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Preface

While we together are progressing towards Amrit Kaal , as scholars and academicians, various dimensions of this journey are apt fully explored through our collective endeavour in this journal. Theme of this journal is multi disciplinary in nature, so selection of research articles and papers was done meticulously keeping in mind the diversities associated with the topic,**" Changing Dimensions Of Our Journey As A Nation From Amrit Mahotsav Kaal To Amrit Kaal : Challenges , Opportunities And The Road Ahead"**. We embark on the journey of this journal, it is with great anticipation and gratitude that we reflect on the path that has led us here. This seminar, born from the collective passion for knowledge exchange and intellectual exploration, represents a convergence of minds dedicated to pushing the boundaries of understanding within our respective fields.

The seeds of this seminar were sown long ago, nurtured by the relentless pursuit of excellence and the unwavering commitment to scholarly discourse. From its inception, it was envisioned as a forum where ideas could transcend disciplinary boundaries, where diversity of thought could flourish, and where innovation could find its voice.

Through countless hours of planning, organizing, and collaboration, the seminar took shape, bringing together scholars, researchers, practitioners, and students from diverse backgrounds and disciplines. What began as a vision evolved into a vibrant tapestry of dialogue, debate, and discovery.

As we gather here, bound by our shared passion for learning and discovery, we are reminded of the transformative power of education. In the pursuit of knowledge, we not only expand our horizons but also challenge our assumptions, confront our biases, and embrace the complexity of the world around us.

This journal stands as a testament to the richness of the conversations that have unfolded within the confines of this seminar. It is a repository of insights, reflections, and ideas that have emerged from the collective wisdom of the participants. Each article, each essay, and each reflection is a testament to the intellectual curiosity and the spirit of inquiry that define our community.

As we delve into the pages of this journal, let us approach each contribution with an open mind and a sense of wonder. Let us engage deeply with the ideas

presented, challenge our perspectives, and seek to uncover the truths that lie beneath the surface.

In closing, we extend our heartfelt gratitude to all those who have contributed to the success of this seminar – the organizers, the presenters, the participants, and the supporters. It is through your dedication, passion, and commitment that this journal has come to fruition.

May this journal serve as a beacon of knowledge, inspiration, and collaboration for years to come, guiding us on our continued quest for understanding and enlightenment.

Prof. (Dr.) Anju Singh

Prof. Bharti Dixit

Dr. Poonam Bhandari

Acknowledgement

To discuss and analyse our endeavour and the progression we have been experiencing as a nation while we tread the path from our past till date and towards future. How can we achieve the aim of Amrit kaal, challenges we have been facing, opportunities we have and what possibilities we can create for ourselves to grow together in a country with immense scope for growth and development which could potentially lead the world towards sustainable development, peace and harmony. These were the perceived objectives of the IC SSR sponsored Two Day National Seminar," Changing dimensions of our journey as a nation from Amrit mahotsav Kaal to Amrit Kaal: Challenges, Achievements and the road head " organised by Shaheed Mangal Pandey Government Girls PG College, Madhavpuram, Meerut on 15th and 16th December, 2023. Scholars from around the nation presented more than 75 research papers covering outlined themes of the seminar. Few selected papers presented in the seminar have been published in this special volume. " On behalf of Shaheed Mangal Pandey Government Girls PG College, Madhavpuram, Meerut, we would like to extend our special thanks to ICSSR , New Delhi for accepting the seminar proposal and providing financial assistance for conducting the seminar." Our thanks and gratitude to Prof.(Dr.) Anju Singh, Principal , SMPGGPGC, Meerut, for providing all necessary permissions and assistance during the entire process. "We offer our thanks to every member of SMPGGPG C, Meerut for their cooperation in the entire process and appreciate their efforts in making the seminar a grand success."We extent our gratitude to all the resource persons , esteemed guests, paper presenters and participants for their valuable input and contributions to the selected topic that will open a new horizon for further research.

