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express their sincere gratitude to the Vice Chancellor of SNDT iversity for her valuable contribution to this book through her well as for her unwavering support and motivation. They are also er for entrusting them with the responsibility of editing the articles the authors. Furthermore, the editors extend their heartfelt the contributors for submitting insightful articles in the field of

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Editorial: Reimagining Education through Heritage, Innovation, and Justice

In the rapidly evolving landscape of education, the convergence of tradition, theory, and technology offers a compelling opportunity to redefine learning for the future. The collection of articles represents a diverse yet interconnected set of themes that reflect the dynamic contours of contemporary educational discourse. From philosophical grounding to practical interventions, this volume serves as both a reflection and a guide for educators, researchers, and policymakers.

At the core lies *Nussbaum's "Universal Capabilities"*, a humanistic framework that urges education to move beyond economic utility toward nurturing dignity, empathy, and critical reasoning. Her vision of education as a space to realize essential human capabilities calls for curricula that are inclusive, justice-oriented, and deeply humane.

Anchoring this idea in cultural memory, the chapter on *"Temple 'Teertha': An Optimistic Memory Site of Indian Heritage"* celebrates India's pluralistic traditions as educational resources. It invokes the spiritual and historical ethos of sacred sites as places of learning and developing culturally rooted yet globally aware learners.

The *"Theoretical Framework of Social Justice"* extends this discourse by examining structural inequalities and advocating for transformative pedagogies that question power, privilege, and marginalization. It positions education not merely as the transmission of knowledge but as an act of empowerment.

In exploring practical dimensions, the role of *listening in English language learning* is examined as an essential, often overlooked, element of effective pedagogy. Listening forms the bedrock of communication, yet it demands intentional strategies to foster

comprehension, and participation in active learning.

Emerging technologies find voice in *"NextGen Education: Advancing Learning with Generative AI"*, which argues that AI, when ethically integrated, can individualize learning, automate feedback, and inspire creativity. However, it also cautions against over-reliance, underscoring the need for a human-centered approach.

Constructivism, as discussed in "Building Minds and Shaping the Future, remains a foundational philosophy. By emphasizing learner agency, inquiry, and context-based knowledge construction and engaging game based pedagogy resonates with the overall theme of empowering students to think critically and act meaningfully.

Finally, the development of a *self-concept enhancement program* for upper primary students highlights the psychological dimensions of learning. A strong self-concept fosters resilience, motivation, and academic success—outcomes as vital as cognitive achievement.

We are happy to bring these varied topics that not only broadens the understanding of what education can achieve but also calls for its continuous evolution. As we shape future learners, let us do so with purpose, equity, and a deep respect for both heritage and innovation.

The editors hereby express their deep gratitude towards the Vice Chancellor of SNDT Women's University for providing us the responsibility of editing articles of the authors. The editor is also grateful to the contributors for submission of articles related to the field of education.

Editors:

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1. TEMPLE 'TEERTHA' – AN OPTIMISTIC MEMORY SITE OF INDIAN HERITAGE

Prof. Ujwala Chakradeo

Abstract:

Temple teertha has had a great significance in Indian context. It has been an indispensable part of people's life. In Rigveda, there is a reference to the place where serene setting prevails is referred to as teertha kshetra and it is the place where temples can be constructed. There is a whole lot of science, architecture, aesthetics and human sentiments and wellbeing involved behind the physical existence of temple, which broadly symbolize the uniqueness of Indian culture and heritage. Indeed, Indian temples have been important in retaining and sustaining this unique cultural heritage. The paper argues that Indian temples act as memory institutions that help retain and sustain certain visible and invisible elements of Indian heritage. The temple site (Teertha kshetra), it's architectural, and cultural elements represent the visible memories. On the other hand, the cosmic elements – the panchabhutas and their role in determining and shaping the positive teertha kshetra energy and thereby influencing the thoughts and emotions of human beings – constitute the invisible memories. Broadly, the paper focuses on the following points – understanding the idea of teerth kshetra (temple site) from socio-cultural and architectural perspective; examining temple as reservoir of cosmic energy with case studies of a few Indian temples; and human sensory perception, experiences and water memories at the temple teertha. In concise, the paper is an attempt to analyze the temple teertha as a memory site of immense energy resource and its underpinning in the Indian heritage. In this sense, the paper signifies the role and relevance of temple

teertha and argues for its broad scope and relationship with contemporary interdisciplinary discourses on cultural diplomacy, peace studies, health of mind, human empowerment, etc.

Keywords: *Teertha Kshetra, temple architecture, memory site, Indian heritage*

Introduction:

Temple *teertha* has had a great significance in Indian context. It has been an indispensable part of people's life. There have been studies to highlight the important socio-cultural and religious components of temple and its intimate relationship with human life. In Rigveda, there is a reference to the place where serene setting prevails is referred to as *teertha kshetra* and it is the place where temples can be constructed. Mahabharat and mythological Hindu scriptures have plenty of references of *teertha* and *teerth-keshtra, i.e.* Kashi, Prayag, Ganga, Godavari, Narmada and all revered rivers of Bharat and every inch of their bank, their context and surroundings is the *teerth keshtra*. One can experience the *teertha* in the air of these places. There is an indispensable role of panchamahabhutas in constructing temple teerth. According to Susan Lewandowski, the underlying principle in a Hindu temple is the belief that all things are one, everything is connected. In fact, the realization of the achievements of our ancient architects comes to us through their artistic expressions – creation of all-round, perfect, beautiful temples. A Hindu temple is **a** symmetry-driven structure, with many variations, on a square grid of padas, depicting perfect geometric shapes such as circles and squares. The period from the ninth century to the twelfth century can be said to be the golden age of temple building in India. During this period many temples were built from north to south and from east to west. Under the royal patronage during the Vijayanagar and Post-Vijayanagar periods the Hindu temple

became a huge complex (with various substructures; sub- temples, tanks and service structures like kitchen and lodging). The economic, intellectual and spiritual splendor of the Indian society of that time can be seen in the construction, erection and structure of the temples. It may be noted that every style of building construction reflects a clearly distinctive basic principle that represents a particular culture and era. In this context the Indian Hindu temple architecture are not only the abode of God and place of worship, but they are also the cradle of knowledge, art, architecture and culture. (Batham et.al. 2018) Thus, we see that there is a whole lot of art, science, creativity, architecture, aesthetics and human sentiments and wellbeing involved behind the physical existence of temple, and which broadly symbolize the uniqueness of Indian culture and heritage.

Architecture is considered to be a mirror of a society. The temple defines beauty through its arts forms and construction techniques. There were diverse approaches to temple construction. (Petrie 1906) Evidently, the construction site is selected keeping in mind its proximity with the water bodies, lake, river, ocean, etc. Besides, there are references, which indicate that, the fertility of the soil to be tested. This is tested by sowing a seed at the chosen site on an auspicious day and the germination is observed. If the growth of the plant is satisfactory the land is considered suitable for the construction of temple. (ref) (Batham et.al. 2018) The construction techniques so used and developed has been mentioned in Hindu mythology as Purna Vastu or a perfect building is that which is properly oriented and constructed with carefully laid out norms to protect it from the evil forces of the nature, which include floods, storms, hurricanes and earthquakes. (Batham et.al. 2018) Symmetry and proportion are important parameters in Indian architecture. The use of square as the basic unit and of triangle as the principle, governing the

layout resulted in strictly symmetrical plans and layouts along one or two principle axis. This plan, in turn, resulted in simple structural systems and an increased structural strength against seismic forces. The Indian doctrine of proportions is designed not only to correlate the various parts of building in an aesthetically pleasing manner, but also to bring the entire building into a magical harmony with the space. (Batham et.al. 2018) In this sense, a temple is a visible expression of an invisible Bramha with an idol installed in it, which offers an opportunity to perceive the invisible one with all five senses. Indeed, Indian temples have been important in retaining and sustaining the unique cultural heritage. Besides, temple is a place where sense of arrival is strong and obvious, and being a part of that place, the visitors experience a gush of positive energy, a feeling of pleasure and peaceful vibes.

The paper is an attempt to analyze the temple teertha as a memory site of immense energy resource and its underpinning in the Indian heritage. Further, the paper argues that Indian temples act as memory institutions that help retain and sustain certain visible and invisible elements of Indian heritage. The temple site (Teertha kshetra), its architectural, and cultural elements represent the visible memories. On the other hand, the cosmic elements – the panmahabhutas and their role in determining and shaping the positive teertha kshetra energy and thereby influencing the thoughts and emotions of human beings – constitute the invisible memories. Broadly, the paper focuses on the following points – understanding the idea of *teerth kshetra* (temple site) from socio-cultural and architectural perspective; examining temple as reservoir of cosmic energy with case studies of a few Indian temples; and human sensory perception, experiences and water memories at the temple teertha. Finally, besides signifying the role and relevance of temple teertha, the paper argues for its broad scope and relationship with contemporary interdisciplinary

discourses on cultural diplomacy, peace studies, health of mind, human empowerment, etc.

Teerth-Kshetra – The Temple Site

The word temple in an extended sense gives a meaning of a consecrated place. (Sairam, 1982) Thus, the Hindu temple is a place consecrated for and dedicated to the worship of God or Goddess. Hindus revere their temples as sacred, magical places in which the three worlds(triloka) most consciously commune - structures especially built and consecrated to channel the subtle spiritual energies of inner-world beings. The temples physic atmosphere is maintained through regular worship ceremonies (puja), invoking the Deity (icon) as temporary body to bless those living on the earth. In Hindusm, the temple is the hub of virtually all aspects of social and religious life. (Sairam, 1982) (Gunasagaran 2002) In yet another sense, as Arjun Appadurai argues that, the Hindu temple is a royal abode, a specific sort of redistributive process, and a powerfully reflexive symbolic system. The Hindu temple is a symbol of the Hindu religion. Symbols effectively employed for communication with common people who otherwise had no access to the great, intellectual treaties on ethics, philosophy or metaphysics. (Appadurai 1983) A Hindu considers the temple as the representation of the divine form (symbol), that is an important social institution and an integral part of society. (Satguru Sivaya Subramaniyaswami (1993) in Dancing with Siva).

There are certain places where the sense of arrival is strong and obvious. These welcoming and pleasing spaces are the obvious and natural locations for the temple to be erected. Temple form, construction details and sculptures and *shilp* on the façade, the *shikhar,* the deity within *garbha griha*, all are definitely very important factors when we talk about temples. Temples are of various types and for numerous Hindu Gods and Goddesses, each one is significant and each one has its own

specifications, for design detailing and that of location as well. In Rigveda, there is reference to arrival streets, river banks, lakes, oceans and all small or large water bodies, hill slopes, hill tops, mountains, forests, every place where serene setting prevails is called as *teerth kshetra* and is the place where temples can be constructed. *Teerth* is pious, *teerth* is devout. In pooja ritual 'teerth' prasad is indispensable. Within architecture, water evokes sentiments of calmness and wellbeing. The element has influenced design through its dynamic and fluid nature. In this sense, it is an essential element – water, which is present in every existence. *Teerthayatra* (pilgrimage) connotes self-purification, which means the purification of body and soul. Mahabharat and mythological Hindu scriptures have plenty of references of *teertha* and *teerth-keshtra.* Thousands of such *teerthas* are in Bharat. *Teerthayatra* taken by Parshuram and Samartha Ramdas Swami is not only iconic but has always inspired every Hindu with the learnings from such yatras. Every Hindu aspires to take char-dham yatra at least once in his/her lifetime. Badrinath in Himalays in the North, Dwarka in the West, Jagannath Puri in the East and Rameshwaram in the South. Twelve Jotirlinga, shakti pith, 108 devi shrines, Ashta vinayaka , Ganapati kshetra, varkari sampradaya and their different kshetras, nath sampradaya, datta sampradaya, mahanubhav sampradaya and their various places of worship are spread all over Bharat. This rich and delightful heritage of ours is something which we should be proud of. In this regard, a few critical questions, often keep bothering me – why has our education system not yet taken the cognizance of such a rich treasure of ours? How can we fill this gap by paying adequate attention towards this area in our academic research and teaching?

Temples reflect the soul of Indian Culture. A temple is the best tool to understand Indian society, Indian religion, and Indian culture. Temples are scattered all over the land of India. The rich culture of our country is

constantly evolving and can be studied through many texts and treatises available; however temple structures are the best to study Bhartiya culture. Temples tell all about the era in which they were built. The spaces created for rituals, permitted light inside, the carvings, the entire quality of inside and outside of the temple is actually about the people who built it, people who worshiped the idol in that temple. It is all about the way they worshiped, the way they moved around; alone or together, what did they know, how much did they know, their beliefs and likes, dislikes. Temples are the open books of the society of layers of times through which they have sustained and evolved. The journey of Bhartiya society, from living in the forest to the realization of the path of attaining final salvation, through idol worship is narrated through temple spaces. Therefore, the temples were probably conceived and built only when attempts were made to imagine and impart the form to that formless ultimate God – The *Bramha*. Only the best is always offered to God. Why wouldn't the same be true for the temple? Abode of gods had to be better and far better than that of human. We need to rethink about it – how can we reprocess our ideas and technologies towards making temples the best spaces to enrich our knowledge and energize human beings?

Temple as Reservoir of Cosmic Energy:

There has been an important role of panchabhutas in every existence. These are the five cosmic elements that form the universe and all that it constructs. There exists a definite role of each of these elements in building temple and in determining and shaping the positive *teertha-kshetra* energy. They, indeed, constitute the visible memories surrounding temple *teerth*. The five cosmic elements are water, wind, sun, fire, earth. Thus, the temples become a site for retention and sustenance of powerful invisible memories, which impact the psyche of its visitors immensely.

However, the access to early temples was at first limited to the deity and its cult functionaries. Temple built at Sanchi (an early first-century Buddhist site) ca. 425 A.D., has often been called the earliest surviving stone Hindu temple, intended to shelter an icon of a deity. It consists of a small masonry cube with an inner sanctum and four-pillared portico, suitable for the approach of only one person at a time. Such a temple was a point of power, seen as a "crossing" (tirtha), a mechanism for seducing the divine into the created world, and a tool for the transformation of the worshiper. (Meister 2006) The cosmological plan of the temple expanded, but access to the shrine and sanctum remained limited and controlled. These temples were "monuments of manifestation" in Stella Kramrisch's words cosmic mountains, but also markers of creation, palaces of the gods, and machines for social order. Temple Hinduism gradually took on political and social roles that transformed the temple, expanding its plan along a path of human approach, an "axis of access."

As architecture and changing usage evolved over many centuries, open halls were added to walled halls, additional pavilions were built, enclosing fences became compounds, and compounds grew to cities. In South India, seasonal festivals and rites evolved that brought the deity out into the city and countryside, giving access to populations not allowed entry to the sanctum. (Meister 2006) "The Hindu temple must also act as access and approach for aspirants and worshipers. (Meister 2006) 'The whole intention of the Vedic Tradition and of the sacrifice is to define the way by which the aspirant ... can ascend [the three] worlds,' wrote Ananda Coomaraswamy. 'Earth, Air, and Sky ... compose the vertical Axis of the Universe.... [These are] the way by which the Devas first strode up and down these worlds ... and the way for the sacrificer now to do likewise.' Two alignments, however, coexist. One is centralized, symmetrical, and expresses a cosmic order in which the deity dwells. The

other is linear, signifying the approach of humans in this world. These temples retain an east-west axis for priests to enter the sanctum and attend to the god. But they also have a north-south axis to provide visual access to an assembly of devotees who sing and dance in the temple's court, "emphasizing the participation of the community" (Ghosh 2005) These temples take on the form of a village compound. Such dual axes for esoteric and popular rituals had already been augured at Elephanta, yet here communities of worshipers commanded access that in previous centuries had often been limited or denied. The remarkable thing is that the onceclosed machine of the temple has, over time, taken on the flexibility to adapt to radically changing social circumstances, giving access to a variety and multitude of communities (Meister 2006) Later, as Appadurai argues that through community patronage, temples gradually became public institutions. (Appadurai 1978; Meister 2006) Thus, we see that the Indian temples have had an important place in the socio-cultural matrix of India. Temples are full of positive cosmic energy and this reflects in the case studies of the temples in India, and their architecture. These studies are significant as they show a prominence of one of these cosmic elements and the very existence of the corresponding unique energy. The paper discusses a few of these temple studies.

Case Studies of Temples / Peeth in India:

***Teerth-Keshtra* -Shivtharghal**

Shivthar Ghal is a cave in Raigad district of Maharashtra. Thirty-four kilometers away from Mahad. 'Ghal' means cave. It is surrounded by high mountains on all sides and is situated at the foot of the Waghjai valley. Shivthar Ghal is in the midst of the mountains, covered with green trees and vines. Samarth called it 'Sundar Math'. Samarth Ramdas Swami (seventeenth century) lived here for 22 years. During this time, Samarth wrote 'Dasbodh', his famous treatise. Dasbodh loosely means 'advice to

the disciple' in Marathi. This is a spiritual text. His disciple Kalyan Swami assisted him in this writing. How did he find out about this cave? What was so special about this place that made him stay there for so long? Samarth always said that the place is very peaceful and one needs to be pure hearted to be able to enjoy the place. Harmony of the place flows deep within, touching the soul of every visitor. Temptation to be there forever is universal. We are aware that devices with GPS, (global positioning system) can detect satellite waves of the space. But it has been observed that right from the entrance of this cave all such instruments are disabled and become non-functional, imparting absolute peace and tranquility to the inmates. How and why does this happen no one knows. The scientific inventions of this kind are a recent phenomenon. On which parameters did Samarth Ramdas Swami decide to live there? Is today's science advanced enough to determine suitability of those parameters?

Shivthar ghal is just an example presented as an icon of all those places in Bharat where existence of 'GOD' is experienced and these places which have been designated as 'teerth kshetra'. Temple and its surrounding are not merely a place of worship. It is a space to be felt, and experienced through all the five senses. After entering the temple, one should automatically bow before the idol due to the atmosphere and the peace and serenity. Architects then knew that the surrounding environment had a profound impact on the mind. Therefore, the place for creating such an environment was also chosen very carefully. In contrast, numerous temples nowadays are seen at every nook and corner of the road. What happens to the serenity and calmness needed for the worship in these temples? This is the challenge for today's designers. Sentiments of Bhakta ensures flow of appropriate emotions to nurture the desired quality spaces and supports sensitive temple design.

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Teerth-Keshtra — Sun Temple of Konark

Sun Temple of Konark, on the beach, very close to Bhubaneswar, built in the soil of Orissa. Twelve hundred people spent twelve consecutive years to make a dream come true; dreamt by Narasimhadev. He ruled Orissa eight hundred years ago (1230-1264). He built a temple to pay his vows. Why at Konark and why not anywhere else?

The place was already known as 'Arka Kshetra' , a place where Surya – Sun God was worshipped since time immemorial. On Ratha Saptami every year, the place has been crowded with devotees for thousands of years to worship the Sun God. Konark in Orissa is the north-eastern coast of India. Sun was worshiped here on Makar Sankranti. The Sun's rays first touch this holy land of India on the day of Makar Sankrant. The transition of Sun from one sign of the Sun to another is called Sankranti. So, every month there is Sankranti. In the Hindu month of Poush, when the Sun transition is from Sagittarius to Capricorn, it is called Makar Sankrant (Capricorn Solstice). This Solstice is important because at this juncture Sun changes its path and direction. From Dakshinayan to Uttarayan , from South to North. Actually the smallest day is on 21st of December. Thus uttarayan- Sun's journey towards north ideally should start on this day. However, since Earth's axis is tilted by 23.45o the period of Sun's entering into Uttarayan is shifting gradually. On 14th of January every year is the Makar Sankranti.

Considering the importance of the Sun in human life and knowing the importance of the place where the Sun's rays touch the earth on an important day in terms of astronomy, our ancestors made it a pilgrimage site. The astounding profound knowledge of our ancestors in various subjects is manifested in the temple architecture. Our mind and all our five senses need to be fully in the state of awareness to know and understand this greatness of our ancestors.

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Teerth-Keshtra – Vivekananda Sheela Smarak

The word Teertha means water. The pilgrimage site cannot be complete without water. Therefore, all pilgrimage sites must have natural sources of water. If for some reason the natural water is not available; tank, pond or any such water body is constructed as a part of the temple complex. Washing feet before entering the temple is also one of the rituals. The combination of water and earth changes the course of the wind, and the wind blows in all directions making the environment soothing, cool and comfortable. Humidity in the air is caused by small droplets of water. Science has now proved that every particle of water has the ability to accommodate and store memories. The incidents that took place in the past, the penance of the worshippers and the attitude of the devotees who have visited the place in the past are available in the water and through the water in the atmosphere and make the entire air devotional.

Water has a potential of converting a place into a teerth kshetra. Vivekananda Sheela Smarak at Kanyakumari is one such example of teerth kshetra where water has not only witnessed the spiritual events but has made the entire ambience pious. Southernmost tip of Bharat is marked by Kanyakumari, a Holi place which is bound by three oceans and land. Inspired by devotion to Shiva, Kanyakumari performed penance on this rock. That is why the name of that rock was Shripadparai. In 1892, Vivekananda went into intense penance on the same rock. In the vision that followed, he dreamed of a united India. From there, his work gained a different direction and strength. Built in 1970, this monument to Vivekananda is a symbol of that penance. Shripadparai Sheela is now also called Vivekananda Sheela. The atmosphere here and the importance of penance were engraved in the air.

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***Teerth-Keshtra* – Wind - Temple of Shri Ram in Ramtek**

Five senses of human beings; visual, kinesthetic, olfactory, auditory and palate are designed to perceive and experience this world, the beautiful creation of almighty. One lifetime seems to be not enough to acquire its holistic and complete understanding. So, one is constantly exploring the world through these senses. In the process, discovering the path to the inside world is completely forgotten. These five senses are to be conquered before attention is diverted to real 'Self' within oneself. So, the place that awakens these 5 senses by realizing the existence of Panchamahabhutas is the place of God.

Temple of Shri Ram in Ramtek is one such place of God. During the period of his exile Ram passed this place and rested for a while, thus the name 'Ramtek'. Kavi Kalidas composed his famous epic 'Meghdoot' when he was on this small hill 'Ramtek'. The beauty of nature described in Meghdoot can be experienced even today when you visit Ramtek. Poet has imagined the travel of a cloud from Ramtek to Alkapuri. The description of the place in the epic is so vivid and lucid as though the picture is being taken by a modern day drone camera.

It is a matter of great surprise when details of the poem match accurately with reality. The touch of the wind from this hill, on the body further ignites the devotion towards Rama in the mind even today. Balaji's temple on the hill of Tirumala also gives a similar experience. Nature's elegance is at its prime on Saptagiri Hill as well. According to legend, Lord Srinivasa met Bhudevi Padmavati and promised her to come and marry her. Rama, the high hill, Sita, Bhudevi, the beauty of nature and many things seem to be similar in these two places; actually not only in these two places but on any of the teerth kshetra on the hill. Presence of blowing wind is prominent and that makes the difference in the micro climate.

Such places have always been visited by us several times. During school days picnics, with friends and sometimes with a beloved to share private moments. Every time when one visits such a hill, the warmth of the cold wind there changes the temper and the mindset. It is like cultivating the land for sowing the seeds of devotion. View of a temple on the top of the hill is common. The almighty abode surely has to be at the height, closer to the skies and near heaven, wrapped up in a pleasant breeze.

***Teerth-Keshtra* – Jambukeswarar Temple**

Jambukeswarar temple is next in the series of temples of Panchamahabhutas, after the temple of Ekagreshwarar, which depicts the Prithvi- Earth element. Jambukeswarar temple is representative of Jal- water element. This is a famous Shiv temple in Tiruchirappalli in Tamil Nadu. Parvati is said to have made the lingam out of water of Cauvery river for worship and for her penance. The elephant collected water from river Cauvery and conducted ablution to the *lingam* under the Jambu tree (Eugenia jambolana, the java plum tree) daily. As an elephant worshipped Siva here, this place came to be known as Thiru Aanai Kaa (*thiru* means holy, *aanai* is elephant, *kaa* (*kaadu*) means forest). Later the name 'Thiruaanaikaa' became 'Thiruvanaikaval' and 'Thiruvanaikoil'.

Water is one of the most important elements for life. We exist on earth because of water. Water in the form of rivers and various sized water bodies on earth sustains life. Life originated from water. As per Fergusson, the temple surpasses the Srirangam Ranganathaswamy temple in architectural terms, which was constructed at the same time. There are five enclosures to the temple. The outer wall covering the fifth enclosure is large. Legend maintains that the wall was built by Shiva working with the laborers. The fourth precinct contains a hall with 796 pillars. The innermost enclosure has a sanctum. The sanctum is square and is open on three sides, with a shallow moat separating it from the circumambulatory

path of the innermost enclosure. The temples of this size were later converted into temple cities. Water, also known as teerth, has led to locating the temple structures at particular sites where humidity (water content in the air) was high. Significance of water in architecture is well known. Any piece of architecture cannot be constructed without water. Flowing water as well as water bodies in the temple complexes were inevitable for the functioning of the temple and for making temple complexes alive. Apart from water moat around the lingam, the importance of water in temple architecture needs to be further explored through research.

