 21st-century demands.

The multidisciplinary is part of an integrated curriculum. An integrated curriculum as an approach that aims to integrate learning across disciplines/subjects that are usually still segmented in order to provide a bridge across other discipline and help students in increasing their knowledge and understanding. In a multidisciplinary approach, each discipline is still privileged, but links between several disciplines are deliberately made. This means that learning activities are carried out by discussing topics or problems in various disciplinary contexts.

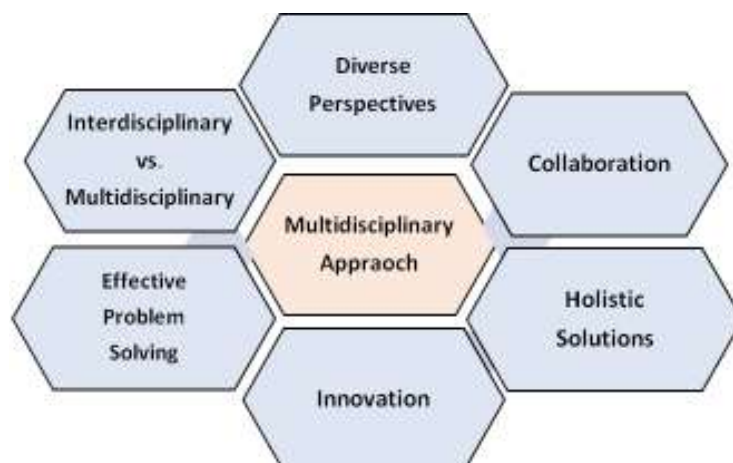
An illustration of a chart showing the design of a multidisciplinary integration model is shown below:

Figure 1: Design of a multidisciplinary integration model



To address difficult issues or solve problems, a multidisciplinary approach combines and integrates skills from several disciplines or fields of study. Practitioners from different backgrounds collaborate to contribute their distinct viewpoints, approaches, and insights to the subject rather than depending only on one discipline. Typically, a multidisciplinary approach consists of the following components:

- **Diverse disciplines:** Every discipline contributes its own theories, approaches, and viewpoints to a thorough knowledge.
- **Collaboration:** Communication, group problem-solving, and incorporating other points of view are all components of collaborative endeavours.
- **Shared goals/objectives:** Having a shared target brings the many areas of expertise together to work towards a certain result or solution.
- **Knowledge integration:** The objective is to combine facts and insights while acknowledging the links between various facets of the problem.
- **Open communication:** To promote teamwork, students need to be able to express their opinions, exchange ideas, and have productive conversations.
- **Respect for diversity:** Respect for diversity guarantees that the contributions of all disciplines are recognised and that differences are viewed as assets rather than challenges.
- **Innovation:** Students can produce original and creative ideas that could result in innovative solutions by fusing various methods of thinking.

Figure 2: Key features of Multidisciplinary Approach**Multidisciplinary Approach in Higher Education**

Education is fundamental tool of all-round development of personality. It helps human beings to develop his/her physical, emotional, moral, mental, spiritual and social areas for developing good human beings with rational thinking, creativity, scientific temper, compassion, empathy, ethics and constitutional values. As Mahatma Gandhi said, “By education I mean an all-round drawing out of the best in man – body, mind and spirit.” Education is not only an essential tool for individual development but also for sustainable development of society as well as building of developed nation. The discipline wise education was the basis of 19th and 20th century education system of India. Multidisciplinary approach becomes a need of the 21st century because of globalisation, technological advancement and growing pandemic emergencies like Covid-19 situation. Taking into consideration the need of time, the Government of India approved the National Education Policy on July 28th of July. The target of India’s national Education Policy- 2020 is to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.”

In order to comprehend the promotion of multidisciplinary

approach of NEP-2020 and its effect on higher education, it needs to understand the term multidisciplinary approach. Multidisciplinary approach is a complete or thorough strategy that integrates various knowledge fields to address an idea, topic, or content. In order to expand the scope and depth of the learning experience, this powerful and pertinent teaching method transcends the confines of a discipline or curriculum. It is a method of curriculum integration that emphasises the various disciplines and varied viewpoints while illuminating a subject, theme, or problem. This kind of approach offers the integration of basic arts, scientific subjects, vocational subjects, professional subjects and soft skills in harmonious way. It also offers flexibility of choosing subjects, multiple entries and exits and overcomes rigid boundaries of traditional education. Such multidisciplinary education will help learners to develop physical, intellectual, moral, social, emotional and spiritual capacities in inclusive manner.