Editors

Prof. (Dr.) Anju Singh

Prof. Bharti Dixit

Dr. Poonam Bhandari

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Role of Artificial Intelligence in Technology: A Review

Prof. Lalit Kumar
Meerut College, Meerut

Dr. Jyoti Choudhary
Shaheed Mangal Pandey Govt. Girls P.G. College, Meerut

Abstract

Artificial intelligence is the proposition and development of computer programs that are suitable to do tasks and break problems that generally bear mortal intelligence. effects like visual perception, speech recognition, decision- timber, and word restatement are all effects that would typically need mortal intelligence, but now computer programs are suitable use their intelligence and capability to break these tasks.. Artificial intelligence in the last two decades has greatly bettered performance of the manufacturing, service sector and so in the field of education. Study in the field of artificial intelligence has given rise to the fleetly growing technology known as expert system. operation areas of artificial intelligence is heaving a huge impact on colorful fields of life as expert system is extensively used in these days to break the complex problems in colorful areas as education, engineering, business, drug, rainfall soothsaying etc. This paper gives an overview of this technology and the compass of artificial intelligence in different areas with special reference to the use of this technology in the field of cybersecurity, healthcare, pool productivity, chatbots, robotizationetc.

Keywords

Artificial intelligence(AI), cybersecurity, healthcare, technology etc.

Reference to this paper should be made as follows:

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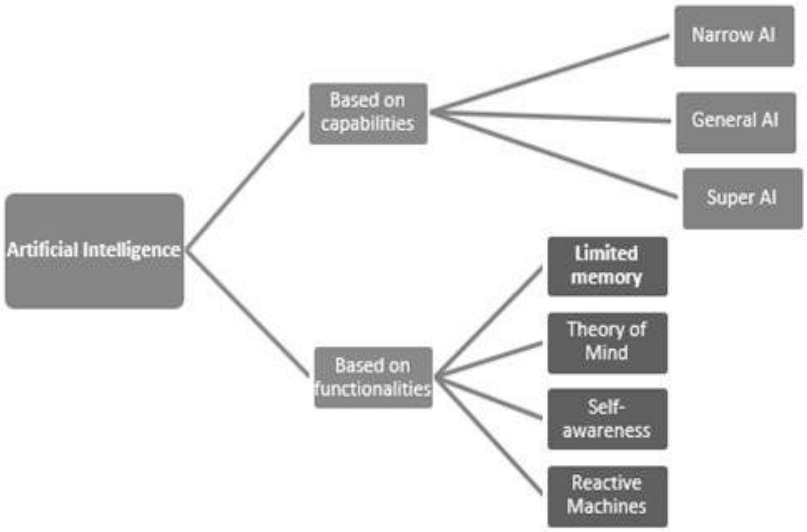
Introduction

Artificial intelligence is the simulation of mortal intelligence processes by machines, especially computer systems. Specific operations of AI include expert systems, natural language processing, speech recognition and machine vision. In general, AI systems work by ingesting large quantities of labeled training data, assaying the data for correlations and patterns, and using these patterns to make prognostications about unborn countries. In this way, a chatbot that's fed exemplifications of textbook can learn to induce naturalistic exchanges with people, or an image recognition tool can learn to identify and describe objects in images by reviewing millions of exemplifications.

New, fleetly perfecting generative AI ways can produce realistic textbook, images, music and other media. AI is important for its eventuality to change how we live, work and play. It has been effectively used in business to automate tasks done by humans, including client service work, supereminent generation, fraud discovery and quality control. In a number of areas, AI can perform tasks much better than humans. Particularly when it comes to repetitious, detail- acquainted tasks, similar as assaying large figures of legal documents to insure applicable fields are filled in duly, AI tools frequently complete jobs snappily and with fairly many crimes. Because of the massive data sets it can reuse, AI can also give enterprises perceptivity into their operations they might not have been apprehensive of. The fleetly expanding population of generative AI tools will be important in fields ranging from education and marketing to product design.

Types of Artificial Intelligence

Artificial Intelligence can be divided grounded on capabilities and functionalities. Artificial Intelligence grounded on capabilities can be divided into three types, and grounded on functionally can be divided into four types. Following is inflow illustration which explain the types of AI.



Narrow AI, also called as Weak AI, focuses on one narrow task and can not perform beyond its limitations. It targets a single subset of cognitive capacities and advances in that diapason. Narrow AI operations are getting decreasingly common in our day- to- day lives as machine literacy and deep literacy styles continue to develop. Artificial general intelligence(AGI) is the representation of generalized mortal cognitive capacities in software so that, faced with an strange task, the AGI system could find a result. The intention of an AGI system is to perform any task that a mortal being is able of. Computer scientists frequently define mortal intelligence in terms of being suitable to achieve pretensions. Psychologists, on the other hand, frequently define general intelligence in terms of rigidity or survival. Machines with super intelligence are tone- apprehensive and can suppose of abstractions and interpretations that humans can not. This is because the mortal brain's thinking capability is limited to a set of a many billion neurons. piecemeal from replicatingmulti-faceted mortal behavioral intelligence, ASI can also understand and interpret mortal feelings and gests. ASI develops emotional understanding, beliefs, and solicitations of its own, grounded on the appreciation capability of the AI.