Teerth-Keshtra – Saraswati-Sharda – The Goddess of Knowledge and Wisdom

या कुं दें दुतुषारहारधवला या शुभ्रवस्त्रावृता | या वीणावरदुंडमुंडडतकरा या श्वेतपद्मासना ||

या ब्रह्ाुंच्युतशुंकराप्रभृडतडभदेवैस्सदा वन्दिता | सा माुं पातु सरस्वती भगवती डनशेष्य जाड्यापहा |

Ganga, Yamuna, Saraswati are the three great rivers of India. They meet at Prayagraj. The Ganga is a symbol of holiness, while the Yamuna is a symbol of devotion and Saraswati is a confluence of knowledge and art. Although the Saraswati River is extinct today, it was the largest river in India ten thousand years ago. On its banks, sages of India conceived and composed Vedas and Upanishads and many other valuable literature. This river has witnessed India's rich cultural history being shaped on its banks. Our forefathers had reached the highest level of excellence in many fields like art, science, architecture, literature, language.

Even today we have not been able to resolve the mystery of the reckonings in the various fields they had created. This Saraswati river has not only experienced all this but has contributed to make it a reality. And one day she suddenly disappeared and with her was gone the entire treasure of art, science, literature, architecture, wealth and empire of that civilization. Ever since then we Indians seem to have lost our real identity. Even

Satellite images of the Saraswati River transmitted by NASA based on research have not been able to wake us up through this slumber.

Saraswati, is the mother of all, she is the nurturer of all the streams of knowledge. Saraswati is also called Vageshwari, the deity of speech. The exchange of knowledge and art takes place through language. The power of language depends on the intensity of that culture. The greatness of the ancestors of India developed on the banks of the river Saraswati. Saraswati's vehicle is a swan. A bird with a clear conscience. A bird with a conscience that can absorb only milk by setting aside the water in the milk. The swan suggests that the conscience to know the difference between good and bad through knowledge should be awakened in people. White is Saraswati's favorite color. A symbol of purity. Saraswati has a necklace of crystals around her neck, also a symbol of this purity. She has Veena- Harp in her hands. Fine tuning is the key to the success in the world of art and music or for that matter in any field of life. Fine tuned life is like a note of music. To understand and worship Sarasvati, one needs to be pure hearted.

***Teerth-Keshtra* – Sharda Peeth**

Sharda – Goddess of intellect, form of Saraswati. On the Northernmost point of Bharat, this temple is located in Pak occupied Kashmir. The temple is the University- Sharda University; a place of acquiring knowledge. According to some scholars this was built in 237 B.C. by emperor Ashoka and some other scholars claim this temple to be the contribution of Kushan kings. However, no one can deny the fact that this temple and the university have been very important and strategic hubs of education in the history of Bharat. Between 6th and 12th century CE Sharda Peeth was one of the foremost temple universities of the Indian subcontinent.

The remnants of the temple give an idea of the grandeur of the university and the temple. Ruins tell it's glorious story. It is located on the banks of Neelam river, near LOC, 140 km from Muzaffarabad and 30 km from Kupwara. The temple is 142 feet high and about 100 feet wide. The walls around it are six feet wide and eleven feet high. There are arches on the broken stone walls. Some scholars say that the university had the largest library in the world at that time. It was a prestigious center for the study of the Vedas. The university had many ancient important texts written by Panini and other grammar scholars of the time. That is why it is also called 'Sarva Jnanpith'. Such a beautiful place of the deity of knowledge was created by our ancestors. The place from where the origin, propagation and dissemination of knowledge was profuse and easy. The place has been forgotten today. The Sharda Peeth corridor was opened last year and now fortunately Indian devotees can at least visit this place. I pray that we will be able to save and revive Sharda Peeth Temple and University soon.

***Teerth-Keshtra* - Shringeri Sharada Peeth**

This Math was established by Shri Adi Shankaracharya in the 8th century to propagate Sanatan Dharma and Advaita Vedanta. Sringeri is located on the banks of the Tungan River in the Chikmagalur district of Karnataka. There are many temples and structures of the monastery on both the banks of the river. The two main temples in the vicinity of the monastery are one of Shiva and the other of Saraswati. Shiva's temple is called Vidyashankara temple. This temple was built in the 14th century. The temple is built in a mixed style with Hoysala and Vijay Nagar styles. The temple is round on one side. It is on a high platform. There are many animals carved on the walls of the platform. One has to climb steep steps to reach the temple. On either side of the steps are statues of the 'yali' mouth of a demon and the body of an animal.

Saraswati is the goddess of knowledge and art. Its temple was built in the fifteenth century. The temple was later restored in the twentieth century. Adi Shankaracharya had erected an idol of Chandana Sharda here. Sringeri town has more than 40 temples and is known as a temple town. The monastery has many libraries and ancient rare Sanskrit texts are still preserved here. It is always crowded with devotees and scholars. The temple and the entire monastery premises is very well maintained. Pleasant and beautiful atmosphere always prevails there. Experts need to think on how to incorporate the knowledge disseminated here, into today's education system.

These case studies of Indian temples observe a common element, where the experience at the temple site is always holistic, nonetheless, when the importance of one of the elements (out of the five cosmic elements) has to be understood, emphasis has been given to that specific element in the very design of the temple. This makes the teertha-kshetra unique and the very reservoir of immense positive energy. The perception of this cosmic energy and the way human beings relate it to their physical and mental well-being is amazing and a matter of further study.

Human Perception and Experiences at the Temple *Teertha:*

We have seen that there exists a definite role of each of the five cosmic elements in building temple and consecrating the site turning it into a *teertha-kshetra*. The consecration process at the teertha determines and shapes the surrounding atmosphere with positive energy. This has a definite impact on the thoughts and emotions of human beings.

Juhani Pallasmaa writes when designing physical spaces, we are also designing, implicitly specifying distinct experiences, emotions and mental states. The sensory interaction with distinct experience evokes engagement in users. This experience is deepened with judicious combination of material, play of light, colour, organization of shapes and

forms and acoustics. User's empathy is equally important for the quality of experience. Assumptions, culture, dreams, beliefs, knowledge, temporal dimensions also have vital role to play in User- Function-Space-Experience. When we use eyes to experience the space thousands of subconscious decisions are being made simultaneously. (Palasmaa)

Deep and meaningful relationship prevails between the five panchabhutas and our five senses. These five senses enable us to experience these panchabhutas. Five major senses have traditionally been considered as hearing, touch, vision, taste, and smell. Space indicates shabda, naad (hearing), Air denotes sparsh, touch (kinesthetic), Fire – tej, roop (vision), Water- jal , rus (taste), and Earth- pruthvi, gandha (smell). The level of experience is accentuated from tangible to intangible. Earth being most tangible the level of experience

is heightened towards space. In Indian philosophy it is termed as from *sthool* to sukshma. So is the experience in the temple. The experience is very much at the *sthool* level when we talk and experience the structure of the temple. From the temple structure which is able to give the sensation of Prithvi tatva with the building material experience level is elevated to the final knowledge of presence of lord almighty, that ultimate parbrahma. Temple is designed to take bhakta gradually through these experiences.

In fact, the user responses and the related spatial perception are in direct proportion to the specific requirements and expectations of the individuals. These requirements and expectations may differ in accordance with the physical, socio-cultural and psychological characteristics and the past spatial experiences of individuals. In this context, different perceptions and responses may occur in the same space (Rapoport, 1991). It was as though the water molecules somehow retained a memory of the antibodies that they had previously been in contact with.

Conclusion:

Finally, beside signifying the role and relevance of temple teertha, the paper argues for its broad scope and relationship with contemporary interdisciplinary discourses on cultural diplomacy, peace studies, health of mind, human empowerment, etc.

- Temple 'Teertha' as an Optimistic Memory Site
- Human perception, health and healing, wellbeing and the significance of temple teertha
- Retention and sustenance of Indian Heritage through reinventing teertha kshetra as optimistic memory site
- Academic significance- the approach to understand temple structure may be modified and the study can be included in various streams.

Endnotes:

Author is an architect and wishes to put on record that the temples have been studied so far only through structural and materialistic point of view. This is an attempt to understand and initiate the process of learning about temples architecture from the perspective of Bhartiya culture, Bhartiya society and environment.

Experiencing energy in temple architecture has been dealt only theoretically.

What is Water Memory?

Jacques Benveniste coined the term "water memory" in the 1980s and controversy has surrounded the phenomenon ever since. Water memory describes water's ability to respond to its environment by changing its structure. The stimulus affecting the water leaves behind an imprint that shapes the molecule. In various water memory studies, researchers spoke to the water, and used words like, "I love you," or, "I hate you." In other tests, they used words of religious significance. The water took on various

shapes which appeared to correspond with the emotion carried by the words. In some studies, ignoring the water had an effect.

When we perceive water in the architectural sense, water finds a special place from an artistic point of view. Water is clear, fluid, calm, and quiet. The architecture utilizes all these water features and so the relationship between human and water can be shown in the architecture of any space. Within architecture, water evokes sentiments of calmness and wellbeing. The element has influenced design through its dynamic and fluid nature. Water is an important design element. Water flows, fluid, and formless. Water is often associated with intuition, dreams and innovation, and journeys. It represents time and change. Water is purifying, and it has rhythm and movement. It is associated with wisdom and memory.

Moreover, water is regarded by many cultures as the manifestation of divine will. Religious centres are built around or near water-bodies like tanks, stepwells, rivers and seas. For centuries, these have served ritualistic, spiritual as well as social functions. Cultures around the world equate water with healing and energy. People travel great distances to drink or bath in water from mountains, wells and springs that are imbued with special energy. Many people believe that water has the ability to absorb prayers, cleanse unwanted energy and bestow good medicine

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2. FEMININE LEADERSHIP: NATIONAL EDUCATION POLICY 2020 REVERENCE FOR NATURE AND TRADITIONS IN BHARAT

Prof. Ujwala Chakradeo.

Abstract:

The National Education Policy of India was approved on 29th of July 2020. The entire nation is now preparing for the implementation of the policy to its true spirit. The policy is envisaged to bring about sea change in the social texture of the nation by 2047. Apart from various intricate nuances of the policy the focus on women and women led leadership is something which I would like to focus on for this paper.

The feminine conceptualization of nature holds a profound place in Indian religious history, symbolizing the inherent feminine power. Hinduism, guided by the principle of Unity in Diversity, promotes peaceful coexistence with different faiths and extends inclusivity to a harmonious connection with nature. Ecofeminist principles align with this worldview, emphasizing the interconnectedness of social and ecological wellbeing.

This perspective highlights the feminine principle of Prakriti, emphasizing the inclusion of women in the awareness of nature as a living force. It provides vision for an inclusive epistemology, intertwining ecological and feminist ideals. In response to global challenges, this research paper seeks to unveil the empowering essence of the feminine spirit in Hindu traditions with three-fold objectives – to explore the deeply ingrained concept of feminine resilience, discuss temple case studies showcasing the integration of feminine empowerment in worship practices, and examine the implications of these traditions through the

lens of higher education and research, guided by the national education policy of 2020.

Key questions include how Hindu traditions empower the feminine spirit, the resonance of ecofeminist principles with Hindu reverence for nature, and the vital role of higher education institutions in fostering interdisciplinary research that bridges traditional knowledge with modern scientific methodologies. By posing these questions, the study seeks to stimulate research, dialogue, and practical applications contributing to a more harmonious and sustainable world. In essence, it illuminates the interconnected dynamics of feminine resilience, respect for nature and cultural traditions, and their potential impact on knowledge dissemination in contemporary educational and research landscapes.

Introduction:

In July 2020, India embarked on a transformative journey with the approval of the National Education Policy, signalling a paradigm shift in the country's educational landscape. (NEP 2020) As the nation gears up for the implementation of this visionary policy, there's a collective endeavour to embrace its ethos and aspirations. Envisioned as a catalyst for holistic societal transformation by 2047, the policy embodies a comprehensive agenda for educational revitalization, rooted in the principles of inclusivity, diversity, and sustainability.

At the heart of this policy lies a pivotal focus on women's leadership and empowerment, acknowledging their indispensable role in shaping the educational ecosystem. This emphasis on women's leadership is not only a response to the imperatives of gender equality but also a recognition of the transformative potential inherent in diverse perspectives and inclusive practices. Moreover, this focus aligns seamlessly with the principles of

Indian cosmology, which have long celebrated the inherent power and wisdom of the feminine principle, intertwined with reverence for nature and tradition.

In Indian Sanatan (i.e. Vedic) tradition, guided by the principle of unity in diversity, the feminine principle of 'Prakriti' symbolizes the interconnectedness of all life forms and underscores the sacredness of nature. This profound conceptualization of femininity as a living force within the natural world resonates deeply with ecofeminist ideals, which emphasize the inseparable bond between social and ecological wellbeing. Thus, the integration of women's leadership, education policy, Indian Sanatan (religious) history, reverence for nature, and tradition represents a convergence of diverse yet complementary perspectives, each contributing to the overarching goal of creating a more inclusive, equitable, and environmentally conscious educational ecosystem. Against this backdrop, and in response to the global challenges and the imperatives of sustainable development, this research paper endeavours to unveil the empowering essence of the feminine spirit embedded within Indian Sanatan traditions.

With a three-fold focus, the paper aims - to explore the deeply ingrained concept of feminine resilience; to examine temple case studies showcasing the integration of feminine empowerment in worship practices, and to assess the implications of these traditions through the lens of higher education and research, guided by the national education policy, 2020. Key questions addressed in this study include how Indian Sanatan traditions empower the feminine spirit, the resonance of ecofeminist principles with Indian traditional reverence for nature, and the vital role of higher education institutions in fostering interdisciplinary research that bridges traditional knowledge with modern scientific methodologies. By posing these questions, the study seeks to stimulate

research, dialogue, and practical applications contributing to a more harmonious and sustainable world.

In short, in this paper, I embark on a journey to explore the convergence of women's leadership, the NEP, and the profound ideals of femininity embedded in Indian Sanatan traditions. By delving into this intersection, I seek to unravel the transformative potential of integrating feminine wisdom, environmental reverence, and inclusive leadership paradigms into the educational fabric of the nation. Through this exploration, I aim to illuminate pathways towards a more equitable, sustainable, and culturally vibrant educational ecosystem, reflective of the unique essence of Bharat.

Nature as the Feminine Principle in Indian Sanatan Traditions: Echoes of Ecofeminism

In Indian Sanatan history, the feminine conceptualization of nature holds a profound place, symbolizing the inherent feminine power deeply embedded within Indian cosmology and Sanatan Vedic culture. Revered as feminine, nature manifests this power through mountains, caves, forests, echoing a holistic ecosystem vision deeply ingrained in our traditions. (Mādhavānanda 1950) Thus, guided by Indian cosmology (i.e. the principle of 'unity in diversity'), the Sanatan tradition fosters inclusivity in our bond with nature and promotes peaceful coexistence with different faiths as well.

Women in India, intimately connected with nature, symbolize its nurturing essence, both in imagination and in practice. Nature, as the embodiment of the feminine principle known as Prakriti, signifies activity, diversity, and interconnectedness. 'Prakriti' is also a highly evolved philosophical category in Indian cosmology. (Shiva 1988) The ontological unity of person and nature, represented by Purusha and Prakriti, forms the basis of ecological thought in India. "Rivers and

mountains have a dual nature….. within the apparently inanimate rivers and mountains there dwells a hidden consciousness. Rivers and mountains take the forms they wish." (Kalika Purana 1927) This dialectical harmony emphasizes creativity, diversity, and the sanctity of life in nature, fostering a deep interconnectedness between humanity and the environment.

The ontological shift for an ecologically sustainable future has much to gain from the world-views of ancient civilisations and diverse cultures which survived sustainably over centuries. These were based on an ontology of the feminine as the living principle, and on an ontological continuity between society and nature -the humanisation of nature and the naturalisation of society. Not merely did this result in an ethical context which excluded possibilities of exploitation and domination, it allowed the creation of an earth family. (Shiva 1988) Ecofeminist ideals advocate for unity amidst diversity, recognizing women's intrinsic connection with nature and their pivotal role in nurturing environmental consciousness. As an embodiment and manifestation of the feminine principle it is characterised by (a) creativity, activity, productivity; (b) diversity in form and aspect; (c) connectedness and interrelationship of all beings, including man; (d) continuity between the human and natural; and (e) sanctity of life in nature. (Shiva 1988)

Contemporary challenges highlight the imperative to liberate nature from capitalist patriarchy, recognizing the ecological crisis as stemming from the devaluation of the feminine principle. The recovery of this essence becomes paramount for fostering inclusive, life-affirming societies where women, embedded in nature, hold profound wisdom essential for restoring ecological balance. (Khanduja 2017)

The convergence of ecology and feminism offers a pathway to restructuring societal paradigms and overcoming maldevelopment.

Herbert Marcuse's vision of liberation as a feminization of the world underscores the need for inclusiveness and creative reimagining of societal norms, transcending gender-based ideologies. (Marcuse 1974) Women embedded in nature, producing life with nature, are therefore taking the initiative in the recovery of nature. (Shiva 1988)

The death of the feminine principle, whether in women, men, or nature, arises from the association of passivity with femininity and the shift towards violence and domination. It is imperative to transcend such ideologies and embrace a holistic understanding of human-nature relationships, rooted in interconnectedness and mutual respect. It is critical to restore the regenerative capacities of nature and preserve the indigenous knowledge of the communities involved in the sustainable subsistence practices with mostly women being the representatives. (Khanduja 2017)

The feminine principle becomes a category of challenge which locates nature and women as the source of life and wealth, and as such, active subjects, maintaining and creating life-processes. (Shiva 1988) The National Education Policy serves as a crucial step towards integrating these concerns, fostering a deeper appreciation for the feminine essence within our cultural heritage, and paving the way for a sustainable future built on principles of harmony and inclusivity. The temples of Bharat are those unique spaces, which are the embodiment of this feminine spirit. A journey through these energy spaces, with a few case studies of the temples, provides a profound insight into these age-old practices and traditions in India.

National Education Policy 2020:

The National Education policy 2020 emphasises multidisciplinary and holistic approach to education, placing creativity and research at its core.

The policy encourages exploring alternatives to traditional classroom teaching methods.

Acknowledging the crucial role of education in promoting gender equality and serving as a catalyst for societal change, the policy strives to ensure equal opportunities for all. Through the Samagra Shiksha initiative, various measures have been implemented to provide quality education to girls. These include establishing schools in local neighbourhoods to improve access, providing free uniforms and textbooks up to class VIII, deploying additional teachers and residential facilities in remote areas, appointing more female teachers, offering stipends to girls with disabilities from class I to XII, ensuring separate toilets for girls, conducting teacher sensitization programs to enhance girls' participation, and developing gender sensitive teaching materials, including text books etc.

In addition, to bridge gender gaps across all levels of school education, Kasturba Gandhi Balika Vidyalayas (KGBVs) have been established. These residential schools cater to girls from disadvantaged backgrounds, including those from Scheduled Castes, Scheduled Tribes, other Backward Classes, minorities, and Below Poverty Line families, in Educationally Backward Blocks. As of June 30, 2023, a total of 5639 KGBVs have been sanctioned nationwide, enrolling 6.88 lakh girls. The initiative to upgrade KGBVs began in 2018-19, and till the year 2022-23, a total of 357 KGBVs have been approved for up-gradation to Type-II (class 6-10) and 2010 KGBVs have been approved for up-gradation to Type-III (class 6-12).[1]

Reverence for Traditions in Bharat:

The emphasis on women, their education, and leadership is deeply rooted in the traditions of Bharat. The tradition of Devi worship, spanning thousands of years, underscores this focus.[2] Perhaps this enduring

tradition explains why women continue to be revered in various fields in Indian culture today. From fulfilling our fundamental needs such as knowledge and prosperity to addressing spiritual aspirations like wisdom and liberation, we revere the Devi as the bestower of these blessings. (Sai 2017; Dev 1987)

Devi - The Divine

We are proud of our culture of revering the feminine. Indeed, the Sanatana Dharma consisted of many sects based on different philosophies and worshipping rituals. The Shakta tradition of worship that goes back several millennia is a rich reference guide to the history of worshipping the divine feminine. The Shaiva and Vaishnava sects consider their worship to be incomplete if they do not acknowledge the divinity of the female counterparts to the various incarnations of Shiva and Vishnu. (Sai 2017; Avalon 1918; Dev 1987)

Devi is worshipped in diverse forms, from Vedic rituals to artistic expressions, symbolizing nature, music, dance, literature, sculpture, painting and more. Goddesses like Saraswati, Lakshmi, and Durga embody virtues essential for creation and preservation. From ancient Vedic times to present-day, Devi worship signifies the union of Shiva and Shakti, emphasizing the creative force inherent in femininity. This Aadi Shakti (libido) transforms the body (shava) into Shiva. Unitedly both Shiva and Shakti begin to create, protect and, if necessary, destroy to start the process of the creation afresh. This mythological divine concept or macrocosmic union is represented in this mortal world at microcosmic level. That is why creation of a new life springs out from ‘Anand’. According to our seers we are ‘Amritasya Putrah’, we are not born out of any sin committed by our parents. The omnipotent Purush, as described in the Vedas, and his consort Prakriti (Mother Nature) bear the testimony to this fact. (Sai 2017; Avalon 1918)

Navratri, a festival celebrating feminine power, highlights the significance of Devi worship across Bharat. 'Durga Saptashati', comprising 700 shlokas, extols Durga's omnipresence and virtues, resonating throughout the land. Mantras beseeching Devi's blessings echo across the subcontinent, reflecting reverence and admiration. Similarly, Chandi or Devi-Mahatmyam establishes that Durga resides in every living being as energy (Shakti), illusion (Maya), motherly instinct (Matri), compassion (kshama) and peace (Shanti) among many other valued virtues in general. Intriguingly, Durga is also hailed as Brahmani and Rudrani, the reason being, she was blessed with the powers of Brahma, Vishnu, Mahesh and many other divinities who wished to see her win the battle against Mahishasur. This shows the advantages of community-living or the rewards of joint family system, which believed in assisting a deserving member to tide over dangerous situations and inspired its members to celebrate life at every given opportunity. (Sai 2017)

The mantras of ‘Devi-Mahatmyam’ exalting Maa Durga, work on a subtle level to inspire and empower. This divine energy principle of the universe is said to have nine manifestations, namely Shailaputri, Brahmacharini, Chandraghanta, Kushmanda, Skandamata, Katyayini, Kalratri, Mahagauri and Siddhidatri. Each are worshipped in every nook and corner of this subcontinent in different ways. From tribal rituals in the North to elaborate ceremonies in the South and West, Devi's presence is celebrated in diverse ways. Devi worship transcends regional boundaries, uniting Bharat in reverence for the divine feminine.

Feminine Power Unveiled: Temple Case Studies as Cultural and Intellectual Spaces:

India's ancient temple sculptures bear testament to our deep-rooted tradition of feminine worship, with more temples dedicated to goddesses than any other deity. Across diverse communities, from rural tribes to

urban centres, reverence for feminine energies transcends gender boundaries, embodying qualities of cooperation, creativity, and inclusivity. The Shakti, representing feminine power, permeates all aspects of life, fostering an ecosystem of peace and diversity. Unlike masculine power, which seeks conquest, feminine power embraces all with nurturing care.

Goddesses like Kali and Bhairavi epitomize the sheer strength of femininity, while symbolic figures like Ganga, Yamuna, and Saraswati represent sacred rivers embodying holiness, devotion, and knowledge respectively. Saraswati, known as the Goddess of knowledge and speech, symbolizes the pinnacle of cultural excellence nurtured along the banks of the Saraswati River. On its banks, sages of India conceived and composed Vedas and Upanishads and many other valuable literatures. This river has witnessed India’s rich cultural history being shaped on its banks. Our foremothers and forefathers had reached the highest level of excellence in many fields like art, science, architecture, literature, language. Even today we have not been able to resolve the mystery of the reckonings in the various fields they had created. (Chakradeo 2024)

The disappearance of the Saraswati River millennia ago marked a loss of culturalidentity, despite its pivotal role in shaping India's rich heritage. Even moderntechnologies, like satellite imagery, fail to fully revive our awareness of this lost legacy. Saraswati, revered as the mother of all knowledge, embodies purity and wisdom, symbolized by her swan vehicle and crystal necklace. Her Veena-Harp represents the fine-tuned harmony of life, emphasizing the importance of purity in understanding and worshiping her. The following sections entail the case studies of a few temples of Bharat, which provide a rich insight into the cultural and intellectual aspects of these feminine sacred spaces.