Promoting Multidisciplinary Approach in Higher Education by NEP-2020

The multidisciplinary approach in higher education is a significant step of NEP-2020 which offers student the flexibility of choosing subjects from any stream or discipline according to their choice. This liberal approach will cultivate among student's creativity, critical thinking, curiosity for new knowledge, leadership skills, teamwork spirit, self-reflection, professionalism, a sense of commitment and social responsibility spirit. With the help of this kind of approach, students can choose areas of their interest with multiple options of subjects and entry and exit options during the undergraduate course. The main purpose of multidisciplinary approach in higher education by NEP-2020 is "to ensure the unity and integrity of all knowledge".

Yash pal Committee (2009) underlines the importance of multidisciplinary education. The report of committee remarks that "there is need to expose students, especially the undergraduate level to various disciplines". The report has advocated for a paradigm shift in conventional educational procedures by highlighting the significance of multidisciplinary education. The National Education Policy-2020 makes the following recommendations to achieve multidisciplinary approach in higher education.

○ Restructuring of higher education institutions

The NEP-2020 recommends restructuring of higher education institutions in order to adopt multidisciplinary education. So, NEP-2020 suggests, 'College Clusters' or 'Knowledge Hubs' system. The policy recommends multidisciplinary colleges of 3000 or more students' capacity. This multidisciplinary college clusters creates ample opportunities for Indian students to become a part and parcel of vibrant community. In addition, NEO-2020 suggests three broad types of institutions in order to achieve multidisciplinary approach in higher education i.e., a) Research intensive universities, b) Teaching-intensive universities and c) Autonomous degree-granting college.

○ Revamping of curriculum, pedagogy and assessment

The NEO-2020 also recommends restructuring of curriculum, pedagogy and assessment of students in order to reenergize the vibrant multidisciplinary education system of ancient India. Our country has a legacy of multidisciplinary environment in universities like Nalanda and Takshashila. The policy suggests the fusion of diverse subjects from various stream like arts, humanities, science and vocational skills in order to achieve holistic development of students. Online course should be integrated into the curricula of higher education institutions. The policy offers student flexibility of choosing subjects according to their interest as the Choice Based Credit System (CBCS). In concern of pedagogy, NEP-2020 emphasizes the development of learners' professional skills, vocational skills and soft skills. The policy also recommends the regular formative assessment to develop analysis skills, critical thinking to enhance comprehension skill of students.

○ High quality teaching and research

The NEP-2020 expects that multidisciplinary higher education institutions should offer high quality teaching, research and community engagement. The role of teacher is not limited to content delivery in teaching-learning process. Teacher should be facilitator, mentor and guide of students. The NPE-2020 discontinues M.Phil. research degree but it promotes multidisciplinary higher education institutions to offer research at undergraduate as well as post-graduate level.

21st century skill

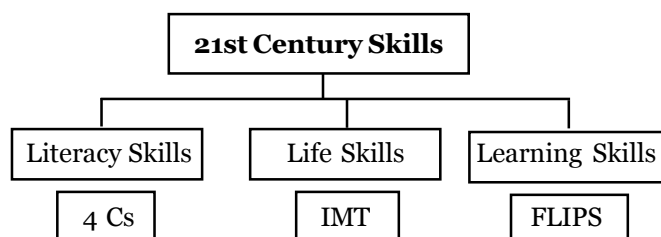
The Glossary of Education defines 21st Century Skills as follows:

“The term 21st century skills refer to a broad set of knowledge, skills, work habits and character traits that are believed- by educators, school reformers, college professors, employers and others- to be critically important to success in today’s world.”

Simply put, 21st century skills are the abilities needed to help a person deal with the challenges of the twenty-first century, which is characterised by global activity, digital transformation, collaborative progress, creative advancement, the need for skilled human resources, and rapid change adoption.