Limited memory AI is characterized by the capability to absorb literacy data and ameliorate over time grounded on its experience analogous to the way the mortal brain's neurons connect. This is the AI that's extensively used and being perfected moment.

When machines acquire decision- making capabilities equal to humans, we will have achieved proposition of mind AI. This is the coming frontier for AI. An important aspect of this AI is that machines would have the capability to understand and flash back feelings and acclimate geste grounded on those feelings just as humans can in social relations.

Self awareness AI is a conception that involves creating AI systems able of being conscious of themselves. This means that AI would be suitable to comprehend its own actuality, have a sense of identity, and be apprehensive of its studies and feelings.

Reactive machines are AI systems that have no memory and are task specific, meaning that an input always delivers the same affair. Machine literacy models tend to be reactive machines because they take client data, similar as purchase or hunt history, and use it to deliver recommendations to the same guests.

Advantages of Artificial Intelligence

Enhancing Cybersecurity

With the adding complication of cyber pitfalls, AI has come an inestimable tool in enhancing cybersecurity. AI algorithms can dissect vast quantities of data, descry patterns, and identify implicit security breaches in real- time. By using machine literacy, AI systems continuously learn and acclimatize to evolving pitfalls, furnishing visionary defense mechanisms and strengthening overall cybersecurity measures.

Advancements in Healthcare

The healthcare assiduity is passing significant advancements with the integration of AI. Machine literacy algorithms can dissect vast quantities of medical data, enabling accurate judgments and substantiated treatment plans. AI- powered systems can also help healthcare professionals in monitoring cases, detecting anomalies, and prognosticating implicit health pitfalls. These advancements have the eventuality to revise patient care, ameliorate issues, and save lives.

Reduction in Mortal Error

The expression "mortal error" was born because humans make miscalculations from time to time. Computers, still, don't make these miscalculations if they're programmed duly. With Artificial intelligence, the opinions are taken from the preliminarily gathered information applying a certain set of algorithms. So crimes are reduced and the chance of reaching delicacy with a lesser degree of perfection is a possibility.

Takes Pitfalls Rather of Humans

This is one of the biggest advantages of Artificial intelligence. We can overcome numerous parlous limitations of humans by developing an AI Robot which

in turn can do the parlous effects for us. Let it be going to blights, defuse a lemon, explore the deepest corridor of abysses, mining for coal and oil painting, it can be used effectively in any kind of natural or man- made disasters.

Helping in repetitious Jobs

In our day- to- day work, we will be performing numerous repetitious workshop like transferring a thanking correspondence, vindicating certain documents for crimes and numerous further effects. Using artificial intelligence we can productively automate these mundane tasks and can indeed remove " boring " tasks for humans and free them up to be decreasingly creative.

Digital Assistance

Some of the largely advanced associations use digital sidekicks to interact with druggies which saves the need for mortal coffers. The digital sidekicks also used in numerous websites to give effects that druggies want. We can sputter with them about what we're looking for. Some chatbots are designed in such a way that it's come hard to determine that we 're drooling with a chatbot or a mortal being.

Faster Opinions

Using AI alongside other technologies we can make machines take opinions briskly than a mortal and carry out conduct hastily. While taking a decision human will dissect numerous factors both emotionally and virtually but AI- powered machine works on what it's programmed and delivers the results in a faster way.

Daily Applications

Daily operations similar as Apple's Siri, Window's Cortana, Google's OK Google are constantly used in our diurnal routine whether it's for searching a position, taking a selfie, making a phone call, replying to a correspondence and numerous further.

New Inventions

AI is powering numerous inventions in nearly every sphere which will help humans break the maturity of complex problems.

Data Accession and Analysis

When it comes to processing data, the scale of data generated far exceeds the mortal capacity to understand and dissect it. AI algorithms can help process advanced volumes of complex data, making it usable for analysis.