Sharda Peeth

Sharda Peeth (dedicated to Sharda, the Goddess of intellect, a form of Saraswati) stands at the northernmost point of Bharat, now situated in Pakistan-occupied Kashmir. It was believed to have been constructed around 237 B.C. by Emperor Ashoka or by Kushan kings, serving as both a temple and a renowned centre of learning. Between the 6th and 12th centuries CE, Sharda Peeth flourished as one of the premier temple universities in the Indian subcontinent. The grandeur of its ruins along the Neelam River near the Line of Control (LOC), approximately 140 km from Muzaffarabad and 30 km from Kupwara, reflects its historical significance. ((ibid))

The temple, towering at 142 feet high and approximately 100 feet wide, was surrounded by walls six feet wide and eleven feet high, adorned with arches. Some scholars suggest that it housed the world's largest library at the time and was renowned for the study of the Vedas, earning it the title of 'Sarva Jnanpith.' Despite its former prominence, Sharda Peeth and its legacy have faded from memory, a testament to the loss of a once vibrant centre of knowledge and learning created by our ancestors.

Shringeri Sharada Peeth

Established by Shri Adi Shankaracharya in the 3rd century BC, Shringeri Sharada Peeth serves as a bastion of Sanatan Dharma and Advaita Vedanta. Nestled along the banks of the Tungan River in Karnataka's Chikmagalur district, it boasts numerous temples and monastery structures. Prominent among these are the temples dedicated to Shiva and Saraswati. The Vidyashankara temple, a blend of Hoysala and Vijayanagara styles, stands majestically on a high platform, adorned with intricate animal carvings and guarded by imposing 'yali' statues. Saraswati, the goddess of knowledge and art, finds reverence in a fifteenth-century temple, later restored in the twentieth century, housing

an idol of Chandana Sharda erected by Adi Shankaracharya. (ibid)

Sringeri town, with over 40 temples, is rightly called a temple town, drawing devotees and scholars alike. The monastery's extensive libraries house rare Sanskrit texts, preserving ancient wisdom for future generations. As a hub of spiritual and intellectual pursuits, Shringeri Sharada Peeth beckons experts to contemplate its integration into modern education systems, ensuring the continued dissemination of its timeless knowledge.

Chaushast Yogini Temples

The Chaushast Yogini temples stand as enigmatic structures blurring the line between the human and the divine. These temples, dedicated to yoginis, who possess extraordinary powers or siddhis, are scattered across India, from Uttar Pradesh to Tamil Nadu. Each temple, often located in remote areas, serves as a sanctuary for worship and reflection, but has also historically been a refuge for those seeking seclusion or hiding from authorities. (ibid)

These temples vary in architectural style and iconography, with each set of 64 yoginis displaying unique features. Circular in shape, most lack a roof, symbolizing an open connection to the divine. Despite their remoteness, some temples like the one in Khajuraho have retained significance, with locals continuing rituals during festivals like Navratri. The Chausasht Yogini temple near Gwalior in Morena district is a notable example. Built on a hill, it features a circular design with 64 small chambers dedicated to yoginis. Despite its historical significance, the temple has suffered damage over time, with many of its sculptures lost or damaged. Similarly, the 64 Yogini temple in Bhedaghat, Jabalpur, stands as a testament to the sacred feminine force. Built in the 11th century, it is one of the largest of its kind, featuring a circular structure and serene atmosphere. Despite the damage to many of its idols, the temple's

remaining sculptures serve as reminders of a bygone era of prosperity, peace, and artistic expression. Besides, the 64 Yogini temples, known for their mystique and secrecy, like the one in Hirapur, Odisha, serve as sites for tantric rituals and worship. (ibid)

These temples are rich in symbolism and craftsperson ship. Each statue of the goddesses, though often in a state of disrepair, offers insight into ancient beliefs and practices. Unfortunately, many statues have been damaged or destroyed over time. The resemblance of these temples to modern structures, like the Parliament building in New Delhi, raises intriguing questions about architectural inspiration and cultural continuity. As India embarks on projects like the Central Vista redevelopment, it's an opportune time to explore and preserve these architectural treasures.

Kolhapur Karveer Vasini Ambabai, Mahalakshmi, Shakti Peeth

The worship of feminine power is deeply ingrained in Hindu tradition, celebrated annually with nine days of Navaratri festivities, symbolizing holiness, well-being, and enthusiasm. Among the revered sites embodying this sacred essence is the Karveer Vasini Ambabai, Mahalakshmi, Shakti Peeth in Kolhapur. Legend has it that the Goddess vanquished the demon Kolhasura at this very site. Situated on the banks of the Panchganga River in Karvir Nagari, Kolhapur, the ancient temple of Mother Mahalakshmi stands as a testament to devotion, constructed from gray stone in the 8th century. Over the ages, various rulers and patrons, including King Karan Dev of the Chalukya dynasty, have contributed to its magnificence. (ibid)

The temple's external facade is adorned with idols of 64 Yoginis, Madanika, and Sur Sundarya, while its three main parts—Mandap, Antaral, and Garbhagruha-house the revered idol of Mahalakshmi, crafted from black stone and adorned with intricate ornaments. Within the temple

complex, shrines dedicated to Mahakali and Mahasaraswati stand alongside, encircled by a protective stone wall. A unique feature of the temple is its Deepmal, or tower of lights, standing tall within the courtyard. With five peaks rising above the temple structure, the site holds significance during the twice-yearly celebrations when the rays of the rising sun illuminate the goddess's idol directly, marking the time of transition. (ibid)

The temple's design and alignment with the sun's rays, coupled with its connection to the Sandhyamath in Rankala Lake, beckon deeper exploration and research into the mysteries hidden within its ancient architecture, possibly revealing insights into celestial movements and calculations.

Banashankari Badami: A Shrine of Nourishment and Divine Motherhood

Nestled in the Bagalkot district of Karnataka, the village of Badami boasts ancient cave temples renowned for their architectural splendour. Amidst its historical richness lies another sacred site—the Shakti Peeth of Banashankari, also known as Vanashankari, nestled in the Tilakaaranya forest near Cholachagudda village.

Enveloped by the lush greenery of the dense forest, Banashankari Devi's temple stands as a symbol of Annapurna, the benevolent goddess who provides sustenance in all circumstances. Constructed by the Chalukya kings in the 7th century, the temple exemplifies Dravidian architecture, with meticulously crafted Ardha Mandap, Mandap, and Garbhagriha. A towering Shikhar crowns the Garbhagriha, while a magnificent 360-ft square water tank, known as Haridra Tirtha, graces the temple's entrance. Adorning the forefront are eagle pillars (Garuda Stambha) and lamp posts (Deep Stambha), reflecting influences of later Islamic architectural styles. (ibid)

The idol of Banashankari Devi, sculpted from black stone, portrays her in her ashtabhuja form—eight arms wielding various weapons, symbolizing her divine power to vanquish demons and provide nourishment to all beings. During festivals, the goddess adorns herself with vegetables, embodying the nurturing essence of nature and motherhood. Shakambari Devi, as she is affectionately called, embodies the essence of motherhood, symbolizing the universal duty to provide nourishment and sustenance to all living beings. Her presence in Banashankari Badami invokes reverence for the nurturing aspect of creation and the boundless love of the divine mother.

Maa Bhairavi Temple in Brahmapur*: *A Sacred Abode of Divine Power

Located at the village of Mantridi, near Berhampur in the Ganjam district of Odisha, lies the revered Maa Bhairavi Temple—a sanctuary dedicated to the formidable goddess Bhairavi. This temple holds special significance as one of the four Adi Shakti Peethas in India, believed to date back to the 8th century. The deity within the temple is represented by a simple yet potent statue, known as 'Ek Pad Bhairavi,' depicting the goddess with only one leg—a symbolic representation of her association with kundalini energy, residing within the Muladhara Chakra. Bhairavi, also known as Shubhankari, embodies both nurturing maternal qualities and fierce, punitive aspects, ensuring auspicious outcomes for her devotees while wielding justice when necessary. (ibid)

Legend has it that Bhairavi Devi will manifest alongside the Kalki avatar at the end of Kaliyuga, heralding the restoration of righteousness. The architectural style of the temple complex reflects the distinctive Orissa style, with a towering shikhar adorned with vertical niches, creating an illusion of height. The graceful curves of the shikhar culminate in an intricately carved cupola, adding to the temple's grandeur. (ibid)

Beyond its architectural charm, the Maa Bhairavi Temple exudes a palpable aura of reverence, drawing devotees in large numbers who are filled with a mixture of love and awe in their hearts as they seek blessings from the divine goddess.

Kamakhya Temple

Located on the tip of Nilachal hill in Guwahati, Assam, the Kamakhya Temple stands as one of the most revered shakti peethas, steeped in ancient mysteries and traditions. Unlike conventional temples, Kamakhya Temple doesn't house an idol of the deity, instead, it reveres the yoni, symbolizing the divine feminine energy. This unique aspect makes it a focal point for Tantric practices, particularly within the Kulachara Tantra Marga tradition. An annual festival known as the Ambubachi Mela is celebrated here, honoring the menstruation of the goddess. Contrary to common misconceptions, menstruation is not considered inauspicious in Tantric (procedure) aspect of Hinduism. The menstruating Kamakhya goddess is worshipped as the goddess of fertility. Moreover, the temple's traditions surrounding menstruation reflect deeper cultural beliefs and practices.[3]

The inner sanctum, reached by slender stone steps, houses a sacred depression resembling a yoni, continuously filled with water from an underground spring. This form is worshipped as the goddess Kamakhya. The temple's architecture is equally awe-inspiring, blending the Nagara style of North Indian temples with elements of Saracenic or Mughal architecture, creating a unique Nilachala style. Constructed in 1565 by Chilarai of the Koch dynasty, the temple boasts a distinctive beehive-like shikhara adorned with sculptures of various deities. Despite its medieval origins, the Kamakhya Temple remains an extraordinary testament to India's diverse cultural heritage and architectural brilliance. (ibid)

Ma Linga Bhairavi

The Ma Linga Bhairavi temple, situated in the premises of Sadhguru Jaggi Vasudev Ashram in Coimbatore, stands as a beacon of empowerment and inclusivity. While both men and women visit the temple to pay homage to the Goddess, there's a unique aspect to its worship – only women are permitted to enter the inner sanctum and offer their prayers. Indeed, amid prevalent taboos, this temple is aimed at giving a positive message to the society by allowing women to enter the inner sanctum and letting them worship the Goddess, while they are on their periods. (TNIE 2020)

The Way Forward:

Finally, through an interdisciplinary lens and ecofeminist perspectives, the paper advocates for a future direction in educational initiatives and research endeavours that recognize and promote feminine leadership, reverence for nature, and the fostering of a more sustainable and equitable society. Aligned with the principles of the NEP 2020, which emphasizes the elements of inclusivity and diversity, through focusing on Indian traditional knowledge practices, the paper highlights the inherent connection between Indian Sanatan traditions, feminine empowerment, and ecological well-being. It underscores the need for higher education institutions to foster interdisciplinary research that bridges traditional knowledge with modern scientific methodologies, thereby contributing to a more harmonious and sustainable world.

By shedding light on temple case studies as cultural and intellectual spaces that embody feminine power and reverence for nature, the paper emphasizes the importance of preserving and integrating these traditions into contemporary educational practices. These temples can be treated as places of learning away from the formal buildings of education. The paper calls for a holistic approach to education and leadership that honours the feminine spirit, respects nature, and fosters sustainable development. By

embracing these principles and integrating them into educational initiatives and research endeavours, India can truly realize the vision of the NEP 2020 and work towards creating a more inclusive, equitable, and environmentally justifiable future.

Professor Ujwala Chakradeo* author of this paper is the Vice Chancellor of SNDT Women's University Mumbai, one of the largest and oldested Women Universities of South Asia. Established in the year 1916. Resume of Prof Chakradeo is attached separately.

Endnotes

1. This information was provided by the Minister of State for Education, Smt. Annpurna Devi, in a written reply to the Lok Sabha on July 31, July 2023.
2. We can always go back to holy epics like the Devi Mahatmyam from the Markandeya Puranam and the Devi Bhagavatam.
3. While some restrictions on menstruating women entering Hindu temples may seem restrictive, however, Sinu Joseph, an Indian activist in menstrual health education, emphasizes that they were not intended to suppress women but rather stem from complex cultural beliefs. Sinu travelled across India to learn the origin of menstrual practices and their impact on women in rural India. In some communities, menstrual blood is revered for its potent powers, and menstruating women are considered embodiments of divine energy. Sinu found that many Hindu people believe menstruating women are so pure that they're 'worshipped' as a 'living goddess' during that time of the month, and therefore, a menstruating woman cannot enter a temple as her energy will attract that of the murti, and the murti will become lifeless.

   These traditions, while varying across regions, underscore the intricacies of beliefs and customs in India.

https://indusscrolls.com/anyone-who-is-born-in-this-land-isfirst-a-hindu-an-interview-with-sinu-joseph#google_vignette

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3. NEXTGEN EDUCATION: ADVANCING LEARNING WITH GENERATIVE AI

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Abstract:

In a world where technology and education are becoming increasingly intertwined, the role of generative AI in learning and education is rapidly evolving. Generative AI is not just a tool; it is now reshaping the narrative of learning and development. From personalized learning paths to newfound freedom for teachers and trainers, generative AI is driving innovation, inspiration, and insights in education. This chapter will provide a comprehensive overview of the impact of generative AI in education, exploring its evolution, highlighting key milestones, and examining its role in teaching methods, student-centric learning, content creation, and educational assessment. We will also address the ethical considerations and privacy concerns associated with the use of generative AI in educational settings. By the end of this chapter, you will have a deeper understanding of how generative AI is transforming education and the potential it holds for the future.

Iris, the robot instructor in India, exemplifies the fusion of advanced technology with educational innovation. Incorporating state-of-the-art artificial intelligence and robotics, Iris operates as a dynamic teaching assistant, leveraging natural language processing, machine learning algorithms, and interactive functionalities to engage students in classroom activities. Equipped with sensors and cameras, Iris can

perceive and respond to students' gestures, expressions, and verbal cues, enabling personalized interactions and adaptive teaching strategies. Additionally, its cloud-based architecture allows for seamless updates and customization, ensuring that Iris remains at the forefront of educational technology advancements. By harnessing the power of AI and robotics, Iris redefines traditional teaching paradigms, offering students an immersive and personalized learning experience that fosters curiosity, creativity, and critical thinking skills.

What is Generative AI?

Generative AI is a branch of AI that aims to construct models that can generate new data samples that are similar to those in the training set. The models study the core structure of the data and then use that knowledge to produce new samples that are similar to the original ones. One common approach in Generative AI is using GANs, or the Generative Adversarial Networks. GANs consist of two neural networks—the generator and the discriminator—that are trained at the same time. The generator makes up new samples; on the other hand, the discriminator assesses the realism of these samples in comparison to real data. Both networks are improved iteratively, with the generator learning to create more realistic samples and the discriminator being better at the testing between the real and the fake samples.

Generative AI can be used for many things, for instance, image generation, text generation, and music composition. Through the knowledge and modelling of the typical distribution of the data, generative AI makes it possible to design new content that is consistent and a mirror of the original dataset.

Challenges in the Current Educational System are addressed by Generative AI:

1. **Personalization:** The most important problem in the education field is to create an education system that will be able to meet the different needs and learning styles of individual students. Generative AI can be an answer to this problem by making it possible for the production of individualized learning materials and adaptive learning systems, which will adjust content and experience to each student's strengths, weaknesses, and preferences. For example, a generative AI system could analyse a student's previous answers and tailor subsequent questions to address gaps in understanding, thereby providing a highly personalized learning experience (Woolf, 2019).
2. **Engagement:** The key to successful learning is the student's involvement in the learning process, but most students do not like the traditional teaching methods, hence they disengage. Generative AI can be a source of improvement in the participation of students through the creation of interactive and immersive learning experiences, such as simulations, games, and virtual environments that will capture the students' attention and will be their motivation.
3. **Teacher Workload:** The teachers usually have a big workload, which includes lesson planning, grading, and administrative tasks, and this, in turn, takes away the time they should use for teaching and supporting the students. Generative AI can reduce the teacher workload by automating routine tasks, such as generating quizzes, giving feedback on assignments, and organizing instructional materials, which will consequently enable teachers to concentrate more on individualized instruction and student interactions. Generative AI can assist in these tasks by producing creative and diverse educational content,

significantly reducing preparation time and allowing educators to focus more on pedagogy and less on logistics (Zawacki-Richter et al., 2019).

4. **Resource Constraints:** Most educational institutions work with scarce resources, such as money, staff, and infrastructure, which can prevent the provision of quality education. Generative AI presents the low-cost methods of generating the educational content and teaching which in turn help the institutions to use their resources to the full capacity and to reach more students in an effective manner.
5. **Addressing Learning Gaps:** Students usually possess different degrees of prior knowledge and experience, which in turn results in the learning gaps that can become the obstacles for the learning progress. Generative AI can solve the learning gaps by giving the adaptive learning experiences which for example, they can scaffold the instruction, they can provide the targeted support and remediation for the students who are having a hard time.

The Evolution of Generative AI in Educational Spaces:

The evolution of generative AI in educational settings began in the early 2000s with the use of basic AI algorithms in adaptive learning systems. These algorithms laid the foundation for personalized learning by allowing for individualized learning experiences. In the late 2000s, advancements in machine learning and neural networks significantly enhanced the capabilities of AI in education. This led to the introduction of natural language processing (NLP), which enabled AI-powered educational assistants to interact with students in natural language. The late 2010s marked a major breakthrough with the emergence of generative AI models like GPT, which revolutionized the field by generating educational content, providing instant feedback, and creating interactive learning experiences.

Exploring the Impact of Generative AI on Teaching Methods:

Generative AI has had a significant impact on teaching methods in education. It has revolutionized the way lesson plans are created and delivered, making them more dynamic, engaging, and personalized. With generative AI technologies, educators can automate the process of creating lesson plans by using AI-generated content and resources. This allows teachers to spend more time on student interaction and personalized teaching. Generative AI also enables the creation of interactive and immersive learning experiences, incorporating elements such as virtual reality and gamification. These innovative teaching methods enhance student engagement and make learning more enjoyable and effective.

Revolutionizing Lesson Planning and Delivery:

Generative AI technologies have revolutionized lesson planning and delivery in the teaching profession. Here are some ways in which generative AI is transforming the way lesson plans are created and delivered:

- **Automated lesson plan generation:** Generative AI tools can automatically generate lesson plans based on predefined learning objectives and curriculum standards, saving teachers valuable time and effort.
- **Personalized learning experiences:** Generative AI can tailor lesson plans to individual student needs and learning styles, allowing for more personalized and effective instruction.
- **Dynamic and interactive content:** Generative AI enables the creation of dynamic and interactive learning materials, such as multimedia presentations, virtual simulations, and gamified activities, enhancing student engagement and understanding.

- **Continuous improvement:** Generative AI can analyse student performance data and provide insights to teachers, helping them identify areas for improvement in their lesson plans and instructional strategies.

  These advancements in generative AI are transforming the way lesson plans are designed, delivered, and evaluated, ultimately enhancing the teaching and learning experience. Some of these tools are Squirrel AI, Century Tech, Quillionz, Smart Sparrow and DreamBox Learning.

Enhancing Interactive Learning Through AI:

Generative AI is enhancing interactive learning experiences by providing learners with more engaging and immersive educational content. Here are some ways in which generative AI is enhancing interactive learning:

- **Virtual and augmented reality:** Generative AI can create virtual and augmented reality experiences that allow learners to interact with 3D content in their learning environment. This technology brings learning to life and provides a more immersive and engaging experience.
- **Gamified learning platforms:** Generative AI can be used to create gamified learning platforms that use game elements, such as rewards and challenges, to motivate learners and make learning more interactive and enjoyable.
- **Adaptive learning paths:** Generative AI can analyse learner data and provide personalized recommendations and adaptive learning paths, guiding learners through their educational journey and ensuring that they receive content tailored to their needs and learning styles.
- **Real-time feedback and support:** Generative AI can provide learners with instant feedback and support, allowing them to receive timely guidance and assistance in their learning process. This immediate feedback helps learners stay engaged and motivated.

By leveraging generative AI, educators can create more interactive and engaging learning experiences that promote learner engagement and improve learning outcomes. Some of these tools are: Kahoot!, Nearpod, Quizlet, Edpuzzle, and Wooclap

Student-Centric Learning with Generative AI:

Generative AI enables student-centric learning by providing customized learning experiences that cater to the diverse needs of individual learners. Student-centric learning focuses on tailoring educational experiences to meet the unique needs, interests, and learning styles of each student. Generative AI technologies can personalize learning paths, adapt content and assessments based on individual student performance, and provide targeted feedback and support. By leveraging generative AI, educators can create a more inclusive and effective learning environment that fosters student engagement, motivation, and success.

Customizing Learning Experiences for Diverse Needs:

Generative AI enables the customization of learning experiences to meet the diverse needs of students across various subjects. Here's how generative AI is customizing learning experiences:

- **Adaptive content:** Generative AI can adapt educational content to match the learning needs and preferences of individual students. It can modify the difficulty level, format, and delivery mode of content to ensure optimal learning outcomes.
- **Multilingual support:** Generative AI can provide multilingual support, allowing students who speak different languages to access educational content in their native language. This enhances their understanding and engagement with the material.
- **Personalized assessments:** Generative AI can generate personalized assessments and quizzes based on individual student performance and

learning objectives. This allows for targeted evaluation and feedback, addressing specific learning needs.

- **Differentiated instruction:** Generative AI can provide differentiated instruction by tailoring learning activities and resources to cater to students' unique learning styles, interests, and abilities.

By utilizing generative AI, educators can create customized learning experiences that promote inclusivity, engagement, and achievement across diverse subjects and student populations.

Tracking and Improving Individual Learning Outcomes:

Generative AI plays a crucial role in tracking and improving individual learning outcomes by providing insights into student progress and performance. Here's how generative AI helps track and improve individual learning outcomes:

- **Data analysis:** Generative AI can analyse student performance data, including test scores, assignments, and engagement metrics, to identify areas of improvement and provide personalized recommendations for further learning.
- **Adaptive learning paths:** Generative AI can suggest adaptive learning paths based on individual student performance, allowing learners to focus on areas where they need additional support and practice.
- **Timely interventions:** Generative AI can detect early signs of learning difficulties or gaps in understanding and provide timely interventions to address these issues. This helps prevent learning gaps from widening and ensures that students receive the support they need to succeed.

By leveraging generative AI, educators can track individual learning outcomes more effectively and provide targeted interventions to support student growth and achievement.

Generative AI in Content Creation for Education:

Generative AI is revolutionizing content creation for education by automating and personalizing educational materials. Generative AI technologies can generate a wide range of educational content, including lesson plans, quizzes, interactive exercises, and simulations. These AI systems can adapt content to match individual student needs and learning objectives, ensuring that educational materials are tailored to each learner's unique preferences and abilities. By leveraging generative AI in content creation, educators can create more engaging and effective educational resources that enhance the learning experience for students.

Automating and Personalizing Educational Content:

Generative AI is automating and personalizing educational content, making it more efficient and tailored to individual student needs. Here's how generative AI is automating and personalizing educational content:

- **Automated content generation:** Generative AI can automatically generate educational content, such as lesson plans, quizzes, and assignments, based on predefined learning objectives and curriculum standards. This saves teachers time and effort in content creation.
- **Personalized recommendations:** Generative AI can provide personalized recommendations for educational content based on individual student performance and learning preferences. This ensures that students receive content that is relevant and engaging to their specific needs.
- **Adaptive learning materials:** Generative AI can adapt learning materials based on real-time student data, providing personalized content that matches each learner's pace, abilities, and learning style. This improves the effectiveness of the learning experience and promotes student engagement.

By automating and personalizing educational content, generative AI enhances the efficiency and effectiveness of teaching and learning in diverse educational settings.

Innovations in Language Learning and STEM Education:

Generative AI has brought about significant innovations in language learning and STEM (Science, Technology, Engineering, and Mathematics) education. Here are some examples of how generative AI is transforming these areas:

Language learning:

Generative AI can create realistic language exercises that mimic real-life conversations, enhancing language acquisition in language classes. AI-generated content can also provide culturally rich language materials that cater to diverse language learners. Tools like chatbots can converse with students in the target language, offering corrections and suggestions for improvement. These interactive AI tutors provide students with additional practice opportunities beyond the classroom, facilitating better language acquisition (Kumar et al., 2020). Duolingo, Rosetta Stone, Babbel, Lingvist, HelloTalk, LingoBot are few tools for language learning

STEM education:

Generative AI enables the creation of realistic simulations in science education, allowing students to conduct virtual experiments and explore complex concepts in a safe and controlled environment. AI-generated content can also provide interactive and engaging STEM materials that make learning more enjoyable and accessible to students. Google AI Education (TensorFlow),IBM Watson Studio, Microsoft AI for Earth, Wolfram Alpha, Code.org, are some AI tools for STEM education:

Generative AI is revolutionizing language learning and STEM education by creating immersive and personalized learning experiences, enhancing student engagement, and promoting deeper understanding of these

subjects. Language learning-Generative AI creates realistic language exercises and culturally rich language materials. STEM education-Generative AI enables the creation of realistic simulations and provides interactive STEM materials.