Significant technical advancements in the twenty-first century are fuelling societal and economic shifts. To cope with such changes, young people must be prepared with the necessary knowledge, abilities, and attitudes. Such skills are described as a collection of information, talents, and attitudes that “equip youth to transition into a fast-changing world of opportunities and create success for themselves” in UNICEF-YuWaah’s 21st century skills framework. In addition to equipping young people to handle the uncertain job landscape of the future, 21st century skills benefit young people in a number of ways, including:

- Increased confidence and self-worth;
- Better academic learning outcomes;
- Increased drive for further education
- Enhancement of mental stability for young people from marginalised areas;
- Empowerment of girls (for example, by raising the marriage age);
- Enhancement of mental health, for instance, by lowering suicidal thoughts

Figure 3: Three 21st Century Skill Category

Learning Skills instructs students on the cognitive processes needed to adjust to and enhance a contemporary workplace. The four Cs are communication, teamwork, creativity and innovation, and critical thinking.

The focus of literacy skills is on pupils' ability to distinguish between facts, publishing sources, and the technology that supports them. Finding reliable sources and genuine information to distinguish it from the false information that abounds on the internet is a major concern. IMT stands for information, media, and technology literacy.

Life Skills examines the intangible aspects of a student's daily existence. Both personal and professional attributes are the subject of these intangibles. FLIPS: Social and Cross-Cultural Interaction, Initiative and Self-Direction, Leadership and Responsibility, and Flexibility and Adaptability

Significance of 21st Century Skills in Higher Education

The talents and abilities deemed necessary for an individual to prosper in today's society, which is marked by swift technology advancements and social and economic transformation, are known as 21st century competencies. Higher education also faces difficulties in acquiring these competencies since institutions must change to adequately prepare students. In order to develop competencies like critical thinking and problem solving, cooperation and teamwork, effective communication, digital literacy, continuous learning and adaptability, global and cultural awareness, innovation and creativity, and so forth, higher education must change and concentrate its efforts.

To put it briefly, higher education has the task of adapting to a world that is constantly changing by equipping students with the knowledge, abilities, and attitudes necessary to succeed in 21st-century society. A growing demand for transversal skills and competencies complements the conventional emphasis on knowledge learning. Therefore, in order to enable students on their journey to success, higher education must embrace pedagogical innovation and give transversal competencies priority and space. This calls for updating and changing instructional strategies, integrating educational technology, and creating curricula that support students' overall growth within the context of postsecondary education.

Developing 21st Century Skills in NEP-2020

There are many new opportunities and difficulties to thrive in this quickly evolving environment in the twenty-first century. Students must therefore acquire a set of 21st century abilities. Critical thinking, problem-solving, communication, teamwork, and creativity are some of these abilities. Building these skills in students has been more and more important in recent years. This is especially true in India, where the National Education Policy 2020 has made it a top priority to create students who are prepared to face the challenges of the twenty-first century. The goal of the comprehensive NEP-2020 policy is to give pupils the tools they need to thrive in the twenty-first century. Through emphasising critical thinking, problem-solving, communication, teamwork, and creativity, NEP-2020 is contributing to the development of a generation of students who will be capable of overcoming the obstacles of the twenty-first century and positively influencing the world. Through technological integration, experiential learning, and transdisciplinary learning, NEP-2020 gives students the skills and chances they need to thrive in the real world.

Conclusion

The current educational system in contemporary India makes it impossible for an individual to develop holistically. The selection of approaches in teaching-learning activities is certainly expected to have an optimal impact of students. In choosing the learning approach, a teacher's sensitivity to the time is needed so that the

output of the education system is a generation that is ready to live and compete in the future. In this regard, the 21st century is now referred to as the century of knowledge, globalization, information technology etc. Therefore, it is not surprising that every teacher is required to develop and design a lesson that emphasizes the development of 21st century skills. Through a robust educational system, the NEP-2020 seeks to transform India into a developed country. The holistic, multidisciplinary educational system envisioned in NEP-2020 has the ability to better prepare students for a world that is complicated and interdependent. However, curricular reform, flexibility, digital access, teacher and student development, and resource limitations were necessary for its successful deployment throughout India. Through the interconnections of disciplinary knowledge, multidisciplinary education in higher education transforms knowledge and aids in societal issue solving.