Disadvantages of Artificial Intelligence

Although AI offers several advantages, it still has a many disadvantages mentioned below-

- Further Likely to Increase mortal shiftlessness robotization in tasks and increased vacuity of digital sidekicks tend to increase machine reliance, which can probably increase mortal shiftlessness. Too important counting on AI for simple tasks similar as small computations or flashing back figures or addresses can affect humans in their day- to- day conditioning, which bear memorization or analysis.
- AI is precious to apply- Original set- up for AI requires a high investment as companies have to invest in AI fabrics, including the rearmost tackle and software. fresh costs are incurred on training brigades to learn how to use the AI systems. All this makes enforcing and maintaining AI systems precious.
- Can Increase Severance- Although AI can replace repetitious tasks and other types of homemade work, which is salutary for associations, this also has a negative impact on employment. Conventional jobs will probably be fully replaced by AI in the future, leading to the severance of individualities who perform them.
- Lacks Cleverness- Since AI systems make prognostications grounded on a set of algorithms, these can warrant creativity, especially in the content marketing field. As AI systems ameliorate over time from inputs and experience, they can not suppose outside the box or induce creative approaches to a design.
- Can not Understand feelings- AI systems can work briskly and without a break, but they can not estimate feelings before making opinions. These systems always remain largely rational and practical. This is why AI systems find it challenging to bring in feelings while interacting with guests, as feelings play a crucial part in deals and marketing while persuading a client to make a purchase.
- Delicate to Implement Ethics- Eventually, AI systems can not reuse mortal feelings and feel them. It's largely grueling to incorporate ethics and morality into these systems. Advanced performances of AI like the proposition of mind and tone- mindfulness, when achieved, can only apply ethical geste in AI systems. presently, these systems are on paper and only incompletely achieved; it looks a long way to suppose about enforcing ethics in AI systems. Also, take a look at the details on chops to come an AI & ML mastermind.

Conclusions

The field of artificial intelligence gives the capability to the machines to suppose analytically, using generalities. Artificial Intelligence will continue to play

an decreasingly important part in the colorful fields. We conclude that farther exploration in this area can be done as there are veritably promising and profitable results that are accessible from similar ways, while scientists haven't yet realized the full eventuality and capability of artificial intelligence. This technology and its operations will probably have far- reaching goods on mortal life in the times to come. This review has not tried to detail all the literature in the area but to report substantially the most recent work. The part of AI in technology is inarguable, with its implicit to enhance effectiveness, ameliorate decision- timber, and revise colorful diligence. From healthcare to transportation, AI is reshaping our present and empowering the future. As we embrace the transformative power of AI, it's imperative to prioritize ethical considerations, icing that AI is developed and employed in a responsible and inclusive manner. With continued advancements and inventions, AI'll continue to play a significant part in shaping our technological geography for times to come.

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The Role of Artificial Intelligence in Physical Education and Sports: A Review of Current Applications and Future Potential

Dr. Vivekananda Dey
HOD, Physical Education
Govt. Degree College, Jahangirabad

Abstract

Artificial Intelligence (AI) has emerged as a groundbreaking technology with great potential to transform various industries, and the realm of physical education and sports is no exception. This research paper aims to explore the role of AI in enhancing performance and personalization in physical education and sports activities. The paper will provide an overview of AI technologies and their applications in this field, highlighting key advancements and their impact on athletes, coaches, and trainers.

The use of AI in physical education and sports offers numerous benefits. AI-powered sensors and wearables can provide real-time feedback on biomechanics, technique, and performance, allowing athletes to identify and correct weaknesses. Machine learning algorithms can analyze vast amounts of data, enabling coaches to design personalized training programs tailored to each athlete's unique characteristics and needs. AI also facilitates the development of virtual coaching platforms and simulators, providing athletes with immersive and dynamic training experiences.

Additionally, AI can assist in injury prevention and management. Intelligent systems can assess an athlete's physical condition, track fatigue levels, and provide recommendations for recovery and injury rehabilitation. Furthermore, AI can analyze historical data to predict potential injuries or evaluate an athlete's readiness to return to competition. This proactive approach to injury prevention can significantly reduce the risk and impact of sport-related injuries.

However, the implementation of AI in physical education and sports comes with challenges and ethical considerations. Privacy and security issues arise with the collection and analysis of athletes' personal data. Moreover, the reliance on AI can lead to a lack of human connection and intuition in coaching relationships. These concerns need

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to be addressed to ensure the responsible and effective use of AI in this context.

Overall, this research paper presents a comprehensive analysis of the role of AI in physical education and sports. By leveraging AI technologies, athletes can optimize their performance, trainers can provide personalized coaching, and the overall sports ecosystem can be enhanced. Future research will delve into the practical implications, implementation strategies, and potential ethical implications involved in incorporating AI into physical education and sports.