The Role of Generative AI in Educational Assessment:

Generative AI plays a significant role in educational assessment by streamlining grading and feedback mechanisms and providing predictive analytics for student performance. Here's how generative AI is shaping educational assessment:

- **Automated grading:** Generative AI can automate the grading of assignments and assessments, providing immediate and objective feedback to students. This saves time for educators and enables more timely feedback for students.
- **Feedback mechanisms:** Generative AI can provide instant feedback and support to students, helping them understand their strengths and areas for improvement. This immediate feedback enhances the learning process and supports student growth.
- **Predictive analytics:** Generative AI can analyse student performance data and provide predictive analytics, allowing educators to identify potential challenges or areas where students may need additional support. This enables targeted interventions to improve student performance.

Generative AI is revolutionizing educational assessment by making it more efficient, objective, and personalized, ultimately improving learning outcomes for students. Edulastic, Knewton, ProctorU, VidGrid, WriteLab and Turnitin are some of the tools used in educational assessment.

Streamlining Grading and Feedback Mechanisms:

Generative AI is streamlining grading and feedback mechanisms in education, making them more efficient and effective. Here's how

generative AI is improving grading and feedback:

- **Automated grading:** Generative AI can automatically grade assignments and assessments, saving educators time and providing immediate and consistent feedback to students. This eliminates the need for manual grading and ensures that students receive timely feedback.
- **Objective feedback:** Generative AI provides objective feedback to students, focusing on specific areas of improvement and highlighting strengths. This helps students understand their performance and make informed decisions about their learning.
- **Consistency:** Generative AI ensures consistency in grading and feedback, as it applies predefined criteria uniformly to student work. This eliminates subjective biases and ensures fairness in assessment.
- **AI literacy:** Generative AI enhances students' AI literacy by exposing them to automated grading and feedback mechanisms. This helps students develop a better understanding of AI technology and its impact on their education.

By leveraging generative AI, educators can streamline grading and feedback processes, providing students with timely, objective, and consistent feedback on their work.

Predictive Analytics for Student Performance:

Generative AI enables predictive analytics for student performance, allowing educators to identify potential challenges and provide targeted support. AI-driven analytics can identify the most effective teaching strategies for different student groups, leading to improved academic performance (Zhou et al., 2021). Here's how generative AI enhances predictive analytics:

- **Data analysis:** Generative AI can analyse student performance data, such as test scores, assignment grades, and engagement metrics, to

identify patterns and trends. This data analysis provides insights into students' strengths, weaknesses, and learning progress.

- **Early intervention:** Generative AI identifies potential challenges or areas where students may need additional support, allowing educators to intervene early and provide targeted interventions to improve student performance.
- **Personalized recommendations:** Generative AI provides personalized recommendations based on predictive analytics, guiding educators in tailoring instruction and resources to meet individual student needs. This enhances the effectiveness of teaching and promotes student success.
- **Data-driven decision-making:** Generative AI enables educators to make data-driven decisions by providing evidence-based insights into student performance. This improves the accuracy and effectiveness of educational interventions and support.

Generative AI enhances predictive analytics in education, empowering educators to support student success and improve learning outcomes. Bright space Insights, Blackboard Predict, Instructure Canvas Data, Civitas Learning,D2L Insights are some of the AI tools used for predictive analytics for student performance:

Case Studies of Generative AI in Education:

1. **Duolingo – Language Learning Enhanced by AI**

   Duolingo, a popular language learning platform, uses AI to personalize learning experiences for its users. The AI algorithms analyse user responses and tailor future exercises to address weaknesses, thereby optimizing the learning path for each individual. The platform's success is evidenced by its widespread use, with millions of active users globally. The use of AI allows Duolingo to

scale learning opportunities while maintaining personalization, a key component in effective language education (Von Ahn, 2020).

2. **Carnegie Learning – AI-Driven Math Instruction**

   Carnegie Learning's MATHia platform employs AI to provide a personalized math learning experience that mirrors one-on-one tutoring. The AI system assesses each student's responses and adapts in real-time, offering hints, feedback, and new problems tailored to the student's current level of understanding. Studies have shown that schools using MATHia see significant improvements in math scores compared to those that do not use the program. This case demonstrates how AI can transform traditional subjects like mathematics into more interactive and adaptive learning experiences (Pane et al., 2017).

3. **Content Technologies, Inc. – Customized Textbooks**

   Content Technologies, Inc. (CTI) uses deep learning algorithms to create customized textbooks that match the curriculum requirements and learning objectives of specific courses. The AI sifts through a vast database of content to compile textbooks that are tailored to the needs of particular classes or students. This application not only saves educators time but also provides students with materials that are more relevant and engaging, potentially increasing learning effectiveness (CTI, 2019).

4. **Georgia Institute of Technology – Jill Watson, a Virtual TA**

   Georgia Tech deployed an AI-powered virtual teaching assistant named Jill Watson, built on IBM’s Watson platform. Jill was designed to help manage the high volume of student inquiries in an online master's degree program. She could answer questions about course logistics and content around the clock, enhancing student support and freeing human TAs for more complex student interactions. Jill Watson’s deployment has been hailed as a success in demonstrating

how AI can act as an efficient, scalable teaching aid that improves educational delivery without compromising quality (Goel & Polepeddi, 2016).

5. **ELSA Speak – Pronunciation Coach**

   ELSA Speak uses speech recognition technology powered by AI to help language learners improve their English pronunciation. The app listens to users' speech and provides instant feedback on pronunciation errors, offering personalized practice sessions to improve accent and clarity. ELSA Speak's approach has proven highly effective for non-native speakers looking to enhance their spoken English skills, demonstrating the potential of AI in fine-tuning language acquisition (ELSA Corp, 2021).

Ethical Considerations:

Addressing Ethical Considerations and Privacy Concerns:

As generative AI becomes more prevalent in educational settings, it is crucial to address ethical considerations and privacy concerns.

Ethical considerations: Generative AI raises ethical concerns, such as the potential for bias in AI-generated content and decisions. It is essential to ensure that generative AI is used responsibly, without perpetuating biases or compromising educational integrity.

Data privacy: Generative AI relies on student data for personalized learning experiences and assessment. It is important to protect student privacy and ensure that data is collected, stored, and used in compliance with privacy regulations and best practices.

By addressing these ethical considerations and privacy concerns, educators can ensure the responsible and ethical use of generative AI in education.

Balancing Innovation with Data Protection:

In the integration of generative AI in education, it is crucial to strike a balance between innovation and data protection. Here's how to achieve this balance:

- **Responsible data collection:** Generative AI should prioritize responsible data collection, ensuring that student data is collected and used in compliance with privacy regulations and best practices.
- **Transparency and consent:** Educators should be transparent about the use of generative AI and seek student consent for data collection and usage. This empowers students to make informed decisions about their data.
- **Data anonymization:** Generative AI should prioritize data anonymization to protect student privacy. By removing personally identifiable information from student data, educators can ensure that student identities are protected.
- **Continuous monitoring and evaluation:** Educators should continuously monitor and evaluate the use of generative AI to ensure data protection and privacy. This includes conducting regular privacy audits and assessments of AI systems.

By balancing innovation with data protection, educators can harness the benefits of generative AI while safeguarding student privacy and ensuring ethical use of data.

Ethical AI Use in Educational Settings:

Ethical AI use in educational settings is essential to ensure the responsible and equitable integration of generative AI. Here are some best practices for ethical AI use:

- **Accountability and transparency:**

  Educators should be accountable for the AI systems they use and ensure transparency in the decision-making processes of these systems.

- **Bias mitigation:**
  Generative AI should be designed to mitigate biases and ensure fair and equitable outcomes. This includes regular monitoring and evaluation of AI systems for potential biases. If AI systems are trained on biased data, they could reinforce these biases in educational materials or interactions, thus impacting students' learning experiences negatively (Bender & Gebru, 2021).
- **Informed consent:**
  Students should be informed about the use of generative AI in their education and have the opportunity to provide informed consent for data collection and usage.
- **Data security:**
  Educators should prioritize data security and ensure that student data is protected from unauthorized access or use.
- **Continued professional development:**
  Educators should engage in continued professional development to stay informed about the ethical implications of AI use in education and implement
  best practices.

By adhering to these ethical best practices, educators can ensure the responsible and ethical use of generative AI in educational settings.

Future Trends in Generative AI with respect to Education:

The future of generative AI (GenAI) in education is poised for transformative developments, driven by rapid advancements in AI technology and increasing integration into educational systems. Here are some of the key trends and innovations expected to shape the use of generative AI in education over the coming years:

1. **Advanced Personalization and Adaptive Learning**
   Future GenAI systems will likely offer even more sophisticated

personalization, using deeper insights into individual learning styles, preferences, and needs. These systems will dynamically adjust content, pace, and learning strategies to optimize student engagement and efficacy. For instance, AI could develop complex learner profiles and use these to create highly tailored educational experiences that not only address learning gaps but also align with students' career aspirations and life goals.

2. **Automated Content Generation**

   As natural language processing (NLP) and machine learning continue to evolve, GenAI will become more proficient at generating educational content. This includes creating realistic simulations, interactive environments, and personalized textbooks. These capabilities will not only reduce the burden on educators but also provide students with endlessly customizable resources that enhance their learning.

3. **AI Tutors and Assistants**

   AI tutors are expected to become more nuanced and capable, providing assistance that rivals human tutors in basic and even complex subjects. These AI tutors will be accessible 24/7, offering help and resources tailored to individual learning curves. Furthermore, AI could facilitate peer learning by connecting students with similar interests or complementary skills, enhancing collaborative learning.

4. **Augmented and Virtual Reality Powered by AI**

   Integrating AI with augmented reality (AR) and virtual reality (VR) could revolutionize experiential learning by creating immersive learning environments for students. For example, medical students could perform virtual surgeries controlled by AI, adapting the scenario in real-time to their actions. This integration offers hands-on experience in a risk-free setting, enhancing both the depth and breadth

of educational opportunities.

5. **Ethical and Bias Monitoring**

   As AI's role in education expands, continuous monitoring for ethical implications and biases will become increasingly important. Future innovations might include more robust algorithms designed to detect and mitigate biases in educational AI systems. This will ensure fairness and equity in AI-driven education, promoting inclusivity and preventing discrimination.

6. **Blockchain for Credentialing and Security**

   Blockchain technology could be used in conjunction with AI to secure student records and manage credentialing. By automating the verification of academic credentials through blockchain, educational institutions can provide transparent and tamper-proof records. This technology could also support the decentralized management of educational resources, where AI curates and customizes learning based on immutable learner data.

7. **Lifelong Learning Companions**

   GenAI could develop into lifelong learning companions that support individual educational journeys over a lifetime. These AI systems would adapt to learners' evolving needs as they move through different stages of life and learning, providing relevant resources and guidance at each step.

8. **Integration with IoT and Smart Devices**

   The future of GenAI in education will likely see greater integration with the Internet of Things (IoT) and smart devices. This could lead to smart classrooms that use AI to adapt the environment according to the needs of students, such as adjusting lighting and temperature, or even monitoring student engagement through biometric indicators.

   These trends highlight the dynamic potential of generative AI to not

only enhance traditional educational models but also create entirely new forms of learning. As these technologies develop, they promise to significantly transform the educational landscape, making learning more personalized, accessible, and effective.

Conclusion:

Generative AI is reshaping educational landscapes, evolving from fundamental algorithms to sophisticated learning systems. This innovation customizes learning experiences, improves outcomes, and enhances teaching methods through personalized content creation and streamlined assessments. While generative AI brings unprecedented advancements, ethical considerations and privacy concerns must be addressed to ensure responsible use in educational settings. As we embrace this transformative technology, balancing innovation with data protection and upholding ethical AI practices becomes paramount for a sustainable impact on student learning and development.

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4. THEORETICAL FRAMEWORK OF SOCIAL JUSTICE

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Abstract:

The present Chapter gives a comprehensive view of the Social Justice Theories, covering from ancient philosophers like Plato and Aristotle to modern thinkers like Rawls, Marx, Sen, and Nussbaum in the West, and Gandhi and Dr. Ambedkar in India, which offers a multidimensional approach to addressing inequalities existent in the societies across the different parts of the world at different time. Plato's Republic discussed justice in the ideal state, while Aristotle's focus was on equity based on individual merit. Utilitarianism preferred maximizing overall welfare, focusing on the majority's happiness, ignoring the hardships of the few, while Rawls' "veil of ignorance" aimed for fairness in a hypothetical society. Marx critiqued capitalist exploitation, advocating for classless societies. Sen's capability approach emphasizes individual freedoms, while Nussbaum focuses on human capabilities. Gandhi's nonviolence and Ambedkar's advocacy for marginalized communities contribute unique perspectives. These theories aim at creating just societies by applying their own principles to address systemic inequalities and promoting human dignity.

Key words - *Social Justice, Equality, Equity, Affirmative action, Plato, Aristotle, Rawls, Sen, Nussbaum, Marx, Gandhi, Dr. Babasaheb Ambedkar*

Theories of social justice:

The term social justice is an overarching concept working as a balancing wheel between the haves and the have-nots. It works on the moral principles of equality and equity, where the benefits and burdens are equally shared among all the citizens across all sections of society. It plays a key role in providing a stable government, with the motto to work for the upliftment and overall development of the citizens

To have a complete understanding of the social structures, its nature, the need of it in framing the political ideologies, the different principles of public welfare policies, and the distribution of scarce goods and resources among the citizens. For this, one needs to understand the different natures of the societies, their unique principles governing their political and social ideologies. The understanding of social justice interplay in different societies would lead to drive out the ideal society based on human rights and fairness principles. To understand how social justice has given different dimensions by the various proponents of social justice and the unique rationale that they sufficed in favour of their Social Justice Theories can be understood as follows:

Plato’s Theory of Justice:

Plato's conceptualisation of justice, found in his work, centres around the Greek word "Dikaiosune," which closely equates with morality or righteousness. In the tumultuous context of Athens, where anarchy prevailed due to conflicting ideals of amateur meddlesomeness and excessive individualism, Plato sought to instill principles of justice to bring order to society.

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Fig 1: Basis of Plato's Theory of Social Justice

Before Plato's theory of justice emerged, figures like Cephaus and Polemarchus held traditional views, equating justice with truthfulness and debt repayment. Polemarchus, representing the trading class, echoed similar sentiments, stating that justice entails giving what is proper to each person. Conversely, Thracymachus, from the ruling group, perceived justice as serving the interests of the stronger, reflecting a power-centric perspective. Glaucon introduced a modern view, likening justice to a social contract formed by the populace to address the exploitation by the powerful few.

Plato critiqued the notion of justice being an external system forced by society. Instead, he viewed it as an innate quality of the human soul, rooted in the natural drive of humans to fulfil their true purpose rather than fear of consequences. Plato believed that the Human soul is made up of three parts: Reason, Spirit, and Appetite. Justice is achieved when these elements are in harmony, when they are aligned with reason guiding decisions; where Spirit ensures courage and honour, and Appetite maintains desires in moderation. He believed that when inner balance is achieved, both the individual and society as a whole can thrive in a just and stable manner.

Plato's theory seeks a harmonious balance between the individual and society, emphasizing three elements of the human soul: *Reason, Spirit, and Appetite*. Justice, according to Plato, occurs when these elements align harmoniously, with Reason reigning supreme. Reason, when

combined with wisdom and forethought, can govern the soul, while mental and physical training can discipline the spirited and appetitive aspects (Plato, trans. 1968). Without Reason's dominance, Plato warns, appetites may enslave the soul, leading to injustice. When Reason rules, harmony is achieved, and justice prevails within the individual. Corresponding to these three factors are *the three classes*. The Philosophers constitute the rulers class, which plays the reason, the Knights are auxiliaries, the class of warriors constitutes the spirit class, whereas the artisans and farmers, who are of the lowest rung of society, constitute the appetite class. Justice to Plato exists in both the individuals and the Society, but in a larger context, is more than society. To an individual, it's like virtue that makes a man self-reliant and good. Social justice, on the other hand, is social consciousness which makes the society internally harmonious and good."

According to Plato, justice is to the soul as health is to the body. It is unlike other theories, which constitute justice as the right of the stronger, but it is the harmony of the whole. The ethics of this theory deal with the good in the individual as well as in society.

Although Plato talks about the dominion of Reason over Spirit and Appetite, he fails to execute it the true sense as he further upholds the superiority of the Ruler's class over the Warriors and the working class, which gives a lopsided view of Justice.

Aristotle's Theory of Justice:

Like Plato, Aristotle also describes justice as moral dispositions. He too asserts that society is divided into two groups, in which one group is qualified and intelligent enough to be fit to rule whereas the other group is the one which is fit only to be ruled. Aristotle describes this later group comprising of women, children and people who are naturally suited to be slaves by their limited powers of reasoning.

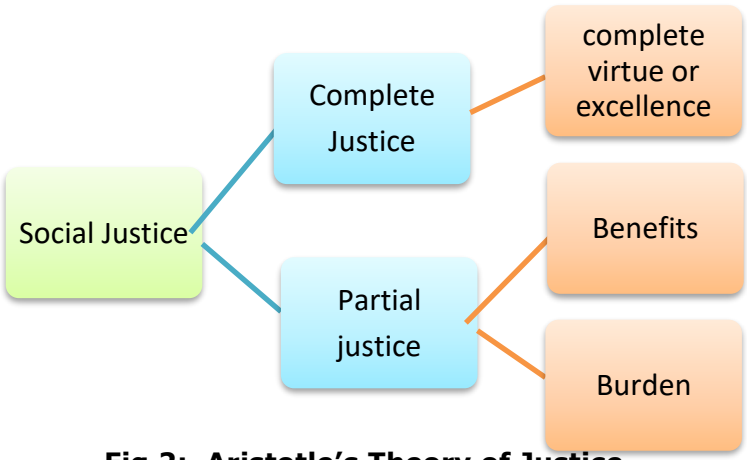


Fig 2: Aristotle's Theory of Justice

The source of his theory is taken from the Nicomachean Ethics, Book V, which talks about his conception of Ethics, which he states is the inquiry into the nature of good human life and to the virtues integral to it.

Aristotle's Theory of Justice differs in philosophy from that of Plato. In The *Republic*, Plato considers justice to be the same in all circumstances, whereas Aristotle states that justice differs in several different ways, and each may consist of its own significant truth. He defines justice in a political sense. He distinguishes justice between **"complete" (or general) justice and partial (or particular) justice.** *Complete justice is the one which is exhibited by human beings in their relationship with others in so far as this interaction leads to a good life and leads to the members of the political community as a whole. Whereas, partial justice is said when the individuals get an equal share of benefits and burdens they bear*. Benefits, according to him, are honour, material goods, and security. He further distinguishes between partial justice into distributive and corrective justice. While discussing distributive justice, Aristotle mentions the relation between reciprocity and justice by stating that they are not identical. Ex- If an individual hits a police officer on duty, then justice is not done if the police officer merely returns the blow. Nor is it done when the private citizen strikes back when struck by an official while the latter is acting to carry out his duties. The point that Aristotle asserts is that when the designations of the individuals are in a hierarchical position,

then justice is not the form of reciprocity. However, Aristotle does not even seem to completely refute the Pythagorean conception of Justice as unqualifiedly reciprocal. Here, according to Aristotle, in this world of individuals, everything is reciprocal; we get what we give. If people receive evil, then they would want to return the same; otherwise, they will consider themselves to be slaves or to return good with good, otherwise, there is no mutual contribution. So here Aristotle agrees with the Pythagorean conception of justice to be reciprocal, but further differs by stating that it is not mere "arithmetic" or a balanced sort of reciprocity.

Further, he talks of justice to be fairness, which is further divided into distributive and corrective.

Distributive justice takes place in matters of honour, property, or anything else that can be shared among the members of the community, either equally or unequally. This kind of distributive justice is applicable everywhere, including the political system. Further, he distinguishes between "equal" and "unequal" and "fair" and "unfair" by stating that an individual might get a fair or unfair share as compared to his neighbour, but this fair share need not be an "equal" share. *This distributive theory later came to be known as the "contribution principle"*, which states that to reap the reward of some achievement in the company will depend upon the contribution that each one has contributed towards its upliftment. In the 19th century, Herbert Spencer thought that all contributions could be quantified in monetary terms and the contribution principle could be unrestrictedly achieved in a free market system. However, Aristotle seems to differ in his conception, which he states that there should be a common standard to measure the values of diverse contributions fairly, and that is only through political processes.

In ***corrective justice,*** Aristotle mentions two types: ***voluntary and involuntary*** transactions. *A voluntary transaction* is that in which the

individuals enter voluntarily, whereas an involuntary transaction is vice versa. For Aristotle, any transaction that happens between two individuals regarding benefits or harm is subject to justice. The involuntary transaction he further divides into two types, one that happens on own account, that is clandestine arrangements, theft, adultery, poisoning, assassination, procuring, the enticement of slaves to escape their bondage, and bearing false witness. The other type of *involuntary transaction* involves the use of force, such as robbery, murder, assault, imprisonment, maiming, defamation, and libel. These transactions are subject to corrective justice. In distributive justice, some person or set of persons has the responsibility to distribute honour and share in property, material goods, etc, but in Corrective justice a judge or an arbitrator. Here, the self-conscious actions of an agent are required as the master of justice only when the transactions for which the corrections are sought have been unjust. In his treatise of Justice Aristotle fails to mention Retributive justice which deals with punishments which is criticized by scholars as oddity at best and serious flaws at worst. However, in his book V on Nicomachean Ethics, he states:

When one man strikes and the other is struck, when one man kills and the other is killed, the action and the suffering have been divided into unequal portions, and the judge endeavors to equalize the profit and the loss by a deduction from the former. Aristotle’s reasoning here raises the notion of equilibrium.

In his theory, the other most important part that he discusses during distributive justice is political justice. He subdivides political justice into two parts, that is what is just by nature and what is just by convention. What is just by nature identifies itself with Stoic Christians and rationalists' conception of natural law, which they treat to be an eternal, universal standard of justice. He further asserts that what is just by nature

is subject to change as much as what is just by convention. He explains that conventions are nothing but the choices that we make, and once made, their violation is subject to injustice. Aristotle here gives an example of a goat and sheep for sacrifice, or which side of the road to drive left or right. It hardly matters what is an element of sacrifice or which side of the road to drive but once one's reached an agreement it shouldn't be violated. Aristotle adds that each political community differs in its execution of justice; for example, the matters in one political community might be just, but the same would be unjust in another political community. Yet in any given time or circumstance, it is not difficult to identify the unjust elements in nature and in conventions. To understand *just and unjust* requires wisdom, not merely knowledge.

Aristotle's theory of Justice faces the following criticism. Aristotle, in his theory, discusses the notion of superiority and inferiority. While Plato accepted slavery as a social institution but argued for equal opportunity for women in his politics. Aristotle accepts sexual inequality for women in his politics. While defending slavery, he agrees with Plato's view that some are born superior and fit to rule, whereas others are born to be ruled by others. He asserts that males are naturally superior and females are naturally inferior to be ruled.

Although both Plato's and Aristotle's theories of Justice are from a political lens. Plato talks about the hierarchical relations present in men, where politicians are the superior, the rulers, and the other part of the hierarchy is the lot fit to be ruled. His theory is against Women and Non-Greeks because of this like Plato he too fails adequately to consider all persons as free and rational agents. Neither of them could appreciate any fundamental moral equality that might provide a platform for natural human rights.

Fig 3- Utilitarian Theory of Justice

Aristotle believes that justice consists in giving people what they deserve and that a just society is the one that enables the individual to realize their highest nature and to live the good life. According to Aristotle, justice is also a virtue that lies between two extremes- excess and deficit. For example, rashness is a vice, and excess is cowardice.