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Integration of Digital Literacy in Indian Education: Analysing NEP 2020's Impact

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Abstract :

The current era is characterized by a significant emphasis on Information and Technology (IT). The Internet has effectively transformed the world into a global community, leading to the designation of today's learners as the "e-generation." Information and Communication Technology (ICT) tools are widely utilized by individuals, particularly students, to foster relationships, connect globally, share and acquire knowledge, engage in discussions regardless of distance, develop stronger identities, and enhance their social interactions. This environment provides them with opportunities to connect, create, and collaborate with peers. Furthermore, students' engagement with ICT has improved their communication skills, expanded their social networks, and enhanced their technical competencies. The importance of ICT in education has been underscored in the National Education Policy (NEP) 2020. To promote ICT integration in education, the Indian government has initiated various programs. The NEP 2020 advocates for the use of technology to improve access to quality education, refine teaching methodologies, and support personalized learning experiences. By fostering digital literacy, the policy aims to empower students to become engaged learners, critical thinkers, and innovative problem solvers. The swift evolution of

technology and digital communication continuously influences learners in both formal and informal educational contexts. As these factors affect students' success in the 21st century, educators must acknowledge the benefits and challenges associated with digital literacy for secondary students. A socio-technological society shapes the relevance of digital literacy in teaching the dramatic arts. Digital literacy encompasses a range of complex cognitive, motor, social, and emotional skills, manifesting in both informal learning environments and modern educational settings.

Keywords: Digital literacy skills, Communication and NEP-2020

Introduction

The COVID-19 pandemic has disrupted India's educational landscape significantly. To adapt, schools and universities have embraced remote learning methods, offering online lectures and assessments. This shift has led to a major transformation in the education system, with digital learning emerging as the most accessible alternative. However, this sudden transition and reliance on technology have brought about several challenges. Amid these changes, the Ministry of Education introduced the New Education Policy (NEP) on July 29, 2020, after 34 years. The policy includes measures to enhance digital learning and address infrastructural gaps. According to Kamala (2020), the NEP aims to ensure equitable access to quality education for all students, particularly those from marginalized, disadvantaged, and underrepresented communities.

India's socioeconomic and regional diversity presents challenges to the adoption and accessibility of online learning. To address these issues, NIOS hosted a webinar to promote technology integration in education and overcome language barriers. Furthermore, the National Digital Educational Architecture (NDEAR) adopts a digital-first approach to support teaching and learning effectively.

The National Digital Educational Architecture (NDEAR) is a key component of the Indian government's Digital India initiative, designed to simplify processes for students, parents, teachers, and administrators. In today's global socio-technical environment, which heavily incorporates media technologies, digital

communication, and multimodal interaction, it is essential for learners to develop the skills to effectively use technological tools while understanding when and how to use them appropriately. Gilster (1997) defines digital literacy as the “ability to comprehend and utilize information in various formats from diverse sources, particularly when accessed through computers.” According to Gilster (1997), the Internet plays a pivotal role in modern education by helping integrate students into a socio-technological society. Kaur (2020) highlights in her study that educational institutions worldwide are leveraging specialized resources to develop online learning materials for students across various academic disciplines. With rapid advancements in digital communication and the growing importance of digital literacy, reading and writing tools are now integrated with complex multimedia elements such as music and images. As digital technologies increasingly shape communication in society, it has become essential for students to master multiple digital literacies and technologies. Consequently, educators must adjust their teaching methods to account for informal learning environments and provide clear guidance on the evolving reading and writing processes influenced by digital communication technologies.