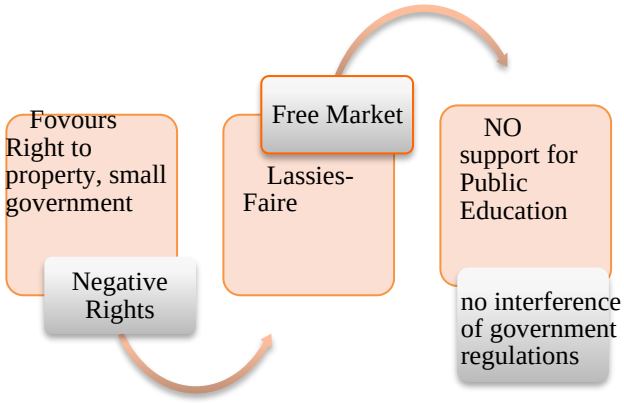
Utilitarian Theory of Social Justice: This theory sees no major divide between justice and morality. Utilitarianists promote goodness in the form of values such as happiness, well-being, or desire satisfaction. It stipulates that the greatest good from society should be received by the greatest number. This theory connects morality to law, economic distribution, and politics. The proponent of this theory Mr. John Stuart Mill argues that justice is a subset of morality

"Injustice involves the violation of rights of some identifiable individual". Mill suggests, "Justice implies something which is not only right to do, and wrong not to do, but which some person can claim from us as his moral right". Mill claims that morality is larger than justice because we can be heroic and act beyond the call of duty to help others; such an act will be an example of justice. Another example here can be if some criminals rob and murder someone, then according to the court of Law they should be convicted but Mill will argue that we have the right not to be harmed so to convict the criminals won't serve the greater good as they too have the right of not to be harmed and being in prison is a violation of liberty. Utilitarian theory faces the following criticism:

It's too demanding -This theory doesn't make clear how much good one needs to promote. Perhaps there could be no limit that increases the stress

on people to always find means to promote goodness. For example, now instead of reading this, you should involve yourself in finding the cure for Cancer. It's too simple, as many philosophers reject it by saying that promoting goodness is not the only thing of moral relevance.

Fig 4 - Nozick's Libertarian Theory of Justice



Utilitarianism fails to account for the need to be respectful: Utilitarians fail to give a proper account as to why there is a need to respect others. Philosophers often argue against utilitarians that it is wrong to hurt others to promote the greater good. Ex- It is wrong to kill people for their organs even if it serves for greater good.

One can argue that Utilitarians can take away people's rights when they feel that doing so will serve for greater good but this could miss the point of having rights in the first place. It is lopsided and unjust, as it continues to uphold the idea of the tyranny of majorities over minorities.

Nozick's Libertarian Theory of Justice:

Libertarians are the people who favour negative rights (property right), small government, and favour a laissez-faire free market without bothering about its consequences. They do not intend to put any government regulations or public education. Nozick finds Utilitarianism completely against justice, which was described in Anarchy, State, and Utopia. He asserts that we have "Lockean rights" such as property rights, rights from being harmed, freedom of speech, and so on.

According to Nozick, taxation is a form of coercion and the retribution of wealth is unjust because Nozick doesn't believe in the right to public social welfare, we only have the property right. He is also against

education as it is another form of redistributing wealth. Libertarians are against public welfare such as Police departments, public schools, prisons and everything else must either be "for profit," or should exist from volunteers and /or be funded by donations but not through taxation it is an unjust violation of people's property.

Criticism of Nozick's Theory of Social Justice:

It is not against moral values. However, to help the needy and the poor the theory holds no objections to the wealthy but states that wealth can help the poor and needy on their own free will. This type of social structure is completely against justice as the minority- the needy and the poor are completely dependent on the mercy of the majority as it allows unjust situations.

Libertarians value Freedom more than negative rights: Nozick supports freedom but doesn't believe in positive rights. This can be explained by an example of slavery. The slaves who were freed after the Civil War could have negative rights such as freedom of speech and property rights but they lacked positive rights such as the right to education, medical attention, food, opportunities, and so on. In such a condition, some slaves were worse off than they were slaves. Many became sharecroppers and made barely enough money to survive. This choice left them with no respite but to die in scarcity with almost no opportunity to improve their condition. Such a kind of freedom, which is devoid of economic or social justice, is no freedom at all.

Free Market is the outcome of oppression and exploitation. Absolute Property rights lead to the free market, and the unregulated free market is the offspring of exploitation. The workers will be destined in such a situation to work for the absolute minimum wages, hardly enough to survive. It seems like company owners make tons of money while many workers will be forced to live in poverty. Without hope for medical insurance or educational opportunities. According to Nozick, workers should embrace their condition even if it goes against their health and they die young because of some disease or poor working conditions, rather than revolt against the oppressors.

John Rawl's Social Justice : Rawl's theory gives a rational account of social justice through the social contract approach. He believes in the idea of Justice as Fairness. He explains his rationale by using the thought experiment of the veil of ignorance. If no one could know what position he or she could occupy in the society being formed, then what arrangement would a rational person choose? Here, Rawl asserts that, being unaware of their position, the people would choose the best for all people. He identifies two principles one, that each person should have equal rights to the most extensive liberties consistent with other people enjoying the same liberties; and two, that inequalities should be arranged so that they would be to everyone's advantage and arranged, so that no one person would be blocked from occupying any position.

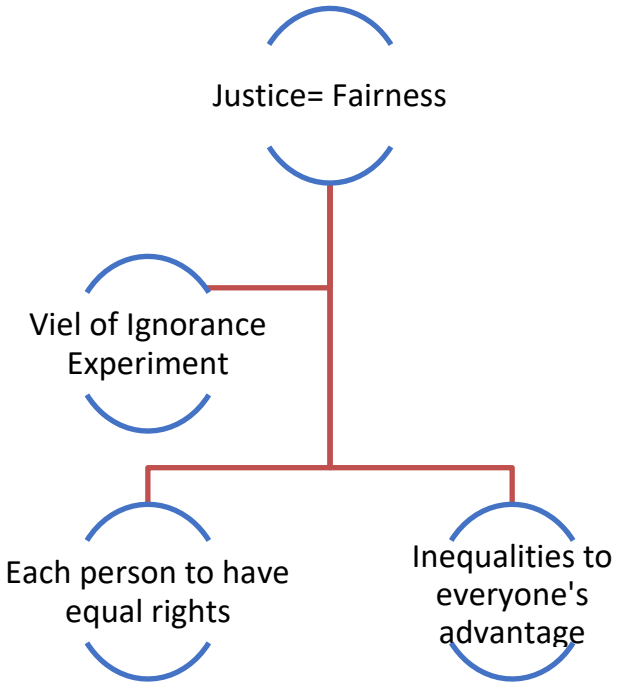


Fig-5- Rawl's Contractual Theory of Social Justice

However, his theory also raises many questions, and his supporters, too, acknowledged this fact. Robert Nozick, in his treatise Anarchy, State and Utopia (1974). Though Rawal's theory is based on the idea of equal distribution of resources, he further asserts that inequality can be justified only by the benefits for the with least advantaged.

Here, Nozick asserts that resources are produced by people and they have the full right to use their resources for themselves only. He claims that Rawl's attempt to improve the conditions of the least advantaged by means of redistribution is unjust.

Other critics have thwarted Rawls's idea of the original state and the thought experiment of the veil of ignorance wherein the individual ignorant of their position in the society would choose the greatest possible equality have been challenged as arbitrary and unverifiable. Here, rational individuals might well choose large rewards for the majority and small rewards for the minority because one is more likely to end up as a part of the majority than the minority in society.

Rawal's theory of Social Justice is devoid of legal justice, which is at the base of any rational society.

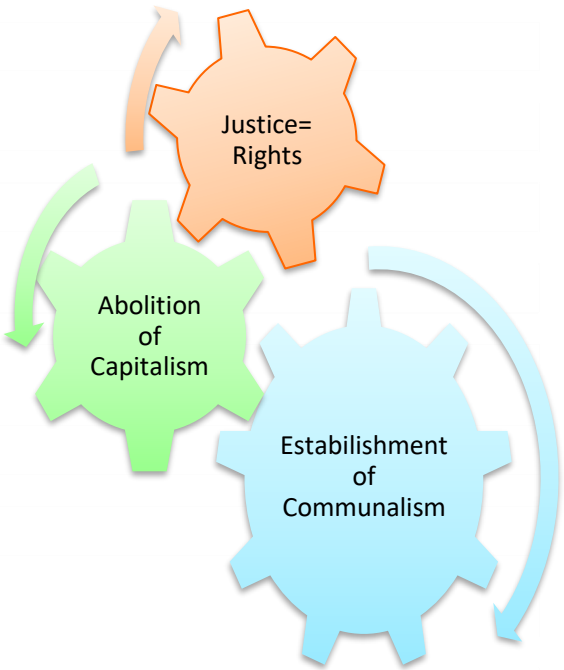


Fig-6 Marx's Theory of Social Justice

Marx's Theory of Social Justice:

Marx's theory of social justice is based on a fair distribution of benefits and burdens among the individuals in society. His theory opposes capitalism as the foundation of it was laid in the exploitation of the

working class. A society that is based on exploitation cannot be an abode of justice. For Marx, rights and justice were the same. Here in the critique of the Gotha Programme, Marx says-"Right can never be higher than the economic structure of the society and its cultural development conditioned thereby, believed in the total abolition of capitalism and the establishment of Communism to set up justice in society. The capitalist system of economy was rooted in depriving people, especially the working class, of their legitimate share of wealth, income, commodities, and other forms of services with the help of three arms of the state, the legislative, executive, and military, and a police arm. The exploitative system of capitalism was able to influence these three arms of the state and spread anarchy in society.

Marx wanted to uproot such a system by prevailing justice which would be moral and ethical at the same time. Critics like Norman Berry have claimed that Marx's theory of justice has two concepts in mind, that is, socialist justice for socialist society and communist justice for communist society, although both are based on the principle of distributive justice, they vary in accordance. Socialist justice believes in abolishing capitalism and setting up the means of production and ownership in the hands of workers who will receive their share as per their contribution to production. This will lead to the general ownership of the whole society, and the workers will be the owners of the source of production. Normany Berry here criticizes, "Nevertheless, some inequality will persist since people's labor contributions will vary according to their talents and many of their objectionable features of the money economy will remain". Marx too, has admitted that some sort of inequality to arise as in socialism, some remnants of capitalism might occur.

Whereas in the communist society, distributive justice will not just be on the share of the individual but on the special needs that each individual

requires to maintain their physical existence and the development of mental qualities. In short, the rewards that the individual claims will be based on their needs and not on their contribution to society. Many critics have criticized such a type of society as utopian as only a seer would work zealously without claiming his share in the society, as a Communist society would be based on needs and the contributions of the individual in the society. Such an individual, from an idealistic point of view, always gives priority to social welfare and social justice. Barry here asserts that the concept of justice in Socialist and capitalist societies will therefore vary.

Marx viewed justice for different economic and political backgrounds, and this can be shown in his conception of two types of justice, communist justice and socialist justice. The Defenders of Capitalist society have claimed that the discrimination on wages of the workers depends on the market economy, that is, the demand and supply of the commodities. Marx has pointed out that market forces can be very much manipulated and most of the time in favour of the capitalist system and the workers are always at the loser's end. Here, Marx sharply shows his disbelief in the capitalist claim of free market operation. Marxian followers, especially Kolakoski in his *Main Currents of Marxism* have discussed that an exploitative system that snatches the shares of the less privileged cannot be the administrator of justice. A Man in a capitalist society is crushed by the evil economic laws and stringent behaviours of the capitalists. Marx's theory can be summed up by quoting *"Its most significant injustice is that it directs the production for profit and not for the satisfaction of genuine human needs".*

There are two most influential theories of Social Justice in the Indian context propounded by two great leaders Mahatma Gandhi and Dr. Babasaheb Ambedkar.

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Gandhi's Theory of Social Justice:

Gandhi in his theory of social justice, believed justice can prevail in a society that is based on the principles of religious ethics. He upheld Indian belief in caste and believed that thedeprived community could be brought to justice within the framework of religion itself. He was troubled by the plight of the untouchables.

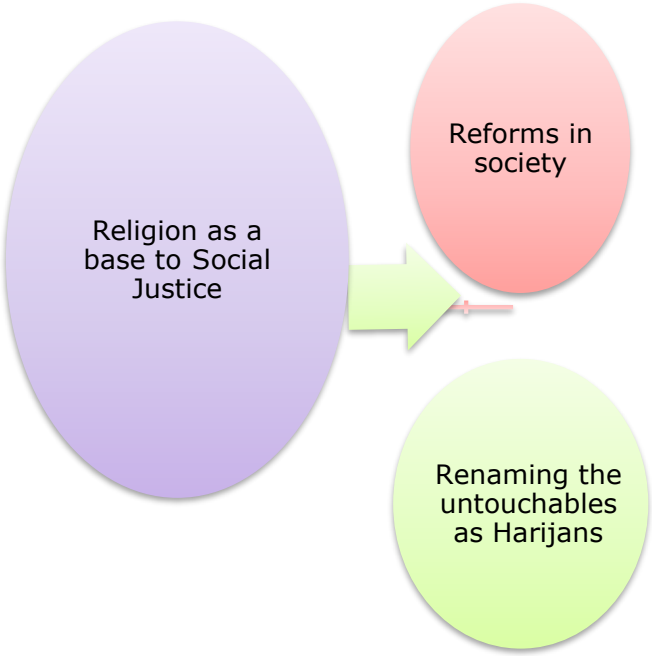


Fig-7 Gandhiji's Theory of Social Justice

He thought of renaming them as **"Harijans"**-the children of Lord Vishnu would serve to wipe off the stigma of being untouchables. His ideology on India's social problem was influenced by religious absolutism as they were based on fundamental religious **Justice** doctrines (Karma, Varnashraama, Dharma, and gospels of Gita). He upheld the caste system to bring social justice into society.

He fully elaborated his views in 1921-22 in a Gujarati Journal called NavJivan, the translation of his views are as follows:

1. The seeds of Swaraj are to be found in the Caste system. Different castes are like different sections in military divisions, wherein each system is working for the good of the whole. Any community based on a unique caste system is said to be organized.
2. He believed that members of each caste could take responsibility for education; caste is the source of primary education. Not only this but the judicial system can also work through caste; every caste can elect

a judge through the means of election, and also defence force can be raised through caste.

3. According to him, inter-dining and inter-marriages are no means for national unity. He explains this with an example- Taking food is a dirty act, like answering the call of Nature. The only difference by answering nature's call, we get comfort, and by eating food, we get discomfort. Just as we answer the call in seclusion, so does eating food is a private business.

For intermarrying, he says, "In India, children of brothers do not intermarry. Do they cease to love? Among Vaishnavas, some women are so orthodox that they do not eat with the family, nor do they drink water from the same water pot. So does it mean that they do not love their family, caste system cannot be said to be bad because it does not allow inter-dining or intermarriages between different castes"

According to Gandhi, the caste system brings control and limits a person's enjoyment. To eradicate the caste system means to embrace the Western European social system, which is like giving away hereditary occupation, which is an eternal principle of the caste system. ***"It will be mere chaos if I cannot call Brahmin as Brahmin and if every day a Brahmin is to be changed into Shudra and Shudra into Brahmin."***

The caste system in India is based on religious beliefs. Other countries failed to understand it because of this they cannot derive the same degree of advantage that India has derived.

"These are my views and I oppose all those who are out to destroy the Caste System".

To bring justice in society, the above were the views of Mr. Gandhi in 1922, but on 3rd February 1925, he said *"I gave support to caste because it stands for restraint. But at present caste does not mean restraint, it means limitations. Restraint is glorious and helps to achieve freedom. But*

the limitation is like a chain. It binds. There is nothing commendable in castes as they exist today. They are contrary to the tenets of the shastras. The number of castes is infinite and there is a bar against intermarriage. This is not & a condition of elevation. It is a state of fall."

In reply to the question: What is the way out Mr. Gandhi said: *"The best remedy is that small castes should fuse themselves into one big caste. There should be four such big castes so that we may reproduce the old system of four varnas."*

In support of the Varna system, he opined that Varna is based on birth. Varna system does not abstain shudras from acquiring education, military art, or trade fairs. The Varna System is no bar to him. He further adds that Varna says that though a shudra is educated, he should make no amends to use it as a source of earning a living. Similarly, a Brahmin can make art or trade, but he cannot use it as a source of earning. As far as earning is concerned, the people belonging to the same varnas must follow the hereditary profession of their forefathers.

"Varna system does not encourage caste wars, competition or struggle. It determines man's occupation before he is born. No man in this system has the liberty to choose his occupation. His occupation is determined by heredity".

***For economic life, Gandhi suggests**:*

Gandhi was strictly against machinery, he vented his anger in the year 1921 when people and reporters asked his views on it, he said*, "I would not weep over the disappearance of machinery or consider it a calamity."*

According to him, machines make human beings lazy and the advent of machinery has just brought unhappiness into the world. He explains this with an example in his presidential address at the Kathiawar Political Conference on 8th Jan 1925.

"We are destroying the matchless machines viz., our bodies, by leaving them to rust and trying to substitute lifeless machinery for them. It is a law of God that the body must be fully worked and utilized. We dare not ignore it. The spinning wheel is the auspicious symbol of Sharir Yajna-body labour. He who eats his food without sacrifice steals it. By giving up his sacrifice, we became traitors to the country, and banged the door in the face of the Goddess of Fortune."

He further elaborates on his dislike for machinery in his booklet on Hind Swaraj (Indian Home Rule) written in the year 1908. In 1921, he reaffirmed his views by stating – India should discard ***'Modern civilization she can only gain by doing so. He adds Western civilization is the creation of satan."***

To eliminate class war, class struggle, and the relationship between workers and employees and landlord and tenants, he expressed the following in the Gujarati journal NavaJivan on 8th June 1921.

"Two paths are open before India, either to introduce the Western principles of 'Might is right' or to uphold the Eastern principle that truth alone conquers, that truth knows no mishap, that the strong and the weak have alike a right to secure justice. The choice is to begin with the labouring class. Should the labourers obtain an increment in their wages by violence? However, legitimate their claims may be. Using violence to secure rights may seem an easy path, but it proves to be thorny in the long run. Those who live by the sword also die by the sword. The swimmer often dies by drowning. Look at Europe. No one seems to be happy there. The labourer does not trust the capitalist, and the capitalist has no faith in the labourer. Both have a sort of vigour and strength but even the bulls have it. They fight to the very bitter end. All motion is not progress. We have no reason to believe that the people of Europe are progressing. Their

possession of wealth does not argue the possession of any moral or spiritual qualities.

Dr. B. R. Ambedkar's Theory of Social Justice:

Ambedkar's theory of social justice was influenced by John Dewey, Buddhism, Mahatma Jyotiba Phule, and the writings of Poet Kabir. His philosophy opposes blind belief, he is quite a rationalist in his thoughts and ideologies. Unlike Gandhi, he openly condemns casteism which has stratified the society unequally. He condemns it by calling it a closed system that is rigid and devoid of any sort of communication. Such a system that has no connection with its inmates is a dead society. Regarding society, ***Dr. B R Ambedkar encapsulates his social philosophy positively in three words: Liberty Equality and Fraternity. He refutes any claims of his philosophy being borrowed from the French Revolution, asserting that the base of his philosophy has been deep-rooted in the teachings of his Gurus, Kabir, Mahatma Phule and The Buddha.*** From Kabir, the ancient saint of India from him, Dr. Ambedkar learnt how one can look beyond religious divisions and seek truth within. From Mahatma Phule, he gained undying inspiration to strive for the betterment of the society and also realised that for ensuring a dignified life for the depressed classes, there should be 'annihilation of castes'. He admired Jyotiba Phule for his fearless efforts to lay the foundation for reservations in India based on Historical and social deprivation of communities. Cause Reservations had been in India since long and initially, it was based on the merit of being from the upper caste. In the Buddha's philosophy, liberty and equality were valued, but it was understood that unlimited liberty could undermine equality, and absolute equality could restrict liberty. Law was seen as a safeguard against breaches of liberty and equality, although it was not considered a guarantee against such breaches. Fraternity was given the highest place in

the Buddha's philosophy, it served as the real safeguard against the denial of liberty, equality, or fraternity, which are synonymous with brotherhood, humanity, and religion. The teachings of these great people, whom he considered his Gurus had laid a lasting impact on Dr. Ambedkar's life and work. All his three Gurus existed in different eras. He considered them as his Gurus by reading their philosophies.

In his above proclamation, he very much resembled Marx who propagated that to change the exploitative Capitalist system, it should be completely eradicated because reforming the wrong system is futile. Ambedkar was a keen observer and a great analyst who understood the complex nature of Indian society. Before giving his philosophy, he keenly studied the different societies where oppression of the weaker section of society was rampant, and no nation in the world was free of it. ***There were slaves in Europe and Rome. Helots in Spartans. Villains in Britain, Negroes in America, Gypsies and Jews in Germany, and Tanka in China but not like the untouchables of India who are forever destined to suffer in India***. The slavery in Europe, Serfdom in other parts of the world, and racial discrimination too, to an extent, have been reduced in the world but the stigma of being an ***'outcaste'*** has not changed. The attempt to give them some relief was done meekly by tagging them as Harijans by Gandhi, Scheduled Caste, and Dalits by caste Hindus gave them no relief to elevate their pathetic condition. These people are found to be manual scavengers, street sweepers, cobblers, and leather workers whose mere sight was polluting the high caste Hindus. They were the ones who were bonded laborers and slaves. ***In 2006, Dr. Manmohan Singh expressed his opinion that "They were a blot on Humanity and India's 'Hidden Apartheid.'"*** (www.hrw.org/news/.../india-hidden-apartheid-discrimination-againstdali.www.chrgj.org)

Ambedkar's thoughts on economic equality are unlike Marx who believed that economic equality diminishes social inequality. Gandhi does not resort to any stand on this point. To Ambedkar economic inequality paves the way to social inequality but economic equality too supports social inequality. While speaking in the All India Conference of the Depressed Classes on 18th -19th July 1942- ***Dr. B R Ambedkar imparted his final words of advice, emphasizing the importance of education, agitation, and organization, while urging individuals to have faith in themselves. He expressed confidence in the battle for justice, viewing it as a matter of joy, and emphasized that it was not a pursuit of wealth or power, but rather a battle for freedom and the reclamation of human personality. According to him the progress of the community should be measured by the progress made by women in the society. He encouraged the destitute to rise from their life of ignorance and start maintaining cleanliness, avoid intoxication and prioritize education for their children. He advised to avoid early marriages; he emphasised on financially preparedness before getting married. Also advised not to have too many children, and asserted the importance of mutual respect and equality within marriage. Dr. Ambedkar believed in if people would follow this advice they can raise their standard of living***

Dr. Ambedkar's views on gender equality raise him above Plato, Aristotle, Nozick who believed in suppressing women by claiming that males have the natural right to rule over them. Dr. Ambedkar was a theist who believed in religion like most of the theories of Social Justice. But when other theories were bothering themselves with God and Soul and life after death. He believed in Buddhism which teaches **PRAJANA** emphasizes understanding over superstition and supernaturalism, while **KARUNA** promotes love and **SAMATA** advocates for equality, reflecting the desires of individuals for a fulfilling and joyful life on earth

(Why I like Buddhism –Dr. Ambedkar's Talk to BBC London).

Buddhism propagates equality free from any sort of discrimination Hinduism upholds a caste-based social structure, which has historically contributed to social divisions and inequality. Furthermore, Buddhism and Hinduism differ in their theological beliefs—Hinduism acknowledges the existence of both a deity and an eternal soul, whereas Buddhism does not. Hinduism also follows the Chaturavarna system, reinforcing caste hierarchy, while Buddhism rejects such classifications, advocating for an inclusive and egalitarian society. (Shaji, A., 2017)

For bringing justice in society Dr. Ambedkar believed that the powerless and weak should arise and this can happen only when the power reaches the weak and destitute, section of the society who are pushed to the margins, exploited and despised for centuries from the hands of rigid caste-based system. He emphasised that true justice can only be achieved when the underprivileged are granted their rights of representation in decision making powers of the state, which he demanded through separate electorates for the "Depressed Classes", which was already granted to Muslims, Christians, Sikhs, Indian Christians, Anglo- Indians and Europeans as well who had absolutely no history of social or economic deprivation, neither were they deprived of any of their rights nor was there any stigma associated to these communities, which was the very case of Underprivileged of the Indian Society- The Scheduled Castes of the India, This was the key demand put forth by Dr. Ambedkar in the 2nd Round Table Conference in 1931.

Dr. Babasaheb Ambedkar in legalising equity in society :

Dr. Ambedkar after careful consideration of the democratic countries ascertained to infuse an **Affirmative Action Policy (Constitutional Policy of Reservation)** in the framework of the constitution. After becoming the Chairman of the drafting Committee, Ambedkar infused his

thoughts of representation in it which is why today the conditions of this community have started improving. But despite completing 69 years of Independence, the Hindus of India have not liberated themselves completely to embrace the depressed lot as their brothers. There is a lot of hue and cry because of this constitutional representation also called Affirmative action or Reservations. Many grudges that these depressed classes i.e., the SC/ST community are sucking their rights. Such a sect of people asserts that reservations should be given based on economic backwardness and not on social backwardness. The objective behind reservation was not aimed at poverty alleviation nor was it formulated for employment generation. The major focus of it was to provide just and humane conditions for those who have been oppressed and depressed socially for centuries. Religious stratification of the society was the outcome of social depression which further led to economic and political depression of the outcastes. CPR is the end, not the means to achieve Social Justice and that is the reason why it has the status of a fundamental right. The objectives of CPR are as follows

1. Provide **Protection** to Backward classes from being discriminated in the fields of education, employment and lawmaking.
2. Lok Sabha and State legislatures are meant to ensure the **representation** of backward classes in Law making, policymaking, and also in their implementation by government and administration.
3. CPR is meant to exclude those social groups who for centuries were overrepresented in government and administration to reduce the scope of abuse of their monopoly.
4. CPR is meant to establish **Social and Economic democracy** by ensuring Social Justice.
5. CPR is to socially integrate OBC SC ST groups within each other on one hand and with the rest of the Indian society on the other.

6. The Silent mandate of CPR to the state and society to take steps for abolishing the vicious Varna and Caste based social order.

There are many misconceptions about Reservations. Dr. Hemant M. Tirpude discusses it in his work on the Constitutional Policy of Reservations (CPR) (Tirpude, p-20).To point a few, Reservation is based on Castes rather than even the upper castes- the Savarnas would have availed it. It's a myth if it had been the same, then the ST- the tribals wouldn't have availed it. Schedule Tribe is not a caste but a Tribe. It is based on the principle of ID3 i.e., those who have for centuries been- Equally treated, **Discriminated** against to their disadvantage, **Deprived** of their rights, and wrongfully **Denied** the opportunities required to progress. The principles of ID3 are applicable throughout the world where justice has been denied to the disadvantage of the oppressed. In America, it is the Blacks who have been granted Reservations in education, jobs, sports, and even in Hollywood. America has completed its 200 years of Independence and is still embracing and upholding its reservations. *Sixty-five major corporations whose annual income exceeds $ 1 trillion $ like Microsoft, Alcoa, American Express, Boeing, John Hancock, Hewlett-Packard, etc., have asserted in favour of affirmative policies. America considers them as equals but Indians despise their counterparts the SCs and STs, by claiming that they are encroaching on their right to get admission in educational institutes and employment means of the Reservation quota just by providing a caste certificate*.

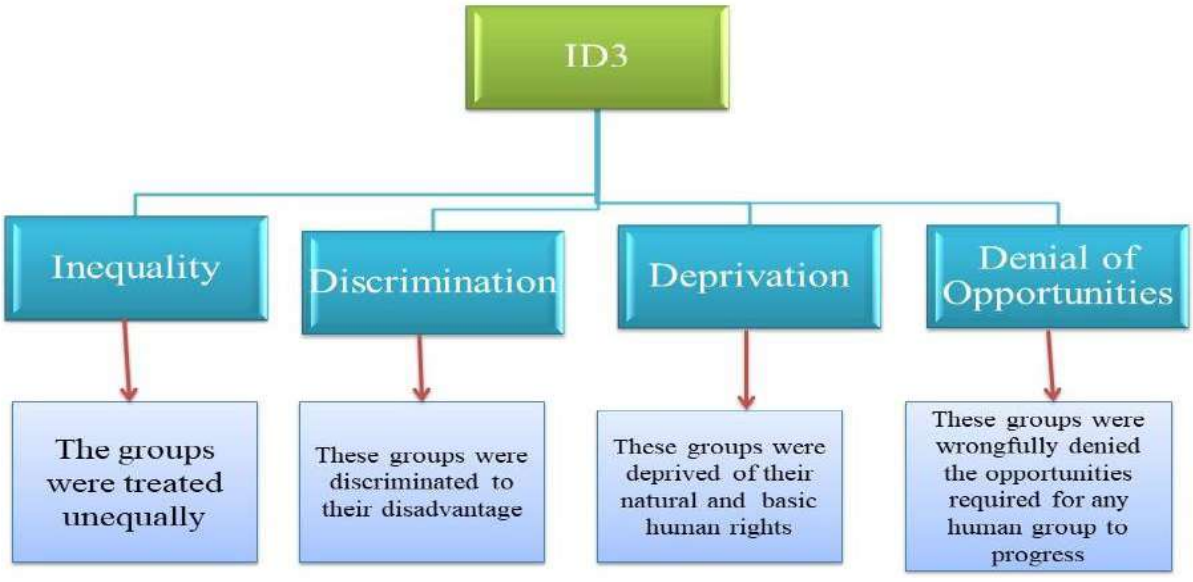
If reservations had been given based on just caste certificates, then Medical and Engineering colleges like IITs, IIMs, etc would have been given admissions even to 12th failed students, from OBC, SC, and ST categories, irrespective of his/ her educational qualifications. But this does not happen. For availing reservations along with a caste certificate,

the students also need to secure the prescribed qualifications, marks, and rank.

The fact is in India unlike America Reservation is confirmed only in three places: Education, Jobs and Politics. ***The Affirmative action policy is not just in India but along with America, it is followed in 76 countries of the world.***

There is often a constant allegation that the upper caste Hindus and other castes on the officials of marginalized communities, SC, ST, OBC, NT, and DNT calling them to be incompetent and unproductive, promoted to their position only through relaxation of standards. To test these sorts of allegations, some studies have been conducted. The most recent case study was on Indian Railways in March 2014 for the period 1980 to 2002, which specifically explores this sole issue- Does Affirmative Action reduce productivity? A Case Study of the Indian Railways" undertaken by Ashwini Deshpande (Delhi School of Economics, University of Delhi) and Thomas E. Weisskopf (Department of Economics, University of Michigan, Ann Arbor, MI 48109, USA). The study found no evidence for the above claim; in fact, some of their results suggest that the opposite is true.

Fig 8- Bases of Affirmative Action Policy ID3



The report of this case study was also published in the newspaper "The Hindu" under the caption "Quotas do not hurt efficiency". Indian Railway is the world's largest economy where Affirmative action is applied. It employs between 1.3 to 1 million people at four levels –from Group A to Group D. Group A being the senior-most officials. There are 15% reservations for SCs and 7.5% reservations for the STs. They are at all levels, with other reservations for the OBCs. The study was restricted to the employees of Groups A and B only. Findings indicated no negative impact on productivity and efficiency in any area, and some positive effects in some areas of work.

Ms. Deshpande explained that the positive effects may be due to the stigma that their counterparts made that they were inefficient and underproductive. This might be working as a motivation to prove their calibre exhibiting acute decision-making and managerial functions to prove their detractors wrong.

There is much hue and cry considering Affirmative action. To see the scope and applicability of CPR in employment. Out of the total 100% employment, 90% falls in the unorganized /Informal sector. This is a self-governed sector unregulated by any government machinery, get. laws, rules, and procedures. Therefore, reservations do not work in this sector as this is a non-governmental sector. Organized/Formal sector- Here, employment is provided by formally registered licensed firms, companies, and undertakings, by various laws and social security laws. This sector constitutes the remaining 10% of total employment out of which 8% of employment is provided by the private/ corporate sector and only 2% by the government/public sector. And this 2% space is further shrinking because of three reasons:

1) Privatization of the Public sector in 1991, eleven Central PSEs and twenty-two public hotel units were privatized, and the process is still

ongoing.

2) Outsourcing/ Contractualization of non-core services. The result is further depletion of recruiting the OBC, SC, ST workforce in government departments, institutions, corporations, and PSUs.

3) Faulty implementation of CPR latest ex is that of a retrograde decision of UGC of calculating the number of seats department wise- For example, if the entire university is treated as one unit then there would be 10 posts of Readers, 25 posts for Professors, 45 Associate Professors in various department but if the entire university only particular departments are considered as one units then there might occur one posts of reader, Associate Professor, Assistant professor in which case the **CPR CANNOT** be made applicable. ((University Grants Commission, 2006)

4) In some professional colleges, the OBC, SC, ST, NT, DNT candidates, even if they pass without any relaxation in marks and age, are still not listed in the Open category list. Seats of the reserved category are filled first, then the remaining seats are allotted to the Open category, duly excluding meritorious reserved category candidates.

5) The recent policy of the 13-point roster has made the employment for the needy SC, ST, OBC, NT, DNT candidates tougher. as per the policy, after every 4 open category vacancies, the next four vacancies will be for reserved positions, and in this way, the cycle is repeated. In such a case, only four vacancies will be out in a total of 13 vacancies. In this way, even if the eligible backward-class candidates apply against vacancies in open categories, they would be rejected.

Such is the case of the oppressed classes in India, even after 75 years of Independence. Ambedkar made attempts to introduce the Constitution in the un-constituted and stratified Indian system.

His vision of complete Social Justice is still a distant dream.

In the pursuit of complete social justice, the Kothari Commission indicates, education as the key to nonviolent revolutionary change. Recognizing schools as fundamental to societal transformation underscores the imperative of embedding social justice principles within them. Thus, paving the way for equity begins with sowing the seeds of social justice in educational settings.

Amartya Sen's Theory of Social Justice:

Amartya Sen, a Nobel laureate, economist, and the founder of the capabilities approach, proposed a theory to find a space through which one can make cross-cultural judgments on quality of life. To comprehend these judgments, he makes a distinction between function and capability. According to Sen, a function is an achievement which is considered as any 'state of being' For example – a child who first begins to ride a bike may wobble down the street but once the child understands how to ride the bike smoothly then the child is performing **function** of riding the bike and if the child is excited about it then through functioning the riding on the bike the child can enhance the emotions as well. Capability, on the other hand, is a possibility, not just any possibility, but a real one. For example, a person who is hailing from a deeply struck poverty-stricken area gets employment and supports their family. Such a possibility may not be real, considering the other factors like no clothing, food, and shelter. Sen calls a set of capabilities the set of functions available for a person to perform.

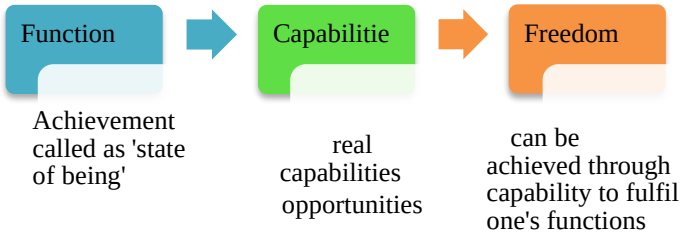


Fig- 7: Amartya Sen's Theory of Social Justice

Through this, Sen places a correlation between freedom and function. That is to say, the more limited one's freedom, the fewer opportunities

one has to fulfil one's functions. However, a Capability should not be considered as mutually exclusive or completely parallel. For example, two people with the same capabilities may participate in radically different functions. For example, two people may have the same opportunity to engage in play, but both do it in radically different ways: one might go swimming and the other might volunteer at an old-age home. To best understand it, take Sen's example of hunger. Two people may be hungry for radically different reasons. The desire to quench the hunger for one would be difficult because of one's socioeconomic status. The second person must be hungry on account of fasting for radically different reasons. In both examples, the person suffers from starvation, but for radically different reasons.

Nussbaum's Theory of Justice:

She, along with other theorists, developed Sen's capabilities approach. Although she embraces Sen's Theory of capabilities/ functions but grounds it in Aristotle and Karl Marx. She argues that a function must not be performed in any way but 'truly human way'. She explains as if a person lives a life where s/he is unable to exercise her human powers (for example, self-expressive creativity) then she is living a life in more of an animalistic manner than as a human being.

Fig 8: Universal capabilities given by Nussbaum Nussbaum asserts that the capability approach can fully express human powers and not just provide real opportunities for people to perform certain functions. Nussbaum understands the distinction between capabilities / functioning by asserting that capabilities are the space for the opportunity

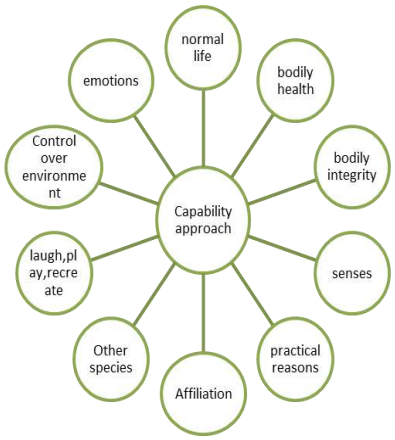


Fig 8: Universal capabilities given by Nussbaum

for particular actions; the way in which that space is manifested, via different actions, is a person's functioning.

Nussbaum contends that the theory that best pays attention to our intuitions is the capability approach. She further contends an example of a person's fixed intuition that rape is damaging to human dignity. She affirms that if one matches that intuition against all ethical theories that it will be best represented by the capability approach.

The following are the 10 most universal capabilities listed by Nussbaum. She asserts that if these capabilities are not met by the individuals, then there is injustice in the society, which could not prevent the individual from falling.

1) **Life:** being able to live at the end of human life of normal length.
2) **Bodily health:** Being able to have good health, nourishment, and shelter.
3) **Bodily integrity:** being able to move about freely, to have opportunities of sexual satisfaction, reproductive choices, and being able to be secure against physical violations.
4) **Senses, imagination, and thought:** being able to imagine, think and reason in a 'truly human' way, and having the education necessary to exercise the capabilities.
5) **Emotions:** 'in general, (being able) to love, to grieve, to experience longing, gratitude and justified anger.'
6) **Practical reasons:** being able to form a conception of the good and engage in critical reflection about the planning of one's life.
7) **Affiliation:** a) being able to live with and towards others, to recognize and show concerns for other human beings; b) having the social bases of self-respect and non-humiliation, being able to be treated as a dignified being with equal worth.

8) **'Other Species:** being able to live with concerns for and, in relation to animals, plants, and the world of nature.
9) Being able to laugh, play, and recreate.
10) **Control over environment:** a) Political: being able to participate effectively in political choices that govern one's life; b) Material: having real opportunities to hold property, seek employment on an equal basis with others, and having freedom from unwarranted search and seizure. From this, it can be deduced that capability, approach, distribution, recognition, and participation in decision-making are integral to the understanding and working of social

Conclusion:

In conclusion, it can be said that the right understanding of social justice can alleviate society from the narrow and rigid mindset that divides people. To avoid this, we need a strong social justice foundation in education, which will ensure inclusion and fairness. This can happen only when we have strong social justice-oriented teachers who would have accurate understanding of different social justice theories and from them, to pick out the right principles which would best serve in making classrooms of social change and action; where educators through social justice principles into their teaching develop empathy, awareness, and the ability to challenge discrimination and inequalities existent in the society. Such values, when nurtured by the classroom they become the spaces where students not only learn and hone the skills of social inclusion but also practice it through dialogue, collaboration, and action. Such a kind of teaching can transform education, which would prove instrumental in breaking the cycles of discrimination and marginalisation, thereby embracing Human rights, Equality, and Equity. This makes social justice not confined to theories but a commitment to seeing injustice clearly and taking meaningful action to rectify and transform the classroom spaces as

agencies of social change that promote justice through education.

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5. ROLE OF LISTENING IN LEARNING THE ENGLISH LANGUAGE

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Introduction:

Language is a system of communication that conveys meaning through words, gestures, and sounds. Language is a multifaceted system of communication. This is the attribute that makes human beings different from animals. It allows humans to convey thoughts, ideas, feelings, emotions, and intentions to others and to convey information. Language is a tool to transmit thoughts. Language can be in the form of signed, written, or oral. Language is a prime tool for social bonding, social interaction, and maintaining social relationships. Due to language, cultural transmission easily takes place. Language expresses the identity of the individual. It helps to identify the region, culture, and social group of the individual. language is dynamic and constantly evolving. It is the medium of learning and instructing. Language is essential for education and spreading knowledge. Approximately 7000 languages are spoken all over the world. Some of them are spoken by a few people, whereas some of them are spoken by the majority of people. One of them is the English language.

Importance of the English language:

In pre-independent India, English was the official language of the administration and the medium of instruction. Knowledge of the English language was necessary for various activities and employment. The objective of teaching the English language was to create workers who could understand the instructions of the British. English was taught as a

subject in school and at the university level. After independence, the scenario of teaching the English language changed. English was taught as a language in school. In post-independent India, English has its importance as an international language and a national language. It is a means of communication as a mother tongue and as a second language. It is spoken by the majority of the people in the world. It is linking people from various countries and states. It is important for trade and commerce and for maintaining diplomatic relations. It connects various states and various nations, so it is also called a link language. More than 60% of the world's knowledge is imprinted in English, so it has its importance as a library language.

Place of English in the school curriculum:

Our national leaders understood the importance of the English language, so they decided to make English one of the compulsory subjects of study. Pandit Nehru said that English is a major window to the world. The Secondary Education Commission (1952-53) recommended that teaching English subjects be compulsory in the school curriculum. After that, the Central Advisory Board of Education (1956) included A language formula. The Indian Education Commission (1964-66) identified English as a 'library language'.

Today, English is the language of instruction in most of the universities of India. Even in private schools, English is a medium of instruction. It is a compulsory subject in school education, and English is taught as either a first language or a second language. It is not the mother tongue of the majority of Indians, so deliberate efforts are required on the part of learners and teachers. It is not naturally acquired by the individual, so formal teaching of the English language is very necessary. Listening, speaking, reading, and writing are the basic language skills that need to

be acquired by learners. Listening and reading are called receptive skills, and speaking and writing are called productive skills.

Listening:

To get the required competency in a language, mastery in LSRW skills is a prerequisite. It is observed that in language teaching programs, receptive skills are given less importance than productive skills. In receptive skills, listening skill is the most neglected skill. There is a difference between hearing and listening. Hearing is a passive process and listening is an active process. In listening, paying attention, interpreting the message, and responding to the message is involved.

Saraswathi (2004) notes, "Of the four linguistic skills, listening is the most neglected in our curricula.

Tickoo (2004) observes, 'In most language teaching programs listening gets the least attention'(p.120)

Kinder (1972) observes, 'improvement in listening supports improvement in the other language skills'. (p.102)

Components of listening:

1) **Attention-** To understand the full message conveyed by the speaker, paying keen attention to the message and avoiding any internal or external distraction is essential.
2) **Remembering-** Recalling the related information of the message helps for better understanding and responding to the speaker. Good listeners recall the information quickly.
3) **Understanding-** Doing the correct interpretation of the speaker's message is understanding. There is a difference between denotative meaning and connotative meaning, contextual meaning, and implied meaning. Comprehending the right meaning is very important in listening.

4) **Evaluating-** Evaluating the relevance and truthfulness of a message is very essential in listening. To think critically and judge a message's content is called evaluating.

5) **Responding-** Responding means giving feedback to the speaker in verbal or nonverbal form. It shows that the listener listened to the message carefully and processed the message.

Importance of listening:

1) **Enhances communication-** Good listener listens with open eyes and ears. He listens, understands, processes the message and encourages conversation from both sides by adding thoughts, ideas or action. It helps to develop communication skills.

2) **Strengthens relationships-** Listening is a behavioural wherein the listener takes conscious efforts to understand the meaning of the message and to respond to the message. Attentive listening builds confidence of the speaker, felt respected and valued by the listener. It develops trust and leads to positive relationships.

3) **Enhances personal and professional life-** Good listener is in high demand because people automatically get attracted towards him. He develops a social circle and gets associated with people. Listening involves understanding, interpreting, analysing, and responding to the message. It improves workplace relationships and work efficiency and productivity. It helps to make a job interesting. listening helps for personal and professional life.

4) **Assists problem solving-** Good listener takes time to understand the situation and do in depth understanding of the problem. He recalls various options for solving the problem and chooses an effective solution of the problem.

5) **Makes the speaker comfortable-** When the listener listens attentively, the speaker feels respected and encourages him to speak. Listeners

respond through non-verbal communication which helps to avoid distractions of the speaker and puts him at ease. Naturally mutual understanding between speaker and listener increases and the speaker gets comfort.

Essential facts about the teaching of listening skills:

1. English is taught as a second language in India. In the vernacular medium, English is mostly taught by the translation method. So, students get very few opportunities to listen to English. In English medium schools, listening skill is not given much importance. Because of that, they lack major listening practices in English.
2. Listening skill is the foundation for learning any new language so English teachers need to give importance to teaching listening effectively.
3. To make students efficient listeners, deliberate efforts should be taken by students and teachers and teachers should spend more time developing listening skills.
4. Interesting and varied material, like radio, films, and videos, should be used in teaching listening skills.
5. Rather than simply listening to classroom lectures, teachers should provide real- life situations like discussion, interviews, conversations etc.
6. The English teacher should be acquainted with the methodology and techniques useful in developing the listening skill
7. The student-centered approach and choosing material of the student's interest will be effective in teaching of listening skill

Listening proficiency:

Listening proficiency is an expertise of skill. It is the ability to understand spoken language effectively. It includes understanding words as per context, tone, and nuances. It includes abilities like comprehending key

elements, deriving meaning from context, understanding implied messages, and identifying details. proficient listeners can recognize literal meaning, comprehend messages, draw conclusions, analyse the material, and criticize ideas.

Listening proficiency components:

Meaning of words and phrases:

Words and phrases have connotative and denotative meanings. To understand the connotative meaning based on cultural, personal, or social context. Even to understand the figurative meaning and contextual meaning of words is very necessary for comprehension.

Interpretation of messages:

Interpretation means understanding the literal meaning of the words used in the passage by considering the context. The intonation pattern of words and the choice of words convey emotions and attitudes to interpret the meaning. Understanding the same meaning that is intended by the speaker.

Understanding main facts and supporting details from descriptive text:

It means understanding key information and additional elements. Who, what, when, where, and why these questions are answered to understand the main facts. For supporting details, pieces of evidence, examples, and statistics are mentioned in depth

Summarizing listened text:

It involves the main points, key ideas, and important details of an audio text into a shorter version. It states the main idea and central theme with supporting information and avoiding unnecessary repetition.

Objectives:

1)To find out the relationship between listening proficiency components of secondary school students in terms of:

i) Meaning of words and phrases and interpretation of messages
ii) Meaning of words and phrases, and understanding the main facts
iii) Meaning of words and phrases, and summarizing the listened text
iv) Interpretation of messages and understanding the main facts
v) Interpretation of messages and summarizing the listened text
vi) Understanding main facts and summarizing the listened text

Table 1

Relationship Between Various Components of Listening Proficiency

Sr. No	Components	No. of students	Pearson 'r'
1	Meaning of words and phrases	30	0.44
	Interpretation of messages	30	
2	Meaning of words and phrases	30	0.40
	Understanding the main facts	30	
3	Meaning of words and phrases	30	0.30
	Summarizing the listened text	30	
4	Interpretation of messages	30	0.52
	Understanding the main facts	30	
5	Interpretation of messages	30	0.38
	Summarizing the listened text	30	
6	Understanding main facts	30	0.51
	Summarizing listened text	30	

Interpretations:

i) **Relationship between the Meaning of words and phrases and the interpretation of messages**

It is clear from Table 1 that the 'r' value of 0.44, P<0.01 obtained indicates that there is a substantial relationship between the Meaning of words and phrases and the interpretation of message components of listening proficiency of secondary students. This relationship is positive, which shows that any increase or decrease in the scores of the meaning of words and phrases is correspondingly followed by an increase or decrease in the interpretation of messages.

ii) **Relationship between the Meaning of words and phrases and understanding the main facts**

It is clear from Table 1 that the 'r' value 0.40, P<0.01 obtained indicates that there is a substantial relationship between the Meaning of words and phrases and the understanding of the main facts components of listening proficiency of secondary students. This relationship is positive, which shows that any increase or decrease in the scores of the meaning of words and phrases is correspondingly followed by an increase or decrease in understanding the main facts.

iii) **Relationship between the Meaning of words and phrases and summarizing listened texts**

It is clear from Table 1 that the 'r' value 0.30, P<0.01 obtained indicates that there is a substantial relationship between the Meaning of words and phrases and the summarizing listened texts components of listening proficiency of secondary students. This relationship is

positive, which shows that any increase or decrease in the scores of the meaning of words and phrases is correspondingly followed by an increase or decrease in summarizing listened texts.

iv) Relationship between the interpretation of messages and understanding the main facts

It is clear from Table 1 that the 'r' value 0.52, P<0.01 obtained indicates that there is a relationship between the interpretation of messages and the understanding main fact components of listening proficiency of secondary students. This relationship is positive, which shows that any increase or decrease in the scores of interpretation of messages is correspondingly followed by an increase or decrease in understanding the main facts.

v) Relationship between the interpretation of messages and summarizing listened texts

It is clear from Table 1 that the 'r' value 0.38, P<0.01 obtained indicates that there is a relationship between the interpretation of messages and summarizing the listened texts components of listening proficiency of secondary students. This relationship is positive which shows that any increase or decrease in the scores of interpretation of messages is correspondingly followed by an increase or decrease in summarizing listened texts.

vi) Relationship between understanding main facts and summarizing listened texts

It is clear from Table 1 that the 'r' value of 0.51, P<0.01 obtained indicates that there is a relationship between understanding main facts and summarizing listened texts components of listening proficiency of secondary students. This relationship is positive which shows that any increase or decrease in the scores of interpretation of messages is correspondingly followed by an increase or decrease in summarizing listened texts.