Teachers in primary and secondary schools need to develop relevant assessment methods that account for recent technological advancements and the resulting changes in communication channels. According to a study by Pandey and Pandey (2020), the use of ICT positively impacts teaching and learning. Additionally, it has been noted that ICT usage in developing countries like India is relatively lower compared to developed countries. Pavel and Fruth (2014) found that e-learning can enhance the quality of higher education by introducing innovative teaching methods and by boosting students’ motivation, interest, and engagement, thereby helping them acquire digital literacy skills. Reading technology skills are crucial for adapting to the digital society, but broader abilities and competencies are needed for digital age literacy. With digitization significantly impacting education, educators and institutions are discussing how best to equip students for this era. Digital literacy encompasses the ability to find, create, consume, assess, and share content via the Internet and other informational mediums. It involves

recognizing, utilizing, and accessing digital tools and resources, as well as managing, integrating, assessing, and analyzing them to create new media and information. Living effectively in the digital world requires wise internet use, ethical behavior, talent acquisition, awareness of risks and dangers, and protection against potential threats. Digital literacy training can help in implementing these practices. Prime Minister Narendra Modi has been advocating for the youth and businesses to continuously focus on skilling, reskilling, and up skilling in anticipation of upcoming changes. The Ministry of Skill Development and Entrepreneurship, the Ministry of Education, and other industry stakeholders need to collaborate to improve young people's access to skills and employment opportunities. If everything goes as planned, our nation could generate 2.3 million jobs by 2030, coming close to the United States' 2.7 million jobs. He emphasized the importance of creating educational content that aligns with industry needs, a goal that can be achieved by providing students with the necessary practical training.

Components of Digital Literacy

- **Technical Skills:** The ability to use digital devices, software, and applications effectively. This includes basic skills such as typing, using productivity tools, and navigating digital interfaces.
- **Information Literacy:** The ability to find, evaluate, and use information from digital sources. Students learn to identify credible sources, analyze data, and synthesize information to create meaningful content.
- **Media Literacy:** Understanding how digital media influences perceptions and behaviours. Students learn to critically evaluate media messages and recognize biases and misinformation.
- **Communication Skills:** The ability to communicate and collaborate effectively using digital tools. This includes writing emails, participating in online discussions, and using social media responsibly.
- **Digital Citizenship:** Understanding the ethical and responsible use of technology. Students learn about online safety, privacy, and the importance of respecting others in digital environments.

NEP 2020 and Digital Literacy

- The NEP 2020 in India highlights the vital role of digital literacy within the education system. It emphasizes the necessity for students to develop digital skills to thrive in the digital era. Key aspects of digital literacy as outlined in NEP 2020 include the integration of technology.
- NEP 2020 underscores the importance of incorporating technology into teaching and learning. It advocates for the use of digital tools, online resources, and multimedia content to improve educational quality. This integration helps students develop digital literacy skills through hands-on experience.
- NEP 2020 underscores the importance of equipping all students with foundational digital literacy. It acknowledges the necessity for students to possess basic digital skills, including computer usage, internet access, digital interface navigation, and productivity tool utilization. These skills are crucial for students to effectively interact with digital content and resources.
- NEP 2020 stresses the importance of developing and enhancing digital infrastructure in schools and educational institutions. It ensures that schools have access to reliable internet connectivity, computers, and other essential digital devices. A strong digital infrastructure is vital for fostering digital literacy and facilitating seamless technology integration in education.
- NEP 2020 highlights the necessity for comprehensive teacher training programs to improve educators' digital literacy skills. It acknowledges the pivotal role teachers play in facilitating students' digital learning experiences. Teachers need to possess the required knowledge and skills to effectively utilize digital tools, implement technology-integrated teaching methods, and guide students in developing digital literacy skills.
- NEP 2020 stresses the importance of embedding digital literacy skills throughout the curriculum. It advocates for incorporating digital skills into various subjects, allowing students to utilize digital tools and techniques in diverse contexts. The curriculum should foster critical thinking, problem-solving, collaboration, and creativity through digital methods.

- NEP 2020 highlights the use of open educational resources (OER) to foster digital literacy. OER includes freely accessible digital learning materials such as textbooks, videos, and interactive modules. By utilizing OER, students can access a wide range of high-quality resources to improve their digital literacy skills.
- NEP 2020 acknowledges the significance of digital security and ethics in the modern era. It stresses the inclusion of digital safety education in the curriculum to teach students about responsible digital behavior, privacy protection, cyber bullying prevention, and online security measures. Students should be informed about the ethical use of digital resources, including issues related to copyright and plagiarism.
- The primary aim of NEP 2020's focus on digital literacy is to equip students with the essential skills needed to excel in the digital age. Digital literacy empowers students to become proficient, critical thinkers and responsible users of technology. It prepares them for future academic, professional, and personal endeavours in a digital society.