Conclusion:

The study revealed that meaning of words and phrases, interpretation of messages and summarizing listened texts have positive co relationships and significantly correlated. Interpretation of messages and understanding main facts, interpretation of messages and summarizing listened texts, understanding main facts and summarizing listened texts have positive relationships but are not significantly correlated.

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6. PEDAGOGICAL APPROACH OF GAME BASED LEARNING

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Abstract:

In this article, we argue that integrating cognitive, motivational, affective, and socio-cultural perspectives is essential for both game design and game research to fully harness the educational potential of games. When combined, these perspectives form a comprehensive learning sciences framework, amplifying the effectiveness of games in education. Game-Based Learning (GBL) has emerged as a transformative educational approach, leveraging the engaging and immersive qualities of games to enhance learning outcomes. This paper explores the pedagogical underpinnings of GBL through three foundational lenses: philosophical, socio-cultural, and psychological.

Introduction:

Game-based learning (GBL) is an educational approach that utilizes games to engage and teach learners. It involves incorporating game elements, mechanics, and principles into the learning process to make it more interactive, immersive, and enjoyable. The concept is rooted in the idea that games can motivate learners, encourage active participation, and foster critical thinking and problem-solving skills. Game-based learning, which utilizes both digital and non-digital games to teach new concepts and skills (Grace, 2019), can significantly enhance educational outcomes (Kula, 2021; Syafii, 2021). According to Boctor (2013), this approach benefits learning through two key mechanisms. First, it motivates

students to integrate knowledge from various disciplines for decision-making. Second, it allows students to experiment with different choices and observe the resulting changes in game outcomes. Furthermore, game-based learning fosters communication and collaboration among participants, improving their social interaction skills as they discuss and coordinate game-related strategies. Problem-solving skills are crucial for adapting to society, and game-based learning has proven to be an effective way to enhance these skills. Han (2015) discovered that interactive learning sessions not only enhance students' understanding but also boost their cognitive problem-solving abilities. By integrating multiple capabilities into the educational process, game-based learning significantly increases student engagement. Furthermore, students who participate in educational games achieve better academic results across various subjects compared to those who do not engage in such games. Studies have proved that incorporating game-based learning enhances students' engagement, coordination, and creativity. Games have been an integral part of human culture since ancient times, serving various purposes such as entertainment, education, socialization, and even religious rituals. Here's a look at how games were incorporated into different ancient civilization

Historical perspective:

Game-based learning has a rich history spanning cultures and centuries. From ancient civilizations to the digital age, games have been used as an effective tools for education, skill development, and training. Throughout the achieve of human history, the symbiotic relationship between humanity and games resonates unmistakably. A profound journey unfolds, revealing that games are not mere whimsical diversions; rather, they emerge as intrinsic expressions of our existence. Delving into the

tapestry of evolution, we unearth the roots of games intertwined with the very fabric of life itself.

Games have been used as an educational tools since ancient times. In ancient Egypt, the game of Senet was not just a form of entertainment but also had religious and educational significance. Players would strategize and problem-solve, honing skills that were useful in everyday life. Chess, which originated in India and spread to medieval Europe, became a staple of aristocratic education. The game wasn't just about moving pieces on a board; it taught strategic thinking, planning, and decision-making, skills valuable in warfare and governance.

Aristotle's perspective, as seen in his Politics (1337b-1338a), portrays play (paidiá) primarily as a means of relaxation or diversion from more serious pursuits like study or work. In this view, its value is largely instrumental, serving as a break rather than an integral part of education or personal development.

On the other hand, Plato, in his Laws (643B-C), offers a more nuanced view of play within the context of education. While he also distinguishes between paidiá and paideía (education), seeing them as separate concepts, he acknowledges the importance of play in the educational process. Plato suggests that play serves as an initial step on the path toward genuine knowledge and growth. It's not merely a diversion but rather a foundational element in shaping individuals towards deeper understanding and development. So, while both Aristotle and Plato recognize the role of play, Plato's perspective seems to offer a more constructive view, emphasizing its necessity as a precursor to higher learning and personal enlightenment. Plato explicitly recommended games and play as effective teaching tools. His ideas found resonance in the Renaissance, notably with Vittorino da Feltre. He considered the idea of using games to teach came from the ancient Egyptians, which used

games like Mancala.. It's a strategy board game that likely originated in ancient Egypt or Ethiopia, and it's been played for thousands of years. Scholars believe that games like Mancala were not only forms of entertainment but also served as tools for teaching mathematical concepts such as counting, strategy, and spatial awareness. This historical perspective underscores the enduring value of integrating play and learning.

John Amos Comenius Czech educational reformer and religious leader offered a groundbreaking perspective on education, particularly through his advocacy for the integration of games and play into the learning process. His work, "Schola Ludus," which he presented in the 17th century, laid out a systematic theory wherein he considered ludus (game) to be the ideal mode of learning. Comenius's approach wasn't confined to a specific type of game or play but rather encompassed a universal ludology, emphasizing the fusion of fun and seriousness in education. This concept was quite revolutionary for its time, as it challenged conventional notions of education that often prioritized rote memorization and formal instruction over interactive and enjoyable learning experiences. His perspective resonated with the Renaissance ideals of human dignity and liberty, suggesting that learning should be a holistic experience that engages both the intellect and the senses. By advocating for the incorporation of games into education, Comenius addressed fundamental issues such as the balance between spontaneity and rules, cooperation, and competition.

Comenius's work laid the groundwork for many modern discussions on educational philosophy, highlighting the importance of experiential learning and the role of play in cognitive development. His optimistic outlook foreshadowed subsequent contributions to the field of education,

affirming the inherent value of integrating enjoyment and engagement into the pursuit of knowledge.

Educational games gained popularity during the Renaissance and Enlightenment periods. Board games like The Mansion of Happiness, developed in 1800 by George Fox, were explicitly designed to impart moral lessons to children.

The 20th century saw the rise of educational toys and games. LEGO, for instance, was founded in 1932 and has been used in educational settings to teach principles of engineering and creativity. Also, the advent of computers about educational video games like Oregon Trail, which simulated the experience of pioneering in 19th-century America .Late 20th Century to Present: With the proliferation of digital technology, game-based learning has exploded. Educational games like Math Blaster and Carmen Sandiego became popular in schools. Simulations and serious games, such as flight simulators for pilot training, emerged in various professional fields.

In the 21st century, there has been a prolific production of digital games encompassing a wide variety of genres and platforms. The advent of 'casual games' has expanded frequent gaming to new target demographics and age groups (Juul, 2010). Today, more than ever before, humanity is embracing the concept of homo ludens, or "playing man." Consequently, it is both realistic and beneficial to enhance the use of play and game-based learning as a means of achieving mass individualization in modern education.

In this century, serious games—those designed for purposes beyond entertainment—have gained traction. They are used for training, healthcare, emergency preparedness, and more. Additionally, gamification, the application of game design elements in non-game contexts, has been widely adopted in education to enhance engagement

and motivation. Technological advancements have revolutionized game-based learning by making it more immersive, personalized, interactive, collaborative, accessible, and effective. These innovations not only enhance the learning experience but also improve educational outcomes by engaging students in a meaningful and enjoyable way.

The development of virtual reality and augmented reality technologies has opened up new possibilities for game-based learning. These immersive technologies allow learners to experience environments and scenarios that would be impossible or impractical in real life, enhancing learning outcomes. As technology continues to advance, the potential for game-based learning to transform education and professional development remains vast.

Philosophical foundation of game based learning:

Philosophical reflection on games has been present since the beginning of the history of thought, with early contributions from Heraclitus, Plato, and Aristotle. This interest waned during the Middle Ages but reemerged in the 18th century and beyond, with significant attention from philosophers like Kant, Schiller, Hegel, and Huizinga. Games encompass cultural and anthropological elements that vary depending on the period, place, and the needs of human beings. Human activities, in general, are characterized by interactive mechanisms and symbolisms. Ludwig Wittgenstein suggested that philosophy and language should be understood as a series of games.

The naturalistic approach in game-based learning refers to integrating learning experiences into games in a way that mimics real-life scenarios and contexts, making the learning process more intuitive and immersive. This approach is grounded in the idea that learning is most effective when it occurs in a natural, relevant, and meaningful environment. As the in game base learning, content is embedded within a context that closely

resembles real-life situations. This helps learners understand the practical applications of the knowledge and skills they are acquiring. Learners engage in tasks that are authentic and relevant to real-world activities. These tasks are designed to mirror the complexities and challenges they would face outside the game environment. Knowledge and skills are acquired in the context in which they will be used. This concept, derived from situated cognition theory, emphasizes the importance of learning in the same environment where it will be applied. Learners gain knowledge through direct experience. They actively participate in the learning process by experimenting, making decisions, and reflecting on their actions within the game.

Pragmatism in game-based learning provides a dynamic and interactive approach to education, aligning with the practical, experience-based philosophy of pragmatism. By integrating games into the learning process, educators can create engaging, effective, and adaptable learning experiences that prepare students for real-world challenge. Pragmatism in game-based learning emphasizes practical, experiential learning through interactive and engaging digital environments. This educational approach leverages the principles of pragmatism—focusing on the practical application of knowledge and skills, learning by doing, and the significance of experience in shaping understanding. Pragmatism values learning through experience, which aligns with game-based learning where learners interact with the game environment to solve problems and achieve goals. This hands-on approach helps students to retain knowledge better by applying concepts in practical scenarios. Games provide instant feedback on actions and decisions, which is crucial for the iterative process of learning advocated by pragmatism. Immediate feedback helps learners understand the consequences of their actions, learn from mistakes, and adjust their strategies in real-time.

Existentialist approaches in game-based learning (GBL) combine principles of existential philosophy with interactive and immersive learning experiences to foster personal meaning, authenticity, and self-directed growth in learners. Here's how existentialist ideas can be integrated into game-based learning: Existentialist philosophy emphasizes the importance of finding personal meaning in one's experiences. In a GBL context, this means creating games that allow players to connect personally with the content, making the learning experience more relevant to their lives and interests.

Experimentalism in game-based learning draws from the philosophical foundations of experiential learning and pragmatism, particularly the ideas of John Dewey. This approach emphasizes the role of experience, experimentation, and reflection in the learning process. Games provide immersive environments where learners can engage directly with content, making choices, and observing the consequences of their actions. This aligns with Dewey's belief that education should be grounded in real-life experiences. Experimentalism emphasizes active involvement in learning rather than passive reception of information. Games require players to be active participants, solving problems, making decisions, and interacting with the game world. Games naturally incorporate trial and error, allowing learners to experiment with different strategies and learn from their successes and failures. This iterative process is central to Dewey's philosophy of learning through doing and reflecting. Reflection is a critical component of experimentalism. After engaging in a game, learners are encouraged to think about their experiences, analyze what worked or didn't, and understand the underlying principles or concepts. Games often place learning in a specific context or narrative, making abstract concepts more concrete and relatable. This contextual approach

helps learners make connections between the game content and real-world applications.

The reconstructivist philosophical approach in game-based learning emphasizes the active role of learners in constructing knowledge through interactive and immersive experiences. This approach is rooted in constructivist theories of education, which posit that learners build understanding through experiences and reflection. Learners engage directly with the content through gameplay, making decisions, solving problems, and exploring environments. This active engagement fosters deeper understanding and retention of knowledge. Games provide simulated environments where learners can experiment and learn from their actions. This hands-on experience helps learners to understand concepts in a practical and contextualized manner. Instead of passively receiving information, learners construct their knowledge by interacting with the game environment. They form hypotheses, test them, and modify their understanding based on feedback from the game. Post-gameplay reflection is crucial. Learners are encouraged to think about their in-game decisions, strategies, and outcomes, connecting these experiences to theoretical concepts and real-world applications. This approach in game-based learning offers a dynamic and effective way to engage learners and deepen their understanding of complex concepts. By emphasizing active participation, experiential learning, and reflective thinking, this approach leverages the strengths of games to create rich, interactive educational experiences.

The sociocultural foundation of Game based learning:

GBL emphasizes the interplay between social interactions, cultural contexts, and cognitive development, which are essential for understanding how games can effectively facilitate learning. From a socio-cultural perspective, game-based learning is viewed as a process

that is both socially constructed and motivated. Games offer unique opportunities to enhance learning through social interaction and contextual immersion. Learning designs that prioritize social and cultural aspects aim to facilitate group participation, harness collective knowledge to achieve goals, connect learning to cultural standards and identities, and use social and cultural influences to motivate learners. These objectives are achieved through the inherent features of gameplay, which allow for distributed and immediate social engagement. When discussing game-based learning from a sociocultural perspective, it's important to recognize that learning is viewed as socially constructed and driven by social interactions (Bandura, 2002; Barab & Duffy, 2000; Wenger, 1998, 2000). Games can create opportunities for social engagement, providing environments where peer interactions enhance learning (Squire, 2006). Learning designs that emphasize social and cultural aspects focus on how learners participate in groups, leverage collective knowledge to achieve goals, relate learning to cultural norms and identities, and draw on social and cultural influences as learning motivators within both immediate and distributed gameplay contexts. It's challenging to separate social and cultural aspects of learning from cognitive and affective components, as these elements interact and operate within social and cultural contexts (Turkay et al., 2014). Even designers who don't intentionally address social or cultural issues in their work are still influenced by these factors. Their personal experiences and values shape their design choices, often subconsciously (Flanagan & Nissenbaum, 2014 Vygotsky’s theory is pivotal to the sociocultural foundation of GBL. Vygotsky argued that social interaction plays a fundamental role in the development of cognition. He introduced the concepts of the Zone of Proximal Development (ZPD) and scaffolding: his is the difference between what learners can do without help and what they can achieve with guidance and

encouragement from a skilled partner. Games can operate within this zone, providing challenges that are just beyond the learner's current abilities but achievable with the right support. Games can be designed to reflect the cultural backgrounds and experiences of learners, making them more engaging and meaningful. Self-Determination Theory by Deci and Ryan emphasizes the role of intrinsic motivation in learning, which is often fostered in game environments through autonomy ,as players make choices and feel in control. Games provide clear goals and feedback, enhancing the feeling of achievement. Multiplayer games build a sense of community and belonging. The sociocultural foundation of game-based learning highlights the importance of social interaction, cultural context, and active engagement in the learning process. By leveraging these elements, games can create effective and enriching educational experiences that align with how humans naturally learn and develop within their social and cultural environments. Social interactions within games significantly impact self-perception. Feedback received during group play can foster a sense of worth or negativity as a learner, affecting one's self-esteem and identity formation. How individuals perceive themselves and are perceived by others during these interactions shapes their notions of self-efficacy and learning performance. From a social and cultural perspective, game-based learning designs aim to enhance motivation and engagement similarly to how affective aspects are addressed. The objective of incorporating social and cultural elements into the design of game-based learning is to create environments where these factors can positively influence learning by establishing meaningful and socially supported contexts. While sociocultural factors can either facilitate or hinder learning, they do not independently produce learning outcomes. Consequently, design principles in this context focus on

offering motivational opportunities rather than prescribing specific content or instructional strategies.

Psychological foundation of Game base learning:

Game-Based Learning (GBL) leverages the motivational, engaging, and interactive elements of games to enhance learning experiences. The psychological foundations of GBL are deeply rooted in several theories and concepts from cognitive, behavioural, and social psychology. Understanding these foundations helps educators design and implement effective GBL strategies.

Behaviourism: The behaviouristic perspective on game-based learning emphasizes the role of reinforcement, conditioning, and observable behaviours in the learning process. From this viewpoint, learning is seen as a process of acquiring new behaviours through interactions with the environment, where games can be used as effective tools to reinforce desired behaviours and skills**.** Behaviourism considers learning to be produced by stimulation and reinforcement; in addition, it proposes that learning is manifested by a change in behaviour. Games often incorporate reward systems that align with behaviourist principles. Points, badges, levels, and other incentives serve as positive reinforcement, encouraging learners to repeat desired behaviours. Elements of the game can serve as rewards by conditioning students to adopt specific learning responses that enhance information retention. This concept aligns with B.F. Skinner's behavioural theory, which posits that "behaviour is a function of its consequences." Games designed with this theory in mind are often referred to as "edutainment" and typically incorporate tests or challenges. These types of games promote intense focus and improve memory retention. For instance, successfully completing a task within a game might lead to immediate rewards, which reinforces the behaviour of completing similar tasks in the future. Behaviourism includes classical

and operant conditioning as central concepts. In game-based learning, operant conditioning is particularly relevant. Through operant conditioning, learners receive feedback based on their actions. Positive feedback (rewards) encourages repetition of the behaviour, while negative feedback (penalties or lack of rewards) discourages it. Games often employ these techniques by providing immediate and clear feedback on player actions. Behaviour of the players focus on observable and measurable behaviours rather than internal mental states. Game-based learning fits well within this framework because it can track and measure player actions and performance. Behaviourism values repetition and practice as essential for learning. Games often require players to practice skills repeatedly to advance. This repetitive practice helps to engrain the desired behaviours and responses, making them more automatic over time. Games create a controlled learning environment where variables can be manipulated to shape behaviours. This controlled setting allows educators to introduce specific stimuli and responses, ensuring that learning is aligned with desired outcomes. In the context of behaviourism, players need to learn the paidea and ludus rules as the fundamental mechanisms of the game. This means players must understand what actions are permitted and what actions are prohibited. From a gameplay perspective, behavioural learning is crucial across all types of games. Behavioural learning is particularly effective in explaining automatic responses triggered in specific situations. Players must identify their goals and achieve them through a stimulus-response process.

Cognitivism: Cognitive psychology suggests that learning arises from mental activities such as memory, motivation, thinking, and reflection. Cognitivists believe learning is an internal process influenced by the learner's capacity, motivation, and determination. Learning is

demonstrated through changes in knowledge and understanding. Game-based Learning approach involves using games to enhance academic knowledge and cognitive skills. Cognitivism in game-based learning focuses on the transfer of information from experts to learners. Learners receive, store, relate, index (like a filing system), and retrieve information, connecting pieces of knowledge in meaningful and memorable ways. Cognitive Theory of Game-based Learning states that Playing games can enhance cognitive activities that help make sense of the material, driven by player motivation (generative processing), but can also introduce distractions from non-essential game features (extraneous processing). Effective educational game design must balance minimizing extraneous processing and managing essential processing while promoting generative processing through engaging game features. In this paradigm, the mind is viewed as a 'black box' to be opened and understood. Learners are seen as information processors. Cognitivism emphasizes the importance of mental processing, particularly logical thinking to predict or deduce rules in puzzle-based adventure games. It asserts that knowledge is context-dependent, and learning is facilitated through scaffolding to support task completion. Psychologists have long acknowledged the importance of play in cognitive development and learning. Piaget (1962), described games as being integral to, and evolving with, children's stages of cognitive development. According to Piaget, games becomes more abstract, symbolic, and social as children mature through different develop mental stages. One way that games are seen as contributing to children's cognitive development is by activating their schemas in ways that allow children to transcend their immediate reality.

Constructivism: Constructivism is a learning theory positing that learners construct their own understanding and knowledge of the world

through experiences and reflection. Integrating constructivism with game-based learning can create dynamic and effective educational experiences. By harnessing the engaging and interactive nature of games within a constructivist framework, educators can foster deeper understanding, motivation, and skill development among learners. Constructivism in education emphasizes providing students with the tools and skills needed to independently devise solutions to problems. It asserts that learning is an active, constructive process, where students are not passive recipients of information but actively engage with their environment and draw from their experiences to build new understanding and knowledge. Constructivists view learners as constructors of information, actively creating their own subjective representations of objective reality (Bednar et al., 1995). New information is connected to prior knowledge, making mental representations subjective (Resnick, 1987; Brown et al., 1989). Constructivism highlights the importance of socio-cultural context in understanding the world through social interaction and knowledge construction. Within this framework, 'game rule' stresses the interaction among players and games, which are socially constructed. Vygotsky's social development theory, developed in 1962, emphasized the connections between people and their sociocultural context in shared experiences. Vygotsky proposed that humans use speech and writing to develop culture and mediate their social environments. According to him the zone of proximal development (ZPD), which is the gap between what a student can do independently and what they can achieve with guidance or peer collaboration (Nassaji & Cumming, 2000). One of the significant advantages of games and playful learning is their ability to facilitate situated learning, as described by Lave and Wenger (1991) and Wenger (1998). Games create environments

where learning occurs in meaningful and relevant contexts, delivering information precisely when it is most beneficial to the learner

Humanism: Humanism, which gained prominence after the 1960s, emphasizes the freedom, value, dignity, and potential of individuals (Combs, 1981). According to Huitt (2001), humanism is based on the premise that individuals act with intentionality and values, setting it apart from the behaviourist perspective of operant conditioning and the cognitivist focus on the discovery of knowledge or construction of meaning as central to learning (Learning Theories Knowledgebase, 2008). Humanists advocate for student-centered and personalized learning, with educators serving as facilitators. They stress the importance of addressing both affective and cognitive needs to foster the development of self-actualized individuals within a cooperative and supportive environment. Experiential learning is a key principle in humanism, as outlined by Kolb (1984). This approach to learning does not require a traditional teacher and focuses on the individual's process of deriving meaning from direct experience. Kolb (1984) asserts that knowledge is continuously acquired through a combination of personal and environmental experiences.

Furthermore, Kolb (1985) identified four distinct learning styles, each associated with different abilities: diverger (characterized by concrete experience and reflective observation), assimilator (abstract conceptualization and reflective observation), converger (abstract conceptualization and active experimentation), and accommodator (concrete experience and active experimentation**).** This theory is closely related to constructivism and adult learning theory, positing that learning is an innate desire aimed at achieving self-actualization. According to this perspective, individuals operate under a hierarchy of needs that begins with basic physiological survival needs and ascends to self-actualization,

the highest level of this hierarchy. Self-actualization represents a state in which a person's emotional, physical, and cognitive needs are fully met. Humanistic learning theory emphasizes learner freedom and autonomy, linking the ability to learn with the satisfaction of other needs, as outlined in Maslow's hierarchy, and the learner's perception of the knowledge's usefulness.

Connectivism: Connectivism is a modern educational theory highlighting that learning happens through forming connections with others, as well as through roles, hobbies, and various life experiences. It suggests that learning involves navigating and building these networks. While expanding on cognitivism, connectivism proposes that learning extends beyond the individual to encompass a network of people. This theory supports the concept of a "community of practice," where knowledge can exist outside the individual. Therefore, learning involves organizing and accessing specialized information distributed across different sources. In game-based learning, connectivism leverages the interconnected and dynamic nature of both digital games and the learning process. It underscores the significance of networks, real-time feedback, interdisciplinary approaches, personalized learning, collaboration, and exploration. By incorporating these principles, game-based learning can create immersive, engaging, and effective educational experiences. Games offer environments where players interact with in-game characters and other players, forming a network of learning opportunities where knowledge is shared and collaboratively constructed. Games can adapt to individual learners' needs, providing personalized challenges and content, aligning with the connectivist principle that learners develop their own pathways through available resources. Connectivism emphasizes collaboration in knowledge construction, and game-based learning often involves teamwork, requiring players to communicate, share resources,

and develop strategies together. Furthermore, connectivism supports the idea that learning is not confined to a single discipline. Games frequently integrate multiple subjects, requiring players to apply knowledge from various domains to achieve success

Conclusion:

Game-based learning (GBL) offers a dynamic approach to education by leveraging the intrinsic motivations and interactive nature of games to enhance learning outcomes. It represents a shift towards a more engaged, participatory, and student-centered learning environment, aligning with educational theories like constructivism, experiential learning, and socio-cultural theory. Constructivism highlights the importance of learners actively constructing knowledge through experiences, which games provide through exploration, problem-solving, and critical thinking. Effective GBL requires thoughtful integration into the curriculum, ensuring game content aligns with learning objectives and balances educational value with entertainment. Educators must be proficient in game design principles and capable of guiding learning experiences within game contexts. Additionally, GBL in the digital age raises considerations of accessibility, digital literacy, and the digital divide, necessitating equitable access to resources and skills for all students. Ultimately, GBL can make education more engaging and effective by tapping into the motivational and cognitive benefits of play. It fosters a learning environment that enhances academic achievement and cultivates 21st-century skills like critical thinking, collaboration, and creativity, aligning with the needs and interests of modern learners.

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7. CONSTRUCTIVISM IN EDUCATION: BUILDING MINDS AND SHAPING FUTURE

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"Tell me and I forget. Teach me and I remember. Involve me and I learn."

This well-known saying exemplifies the effectiveness of the theory of constructivist learning, a contemporary student-centered instructional approach that is used in many classrooms. Constructivism stands as a cornerstone in the vast landscape of educational theories, guiding educators in the direction of a more profound comprehension of how individuals learn and grow. Constructivism has its roots in the theories of Piaget, Vygotsky, and Dewey, which place a strong emphasis on the role that social interaction, reflective thinking, and student autonomy play in the educational process. The name constructivism comes from the Latin word "constructus," which is the past participle of the verb "construere," which means "to build" or "to heap up." This is consistent with the central tenet of constructivism, which holds that knowledge is created or formed by students by their interactions and experiences with the outside world. The process of constructing or building knowledge is the core element of constructivism. According to constructivism, students do not accept knowledge at face value. They reorganize based on their insights, understanding, and experiences. It advocates for an active, learner-centered approach. Bereiter (1994) also emphasized the active role of

learners in creating their knowledge. He suggested that learning involves actively engaging with ideas, concepts, and experiences to construct meaning rather than merely absorbing facts. Bereiter's (1994) viewpoint is consistent with the broader constructivist framework, stressing the value of social interaction, learner-centered strategies, and real-world experiences.

At its core, constructivism is not merely an instructional approach, it is essentially a philosophy that sees learning as an active, dynamic process of creating meaning from experiences. It is different from the conventional method of teaching. The assumption of the conventional method is "Knowledge can be transferred intact from the mind of the teacher to the mind of the learner" whereas the assumption of constructivism is "Knowledge is seldom transferred intact from the mind of the teacher to the mind of the learners. " Traditional and constructivist classrooms represent two different educational ideologies, each with its distinct methods of teaching and learning. The two are contrasted as follows:

Comparison between Traditional and Constructivist Classrooms

Traditional Classroom	Constructivist Classroom
● Curriculum is presented part to whole, with emphasis on basic skills.	● Curriculum is presented whole to part with emphasis on big concepts
● Strict adherence to fixed curriculum is highly valued	● Pursuit of student questioning is highly valued
● Curricular activities rely heavily on textbooks and workbooks	● Curricular activities rely heavily on primary sources of data and manipulative materials
● Students are viewed as “blank slates” onto which information is etched by the teacher	● Students are viewed as thinkers with emerging theories about the world

Traditional Classroom	Constructivist Classroom
● Teachers generally behave in a didactic manner, disseminating information to students	● Teachers generally behave in an interactive manner, mediating the environment for students
● Teacher seeks the correct answer to validate student learning	● Teachers seek the student's point of view in order to understand student's present conceptions for use in subsequent lessons
● Assessment of student learning is viewed as separate from teaching and occurs almost entirely through testing	● Assessment of student learning is interwoven with teaching and occurs through teacher observations of students at work and through student exhibitions and portfolios
● Students primarily work alone.	● Students primarily work in groups.

(Source: Cited from Brooks and Brooks, 1993, p.17)

Principles of Constructivism:

Some of the basic principles of constructivist philosophy are as follows:

Knowledge is constructed: The fundamental idea is that knowledge is constructed, which means that it is based on prior information. Students construct something distinct from other students based on their individual experiences and insights. The student's past experiences, beliefs, and perspectives are important foundational elements for their upcoming education.

Learning is an active process: Learning is an active process that requires the student to participate. To actively participate in their learning and growth, students must interact with the outside world. It is not sufficient to just listen to somebody teach you things; you need to get involved in activities, reading, discussions, etc.

Learning is inherently a social process: At its core, learning is a social endeavor that is closely linked to our interactions with others. Our learning is greatly influenced by our peers, family, teachers, and friends. Progressive education includes group projects, discussion, and interactive techniques to improve students' retention of knowledge because social connection is essential for learning.

Learning is dependent on the context: Knowledge is acquired by students in ways that are related to what they already know, what they think, and more. They do not acquire isolated information and ideas detached from the rest of their life.

Knowledge is personal: Since constructivism relies on your own experiences and convictions, acquiring knowledge becomes a matter of personal experience. Every individual will bring their unique background knowledge and experiences to the table. As a result, everyone will learn and benefit from schooling in quite different ways.

Although constructivist learning theory can be interpreted in a variety of ways, Hord's (2009) article lists six essential concepts that Burns, Menchaca, and Dimock (2001) have determined to be essential to the theory. These are listed as follows:

1. Every learner contributes their unique set of prior knowledge, experiences, and beliefs to the classroom.
2. Knowledge is produced both independently and uniquely, using a range of real-world tools, resources, contexts, and experiences.
3. The process of learning is both reflective and active.
4. Learning is a developmental process that includes accommodation, assimilation, or rejection to produce new conceptual structures, meaningful representations, or mental models.
5. Social contact offers a variety of viewpoints through reflection, cooperation, compromise, and shared purpose.

6. The learner mediates and controls their learning on an internal level.

In conclusion, constructivist principles are essential to education because they increase the effectiveness, personalization, and engagement of the learning process. Not only do they teach knowledge acquisition, but they also train students for critical thinking, application of acquired knowledge, and perpetual learning.

Role of Teachers in Constructivism:

Both the importance of expert knowledge and the active role of teachers are upheld by constructivism. By assisting students in creating knowledge rather than just repeating facts, constructivism alters that position. Constructivist teachers support students in developing and testing their ideas, drawing findings and deductions, synthesizing and sharing their knowledge in a collaborative environment, and more by utilizing problem-solving strategies and inquiry-based learning activities. In this situation, a teacher's job is to serve as a guide or facilitator for the students rather than to impart knowledge. In addition to inspiring them to collaborate and work together, the instructor encourages the pupils to actively engage in the learning process. The instructor ensures that he or she is aware of the student's prior knowledge and designs the activity to address and expand upon it, as suggested by Oliver (2000). To support students in creating their knowledge, teachers must adapt, change, reorganize, and replan their teaching-learning strategies.

Role of Learners in Constructivism:

Constructivism involves the student as an active participant in the learning process instead of making them as passive recipient of knowledge. Students actively create their knowledge instead of merely copying it directly from their teacher or a textbook, under the teacher's constant guidance. Students gain the ability to think critically, solve problems, and pursue lifelong learning by actively creating their

knowledge and understanding. The learner must engage and interact with peers, authorities, and instructional materials in addition to the environment around them. Students are expected and encouraged to collaborate, exchanging ideas and expertise, rather than to compete with one another.

Constructivist Teaching Methods and Strategies:

Constructivism is an educational philosophy that emphasizes how students actively develop their own knowledge and understanding via experiences and interactions with the outside world. The goal of constructivist teaching is to establish a learner-centered environment in which students actively participate in the educational process. Constructivist teaching methods and strategies emphasize supporting this process, encouraging critical thinking, in-depth comprehension, and the capacity to apply knowledge in a variety of settings. The significance of students creating their understanding through inquiry, group projects, and practical application is emphasized by these methods. Constructivist teaching methods and strategies include Problem-Based Learning (PBL), Inquiry-Based Learning, Project-Based Learning, Collaborative Learning, Scaffolding, Questioning, Cooperative Learning, Concept Mapping, Field Trips, Group Discussions, and Hands-on Activities, among others. These techniques help teachers create a more meaningful and in-depth learning environment that equips students to solve problems in a variety of situations and continue learning throughout their lives.

Assessment in Constructivism:

Constructivist assessment is multidimensional, emphasizing ongoing, authentic, and significant evaluation of students' learning. It places special emphasis on performance-based assignments, peer and self-evaluations, and formative and authentic assessments. These methods of evaluation are intended to guarantee that students can apply their knowledge in real-

life situations, encourage reflective learning, and give continuous feedback. Brooks and Brooks (1993) provide an example of assessment in a constructivist classroom. According to them, instead than giving a firm "No" when a student fails to offer the exact response required, they contend that a constructivist teacher tries to understand the student's prior comprehension of the material. The instructor guides the student in developing new knowledge and abilities through questioning that is free from judgment. Assessment, according to constructivists, should be used as a tool to improve student learning as well as teacher comprehension of the students' present understanding. It shouldn't be utilized as a tool for accountability that encourages some pupils to give up and makes others feel good about themselves. In-depth, subjective analysis of students' performance in light of their extracurricular activities is another component of assessment. Constructivist instruction facilitates growth and deeper understanding through incorporating assessment into the learning process, equipping students for problem-solving and lifetime learning.

Constructivist Learning Cycle Models:

The learning cycle is an orderly process of training and learning. It provides students with a learning strategy and teachers with a teaching method. Several versions of the learning cycles are found in the literature; these include 3E (Karplus & Their, 1967), 5E (Bybee, 1997), and 7E (Eisenkraft, 2003). Each "E" letter in the learning cycle, according to Bybee et al. (2006), stands for the capital letters of English words that indicate different learning phases.

3E Model

For the Science Curriculum Improvement Study (SCIS), Karplus & Thier (1967) created the first version of the learning cycle model, which was divided into three stages. The phases of exploration, invention, and

discovery were incorporated into this three-phase learning cycle. From the original three phases, the learning cycle model has undergone multiple versions over the years, including four, five, seven, and even nine phases.

5E Model

Biological Science Curriculum Study (BSCS) developed the 5E Instructional Model in 1987. It was composed of five components: Engage, Explore, Explain, Elaborate, and Evaluate. Every phase of the learning process has a distinct function and adds to a comprehensive, student-centered teaching methodology.

7E Model

A framework for instruction known as the 7E Model was created with the specific goal of improving science education through teaching and learning. It is an expansion of the well-known Engage, Explore, Explain, Elaborate, and Evaluate (5E) Model. To enhance the learning process, the 7E Model adds two more phases: elicit and extend. Eisenkraft's (2003) 7E learning cycle model comprises the following phases: elicit, engage, explore, clarify, elaborate, assess, and extend. Balta and Sarac (2016) emphasized that a useful teaching strategy for scientific courses is the 7E learning cycle model. It should be encouraged for educators to use this model in their teaching.

Educational Implications of Constructivism:

According to constructivism, students don't like to study passively—that is, by sitting at a desk all day while a teacher lectures them. Rather than simply taking in information, they would rather learn actively and productively, applying what they have learned to create new understanding. The following are some implications of the constructivist approach to education:

Understanding Children's Cognitive Processes: Educators must place a high priority on comprehending children's cognitive processes since

learning depends on how information is processed mentally to create new knowledge. Instead of instructing children what to think, education should emphasize teaching them how to think. Instructors must be conscious of the material that students learn as well as the methods by which they approach and try to acquire it.

Building upon existing Knowledge: Teachers should consider students' existing knowledge when creating lesson plans because it has a significant effect on new learning. Before teaching new content, teachers should assess and reinforce what the students have already learned.

Connecting New Concepts to Pre-Existing Knowledge: Teachers can support students' learning by assisting them in making connections between new concepts and pre-existing knowledge, as children construct new knowledge on top of what they already know. This can be accomplished by giving real-world examples that connect unfamiliar ideas to well-known ones.

Presenting Content for Effective Assimilation: Children like to learn new knowledge in a way that makes it simple to comprehend and absorb. To facilitate this process, teachers should deliver the content in an organized and meaningful way.

Significance of Constructivist Approach:

The overall significance of the constructivist approach lies in its emphasis on student-centered learning, which involves active student participation in their education. This approach replaces teacher-led instruction and fosters independence, curiosity, and participation.

Its emphasis on inquiry and exploration encourages scientific reasoning and critical thinking. Students gain the ability to investigate, pose questions, and come to conclusions supported by facts. This approach encourages the growth of a variety of abilities, such as teamwork, communication, and problem-solving, all of which are critical for lifelong

learning and scientific literacy. Ongoing assessment at every stage offers insightful information about students' learning, directing instruction and guaranteeing the accomplishment of learning objectives.

To sum up, the constructivist approach is an effective framework that encourages critical thinking, active learning, and a greater comprehension of scientific ideas. Its methodical yet adaptable approach facilitates the development of a lively and stimulating learning environment that helps students become self-reliant and inquisitive learners. To effectively enhance education for every student, we must put the student at the center of our efforts. Constructivism's emphasis on student-centered learning initiatives is perhaps its greatest contribution to date. Increasingly common in classroom design and school curricula, constructivist principles can be applied to enhance teaching and learning.

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8. DEVELOPMENT OF A PROGRAM FOR ENHANCEMENT OF SELF-CONCEPT AMONG UPPER PRIMARY STUDENTS

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Abstract:

The purpose of the study was to develop a program to bring enhancement in the self-concept of students in upper primary level. To develop the self-concept in students, it is necessary to design a program that comprised of day-to-day activities for students. The study was conducted on final sample of 45 students from upper primary level (Std - 7) from SSC board English medium school in Mulund. The self-concept inventory by Dr.R.K. Saraswat was used to collect data related to self-concept and the six separate dimensions viz, physical, social, temperamental, moral, educational, and intellectual self-concept. The findings revealed that there was significant enhancement of scores of Total self-concept, Intellectual self-concept, Social self-concept of students treated through a program. Further on studying the self-concept it was found that all students had high overall self-concept after the treatment.

Keywords- *Program, self-concept, upper primary students*

Introduction:

Every individual in this world wants to be successful in his/her life. In these modern times individuals strive hard to have some identity of themselves in the society. The search for identity starts from younger days. Every individual feels good to be a part of some or the other group in the society. Individuals have their own views, opinions, ideas both about themselves and others and things around them. A child gets its

initial education from the family. Later when it starts going to school, cognitive development takes place. The child slowly starts discovering both about himself/herself and the outside world. The experiences in school help the child to develop in many aspects like curricular, extra-curricular and development of self. But most of the students may not realise about their own self. If they are taught how to understand their self, it will help them to become a confident person. If the student finds any areas in which he/she wants to improve, a teacher can guide and help the student to improve on the areas of self-development. For this it is important for one to understand about self-concept.

Concept of Self-Concept:

According to Human psychologist Carl Rogers, Self-concept is made up of three different parts Ideal self, self-image, and self-esteem. According to Harre (1971), our self-concept relates to our strengths and weaknesses and hence is concerned with our abilities. Attitudes and beliefs also contribute to self-concept. So, self-concept extends to temperamental matters. Psychologist Bruce. A. Bracken (1992) believed that self-concept it multidimensional and it can be broken into six independent traits. Academic, Affect, Competence, Family, Physical, Social. According to social psychologist Henri Tajfel`s social identity theory Self-concept is composed of two key parts. Personal identity and social identity. Personal identity comprises of traits and other characteristics that makes one unique. Social identity is based on the membership in the social groups such as sports team, religions, political parties, or social class.

Blumer invented the term “symbolic interactionism” and created a theory and methodology to test Mead`s ideas. Most sociologists follow the work of Blumer. (Carter and Fuller,2015). Blumer emphasized on how self can emerge from the interactive process of joining action (Denzin,2008;

Caster and Fuller,2018). According to Blumer, people act toward objects in a way that reacts to meanings they personally give to objects. People react to comments from the social interactions that they have with others. Meanings are confronted and modified through a continuous imperative process that they encounter (carter and Fuller,2015)

Self-concept is knowing about one`s own tendencies, thoughts, preferences, habits and hobbies, skills and areas of weakness. “It is the totality of an individual’s thoughts and feelings having references to himself.” (1979, Rosenberg)

According to Roy Baumeister (1991), Self-concept is “the individual’s belief about himself or herself, including the persons attributes and who and what the self is”.

Self -concept is made up of an individual’s ‘self-schemas that interacts with the self-esteem, self-knowledge, and social self to form the self as a whole. Every individual has ideas about what they want to become in future. A student may aspire to become a scientist, doctor, astronaut etc. The student has ideas and beliefs about himself that would represent him/her in future. Self-concept is a collection of an individual`s belief about his/her own self is a collection of beliefs about oneself. It embodies the answer to Who am I? -question. It is a cognitive or descriptive component of one`s self. An individual’s thought process is largely influenced, when he thinks about how he would be treated by the others in future. According to Dr. R.K. Saraswat, there are six dimensions of self-concept. They are physical self-concept, Temperamental self-concept, social self-concept, Academic self-concept, Moral self-concept and intellectual self-concept.

Teachers` Role in Development of Self-Concept:

A teacher should understand about the aspects, characteristics, factors that contribute to self-concept. This would help the teacher to value the self-

concept of every student. Apart from imparting instructions in class the teacher should respect a child for whoever he/she is. This would develop the self-concept in students. Many students consider their teacher as their role models. So, a teacher should have a positive self-concept. This will instil the same in the students. Teachers can provide opportunities to the students to discover their interests, talents, good qualities and bad qualities and how to get rid of such bad qualities. Activities enhancing the self-concept can be conducted daily. Thus, teacher can play a very important role in development of self-concept of students.

Methodology of the study:

The present study was carried on 45 students of upper primary (Grade VII) S.S.C board Researcher used the experimental method. One group Pre-test Post-test design was used for the present study.

This Design is symbolically expressed as follows

T1	X	T2
Pre-Test	Treatment	Post-test

The research was carried out in Vani Vidyalaya school, Mulund (West). School was selected by convenient sampling method. The researcher selected one entire section of class VII from the school. Incidental sampling technique was used for selection of students. There were 45 students as final sample of the study.

Tool used for the study:

The Self-Concept inventory by Dr. Raj Kumar Saraswat was used to collect the data for the present study. It has six separate dimensions of Self Concept, viz, physical, social, temperamental, educational, moral, and intellectual Self Concept. It also gives a total Self-Concept score. The Self-Concept dimensions measured by this inventory are:

1. **Physical:** Individual view of their body, health, physical appearance, and Strength.

2. **Social:** Individual sense of worth in social interactions.
3. **Temperamental:** Individual's view of their prevailing emotional state or predominance of a particular kind of emotional reaction.
4. **Academic**: Individuals view of themselves in relation to school, teachers, and extracurricular activities.
5. **Moral:** Individuals estimation of their moral worth; right and wrong activities.
6. **Intellectual:** Individuals awareness of their intelligence and capacity of problem solving and judgments.

The inventory contains 48 items. Each dimension contains eight items. The respondent is provided with five alternatives to give his responses ranging from most acceptable to least. The alternatives or responses are arranged in such a way that the scoring system for all the items will remain the same i.e., 5,4,3,2,1 whether the items are positive or negative. A high score on this inventory indicates a higher Self Concept while a low score shows low Self Concept.

Data collection:

In the present study, data was collected from the students of experimental group. The pr-test was administered to the students. The program was conducted for 20 sessions of 45 minutes each. Then post-test was administered to the students. Thus, data was collected. The students that were present for pre-test and post-test as well for all the sessions of the experiment were conducted as final sample of study. Final sample size was 45 students.

Data Analysis:

In the present study data collected was analysed using inferential analysis. The sample size was 45. Since all the requirements of parametric test were satisfied, the parametric techniques was applied for analysis of data. For the present study data was analysed using t-test. The intention of using t

test in this study was to compare the pre-test and post test scores of the experimental group.

Findings and conclusion:

Hypothesis-1 There is no significant difference in mean scores of Total self-concept of students treated through a Program (Post-test and Pre-test difference)

Table 1

Significance of difference in pre-test and post test score of Total Self-Concept

Test	Mean	Sd	t-value	Table value 0.05	Table Value 0.01	Significance accept/reject
Pre-test	193.13	11.39	2.61	2.02	2.7	Rejected, Significant at 0.05 level
Post-test	198.22	12.9				

Interpretation:

The calculated t value 2.61 for total self-concept is more than the table value 2.0 (0.05 level), hence the null hypothesis is rejected at 0.05 level

Conclusion:

There is significant difference in mean scores of Total Self-Concept of students treated through a Program. This means there is enhancement of total self-concept in students after the treatment.

Hypothesis 2 - There is no significant difference in mean scores of Physical Self -Concept of students treated through a Program.

Table 2

Significance of difference in pre-test and post test score of Physical Self-Concept

Test	Mean	Sd	t - value	Table Value 0.05	Table Value 0.01	Significance accept / reject
Pre-test	27.86	2.833	2.9	2.02	2.7	Rejected Significant at 0.01 level
Post- test	29.46	3.52				

Interpretation:

The calculated t value for physical self-concept is 2.9 and is more than the table value 2.66 (0.01 level), hence the null hypothesis is rejected 0.01 level.

Conclusion:

There is significant difference in mean scores of Physical Self Concept of students treated through a Program .This means that there is enhancement in the physical self-concept of students after the treatment.

Hypothesis 3- There is no significant difference in mean scores of Temperamental Self Concept of students treated through a Program

Table-3

Significance of difference in pre-test and post test score of Temperamental Self-Concept

Test	Mean	Sd	t – value	Table Value 0.05	Table Value 0.01	Significance accept / reject
Pre-test	31.13	3.52	0.55	2.02	2.7	Accepted Not significant
Post-test	30.822	2.68				

Interpretation:

The calculated t value for temperamental self-concept is 0.55 and is less than the table value 2.00 (at 0.05 level), hence the null hypothesis is accepted.

Conclusion:

There is no significant difference in mean scores of Temperamental Self Concept of students treated through a Program .

Hypothesis 4 -There is no significant difference in mean scores of Social Self -Concept of students treated through a Program.

Table-4

Significance of difference in pre-test and post test score of Social Self-Concept

Test	Mean	Sd	t – value	Table Value 0.05	Table Value 0.01	Significance accept / reject
Pre-test	32.84	4.34	2.29	2.02	2.7	Rejected significant at 0.05 level
Post- test	34.31	4.24				

Interpretation:

The calculated value 2.29 for social self-concept is more than the table value 2.0 (0.05level), hence null hypothesis is rejected.

Conclusion:

There is significant difference in mean scores of Social Self Concept of students treated through a Program. There is enhancement in the social self-concept of students after the treatment.

Hypothesis 5 - There is no significant difference in mean scores of Academic Self -Concept of students treated through a Program (Post-test and Pre-test difference)

Table-5

Significance of difference in pre-test and post test score of Academic Self Concept

Test	Mean	Sd	t – value	Table Value 0.05	Table Value 0.01	Significance accept / reject
Pre-test	35.48	3.4	0.41	2.02	2.7	Accepted Not significant
Post- test	35.71	4.02				

Interpretation:

The calculated value 0.41 for academic self-concept is less than the table value (2.00) at 0.05 level.

Conclusion:

There is no significant difference in academic self-concept of students treated through a Program.

Hypothesis 6 -There is no significant difference in mean scores of Moral Self -Concept of students treated through a Program .

Table-6

Significance of difference in pre-test and post test score of Moral Self-Concept

Test	Mean	Sd	t – value	Table Value 0.05	Table Value 0.01	Significance accept / reject
Pre-test	31.82	3.42	1.754	2.02	2.7	Accepted Not significant
Post- test	32.82	2.85				

Interpretation:

The calculated t value 1.754 for Moral self-concept is less than the table value 2.0 (0.05 level), hence the null hypothesis is accepted.

Conclusion:

There is no significant difference in Moral Self-Concept of students treated through a Program

Hypothesis 7 -There is no significant difference in mean scores of Intellectual Self -Concept of students treated through a Program .

Table-7

Significance of difference in pre-test and post test score of intellectual self-concept

Test	Mean	Sd	t – value	Table Value 0.05	Table Value 0.01	Significance accept / reject
Pre-test	33.97	2.24	2.52	2.02	2.7	Rejected significant at 0.01 level
Post- test	35.08	2.67				

Interpretation:

The calculated t value 2.52 for Intellectual self-concept is more than the table value 2.0(0.05) level, hence the null hypothesis is rejected.

Conclusion:

There is significant difference in mean scores of Intellectual Self-Concept of students treated through a

Program .There is enhancement in the intellectual self-concept of students after treatment.

Recommendations:

This study is very much useful for teachers as they can refer to the variety of activities for development of self-concept in their students. The teachers can further incorporate very useful hand on experiences and activities pertaining to development of self-concept in students. Based on the needs of students, each of the self-concept dimensions can be studied and programs can be conducted to improve anyone of the dimensions of self-concept among the students. Roleplays, debates, and games can be

included in the program. The head of schools can run programs on a regular basis and try to incorporate it as a part of their day-to-day activities. The study on self-concept of students in semi-English schools can be conducted. The effect of self-concept program on the personality of students can be studied.

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INSIGHTS INTO EDUCATION

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Education is the only instrument that addresses the demands of a changing world and proved to be the major contributor in the development of a country. It is expected that the education must take inputs from the society in terms of knowledge, skills, attitude and value set required and make provision to provide it. It is the vision of the nation that is reflected through the education policies and its practices. Education is the basic need of any individual so as to attain the highest potential one possesses. The efforts are taken up at the government, institutional and individual level with different intensity. This book intended to collect the articles reflecting the efforts ranging from policy to various processes in the field of education.

Dr. Pradnya Wakpainjan is an experienced teacher educator and researcher in the field of education and serving SNDT Women's University. She has successfully guided eight Ph.D. students and has published research articles in national and international journals. Her work focuses on teacher education, pedagogical innovation, curriculum development, and professional development of teachers.

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