Role of Digital Literacy in Education

In today's rapidly evolving digital world, digital literacy has become an essential skill for students. It goes beyond the basic ability to use a computer or browse the internet; it encompasses a range of competencies that enable individuals to navigate, evaluate, and create information using digital technologies. The integration of digital literacy in education is crucial for preparing students for the demands of the modern workforce and society.

○ Critical thinking and evaluation

Digital literacy fosters critical thinking skills by teaching students to assess the credibility, accuracy, and relevance of online information. They learn to analyse various sources, recognize biases, and develop a discerning mind-set. This helps students cultivate a questioning attitude and make informed judgments.

○ Access to information

Digital literacy enables students to utilize the vast array of information available online. They can search for resources, access educational materials, and explore various perspectives.

This empowers students to become independent learners by providing them with the tools to find and evaluate information effectively.

○ **Collaboration and communication**

Digital literacy enhances collaboration and communication among students, teachers, and peers. It allows them to connect, share ideas, and work together on projects through digital platforms, online discussions, and collaborative tools. Digital literacy promotes effective communication skills, including online etiquette, respectful discourse, and active participation.

○ **Creativity and innovation**

Digital literacy equips students with tools and platforms for creative expression and innovation. They can produce content, design projects, and present their ideas using multimedia resources, digital tools, and software applications. Digital literacy inspires students to think outside the box, explore new possibilities, and express their creativity.

○ **Personalized and differentiated learning**

Digital literacy supports tailored and varied learning experiences. Students can access online resources that align with their interests, learning styles, and proficiency levels. They can engage in self-directed learning, delve into a wide range of topics, and utilize diverse educational materials. Digital literacy empowers educators to design personalized learning experiences and provide specific support to each student.

○ **Personalized and differentiated learning**

Digital literacy facilitates customized and diverse educational experiences. Students have the opportunity to explore online resources that correspond with their individual interests, preferred learning methods, and skill levels. This enables them to pursue self-directed learning, investigate a broad spectrum of subjects, and make use of various educational resources. Furthermore, digital literacy equips educators to create tailored learning experiences and offer targeted assistance to each student.

Career readiness : Proficiency in digital literacy is vital for achieving success in future careers. In the contemporary workforce, which is heavily influenced by technology, mastery of

digital tools and technologies is imperative. Digital literacy provides students with essential skills in areas such as digital communication, data analysis, problem-solving, and adaptability, thereby equipping them to meet the challenges of the job market. This competence not only improves their employability but also empowers them to thrive in an ever-changing digital environment.

Digital literacy provides students with the essential knowledge and skills required to effectively navigate the digital landscape, engage in significant learning opportunities, and actively contribute to a technology-oriented society. This competency is a vital component of contemporary education, empowering students to attain success in their academic, professional, and personal endeavours.

We currently live in a world that is both enhanced and burdened by computers and gadgets, thanks to the growth in technology over the years. The dominance of technology in daily life emphasizes the need for digital literacy for both adults and children. The digital world is full of advantages and benefits for everyone, but it can also be overwhelming and even hazardous if technology is not used and understood correctly. For children to utilize technology safely and efficiently, they must be able to comprehend it. Learning how to update your Facebook status or take a picture is one of many aspects of digital literacy. Understanding and utilizing technology are both parts of digital literacy. Traditional literacy is a term we are all familiar with; reading and writing are both literacy components. However, more than being literate is required in the modern digital environment. Kids must learn digital literacy as well. Understanding and using technology are both components of digital literacy. It concerns the capacity to locate, utilize, and produce information online positively and helpfully. Digital literacy also entails being aware of the limitations of technology and the risks and safety measures associated with its use. Students must also be taught about cyber safety, “digital footprints,” and about net etiquette (Osborne & Connely, 2015). There is still a great debate going on as to what extent digital literacy instruction will be integrated into traditional classroom instruction, and many studies have been conducted in an attempt to understand how to integrate both the methodologies

in the best manner. (Kervin, Verenikina, Jones, & Beath, 2013; Henderson, 2011; Walsh, 2010; 2008)

Advantages of Digital Literacy

In today's technology-driven world, digital literacy has become an essential skill for individuals of all ages. It encompasses the ability to effectively use digital tools and technologies to access, evaluate, create, and communicate information. The benefits of digital literacy are far-reaching and impact various aspects of life, from education and career readiness to personal development and civic participation. Following are Some advantages of digital literacy given below:

○ Access to Information

Digital literacy facilitates individuals in obtaining and navigating the extensive array of information available online. It allows them to search for data, read articles, view videos, and engage with a variety of educational materials. This ability to access information fosters continuous learning and empowers individuals to broaden their understanding.

○ Communication and Collaboration

Digital literacy enhances communication and collaboration capabilities. Individuals can connect with others across the globe using social media, email, instant messaging, and video conferencing. This skill fosters teamwork on projects, the exchange of ideas, and networking possibilities, ultimately resulting in increased productivity and international relationships.

○ Employment Opportunities

In the current digital era, numerous professions necessitate proficiency in digital literacy. A comprehensive grasp of digital tools, software applications, and online platforms can significantly improve job prospects. Digital literacy empowers individuals to adjust to evolving market requirements, learn new skills, and maintain a competitive edge.

○ Creativity and Innovation

Digital literacy enables individuals to harness their creativity and explore innovative concepts. By utilizing a range of digital tools, people can generate content, including writing blogs, creating

videos, designing graphics, and programming software. This skill set cultivates a setting where creativity and innovation can flourish.

○ **Critical Thinking and Problem-Solving**

Digital literacy fosters critical thinking abilities as individuals engage with information on the internet. It equips them to assess the trustworthiness and accuracy of various sources, analyze data effectively, and recognize biases or false information. Furthermore, digital literacy empowers individuals to address challenges using technology, whether by resolving software problems or seeking assistance through online forums and communities.

○ **Civic Engagement**

Digital literacy plays a crucial role in fostering democratic participation and civic involvement. It empowers individuals to remain updated on current affairs, engage in online dialogues, and address political and social matters. By utilizing digital platforms, individuals can express their views, advocate for causes, and play an active role in driving positive change.

○ **Efficiency and Organization**

Digital literacy enables individuals to optimize both their personal and professional lives. It allows them to effectively manage their calendars, develop task lists, digitally store and organize documents, and leverage productivity tools such as project management applications or cloud storage solutions. These digital competencies significantly improve efficiency, time management, and organizational skills.

○ **Access to Services**

Digital literacy provides access to various online services, such as e-commerce, banking, healthcare, and government services. People can shop online, conduct financial transactions, access medical information, and interact with government agencies conveniently. This accessibility improves convenience and simplifies daily tasks.

Conclusion

The National Education Policy (NEP) 2020 in India has highlighted the significance of digital literacy within the

educational framework. It acknowledges that digital literacy transcends mere technical proficiency, serving as a vital element of learning in the 21st century. A crucial advancement in preparing students to navigate the complexities of the digital landscape is the incorporation of digital literacy skills into the NEP 2020 framework. By understanding the transformative role of technology in education, the NEP 2020 underscores the necessity of developing digital literacy as an essential competency for learners across all age groups. These skills are in harmony with the NEP 2020's goal of fostering well-rounded individuals. Through the use of technology, students can access a variety of knowledge sources, collaborate with their peers, and participate in hands-on learning experiences. Furthermore, digital literacy aids in the development of essential 21st-century skills, including communication, creativity, critical thinking, and collaboration, which are crucial for success in a digital and interconnected environment. The integration of digital literacy in education aligns with the policy's aims of promoting equity and inclusion. The NEP 2020 seeks to ensure that every student, regardless of their socioeconomic status, has equal access to quality education by addressing the digital divide. By empowering students to utilize digital tools and resources, regardless of their location or financial situation, digital literacy fosters inclusivity and helps to mitigate educational inequalities. The emphasis on digital literacy within the NEP 2020 reflects its transformative potential in education, recognizing the importance of equipping learners with the skills needed to succeed in a technology-driven world.

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