Keywords

Artificial Intelligence, Physical Education, Sports, Performance, Personalization etc.

Introduction

Physical education and sports play a significant role in promoting a healthy lifestyle and overall well-being. With recent advancements in technology, artificial intelligence (AI) has emerged as a promising tool to enhance performance, improve training methods, and provide personalized feedback in physical education and sports settings. This paper aims to review the current applications of AI in physical education and sports and explore its future potential.

Current Applications of AI in Physical Education and Sports

Performance Analysis and Predictive Analytics

AI algorithms can analyze vast amounts of data collected from various sensors, wearables, and cameras to analyze the performance of athletes. This includes tracking vital signs, movement patterns, and technique. AI can provide real-time feedback, detect flaws in technique, and predict future performance based on historical data, aiding athletes in identifying areas for improvement and designing personalized training programs.

Virtual Coaching and Training

AI-powered virtual coaches provide interactive training sessions, breaking down complex movements into step-by-step instructions. These virtual coaches can simulate real game scenarios, allowing athletes to practice decision-making skills and strategy. Additionally, virtual reality (VR) technology, combined with AI algorithms, can create immersive training environments that mimic real-life sports scenarios, enhancing athletes' performance.

Injury Prevention and Rehabilitation

AI algorithms can analyze biomechanical data to identify potential injury risks and provide real-time feedback during training sessions. This helps athletes to modify their movements and minimize the likelihood of injuries. AI can also assist in the rehabilitation process by tracking progress, suggesting appropriate exercises, and adapting rehabilitation plans based on personalized data.

Future Potential of AI in Physical Education and Sports

Personalized Training and Skill Development

AI can provide customized training programs based on an individual's abilities, goals, and progress. By analyzing data collected from multiple sources, AI algorithms enable coaches and trainers to tailor training plans to specific athletes, enhancing their development and performance.

Performance Prediction and Strategy Planning

AI algorithms, integrated with machine learning techniques, can analyze historical performance data of athletes and opponents to predict outcomes, identify patterns, and improve strategy planning. This empowers coaches and athletes to make data-driven decisions and gain a competitive edge.

Interactive Coaching and Feedback Systems

AI-powered systems can provide real-time feedback during training sessions, simulating the presence of a human coach. These systems analyze an athlete's movements, technique, and performance, suggesting adjustments, correcting errors, and reinforcing good practices.

There are several other ways in which AI can be applied in teaching and learning programs in physical education:

1. Personalized Learning: AI can analyze individual student's performance, strengths, and weaknesses to create personalized exercise and training programs. It can provide feedback and recommendations based on the student's progress.
2. Virtual Coaching: AI-powered virtual coaches can provide real-time feedback and guidance to students during physical activities. They can analyze movements, correct techniques, and suggest improvements.
3. Performance Analysis: AI algorithms can analyze large amounts of sports and movement data to identify patterns, strategies, and trends. This information can be used to improve training techniques, develop game plans, and enhance overall performance.
4. Injury Prevention: AI can help identify potential injury risks by analyzing biomechanical data and monitoring students' movements. It can provide feedback on proper form, technique, and exercises to minimize the risk of injuries.
5. Gamification and Engagement: AI can be used to create interactive and immersive virtual environments that make physical education more engaging and enjoyable. This can motivate students to participate actively and improve their overall fitness levels.

6. Adaptive Assessments: AI can provide adaptive assessments that adjust the difficulty level of physical activities based on individual student's abilities. This ensures that students are appropriately challenged and can progress at their own pace.
7. Data-driven Decision Making: AI can collect and analyze data from wearables, sensors, and other devices to track and monitor students' physical activities, progress, and health. This data can be used by teachers and educators to make informed decisions and provide targeted interventions.

Artificial Intelligence (AI) plays a significant role in managing fitness programs by providing personalized and data-driven experiences. Here are some key roles that AI plays:

1. Personalized Training: AI algorithms can analyze a user's fitness level, goals, and health data to create personalized training programs. It can leverage user input, fitness trackers, and machine learning to tailor workouts to an individual's needs, abilities, and preferences.
2. Virtual Coaching: AI-powered fitness applications can act as virtual coaches, guiding users through exercises, providing instant feedback on technique, suggesting modifications, and offering motivational cues. This interactive experience helps users stay engaged and ensures correct form to prevent injuries.
3. Data Analysis: AI can ingest vast amounts of data from fitness trackers, wearables, and health apps to identify patterns, trends, and correlations. By analyzing this data, AI can provide valuable insights into a user's habits, performance, and progress, helping them make informed decisions about their fitness regimen.
4. Behavior Tracking and Monitoring: AI systems can track and monitor a user's behavior, such as exercise adherence, sleep quality, nutrition, and stress levels. By collecting and analyzing this data, AI can provide recommendations and reminders to help users stay on track and make healthier choices.
5. Adaptive Programs: AI can adapt fitness programs based on real-time feedback and progress. It can dynamically adjust workout intensity, duration, or exercise selection to challenge users appropriately and prevent plateaus. This adaptability ensures continuous improvement and optimal results.
6. Virtual Assistants and Chatbots: AI-powered virtual assistants and chatbots can provide users with instant support and answer their questions regarding

fitness, nutrition, or related topics. They can offer advice, provide reminders, and deliver personalized recommendations based on user interactions.

7. Gamification: AI can incorporate gamification elements, such as challenges, rewards, and leaderboards, into fitness programs to improve motivation, engagement, and adherence. These elements make exercising more enjoyable and foster a sense of competitiveness.

Artificial intelligence (AI) technology has the potential to greatly enhance the management of sports injuries. From injury prevention and diagnosis to personalized treatment plans and rehabilitation, AI can provide valuable insights and assist healthcare professionals in making informed decisions. Here are some key roles that AI can play in managing sports injuries:

1. Injury prevention: AI algorithms can analyze large amounts of data, such as biomechanical movements, athlete performance metrics, and injury history, to identify patterns and risk factors for potential injuries. This information can be used to develop personalized training programs that minimize the risk of injury and enhance performance.
2. Diagnosis and imaging: AI-powered algorithms can analyze medical imaging data, like X-rays, CT scans, and MRI scans, to assist in the accurate and efficient diagnosis of sports injuries. Machine learning models can be trained on vast amounts of imaging data to detect and classify various injury types, which can help radiologists and sports medicine practitioners make more accurate diagnoses.
3. Treatment recommendations: AI systems can analyze patient data, including medical history, symptoms, and clinical examination findings, to provide healthcare practitioners with treatment recommendations. By considering numerous factors and comparing them to large databases of similar cases, AI algorithms can suggest optimal treatment plans that are tailored to the specific needs of each athlete.
4. Rehabilitation monitoring: AI can facilitate remote monitoring and tracking of an athlete's progress during rehabilitation. Wearable devices and motion sensors equipped with AI algorithms allow for real-time movement analysis, providing feedback on form and technique, tracking exercise adherence, and alerting healthcare providers to any potential problems or deviations during the recovery process.
5. Return-to-play decisions: AI systems can assist in determining when an athlete is ready to return to sports activities following an injury. By analyzing

a variety of factors, such as physical performance, mental readiness, and injury history, AI algorithms can provide objective assessments to guide return-to-play decisions, helping to prevent premature return and potential re-injury.

Conclusion

Artificial intelligence has emerged as a powerful tool in enhancing physical education and sports. Its current applications include performance analysis, virtual coaching, injury prevention, and rehabilitation. The future potential of AI in physical education and sports lies in personalized training, performance prediction, and interactive coaching. As technology continues to evolve, AI is expected to revolutionize how athletes train, perform, and recover, thereby optimizing their overall athletic experience. Overall, the use of AI in teaching and learning programs in physical education can enhance student engagement, provide personalized learning experiences, improve performance, prevent injuries, and inform instructional practices. AI plays a crucial role in managing fitness programs by personalizing training, providing virtual coaching, analyzing data, tracking behavior, adapting programs, offering virtual assistance, and incorporating gamification. It enhances user experiences, helps individuals achieve their fitness goals, and promotes overall well-being.

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Women Empowerment Through Education in India after Independence: A Review

Dr. Kumkum
Assistant Professor
Department of Zoology
Shaheed Mangal Pandey Govt. P.G. College, Meerut
Email: kmkmrajput@gmail.com

Abstract

Women's issues gained importance as a middle class with immense power and restrictions emerged. A new woman who aspired to the dignity of equality and freedom of spirit arose thanks to the power of education and employment. The evaluation of women's lives' quality is the most crucial. Women's status and society's level of development may both be clearly seen by looking at factors including women's participation in decision-making institutions, employment rates, and family and societal roles.

Modern India faces fresh obstacles to the growth of women. Concerns include the girl child's survival, women's health, their role in caste and communal conflicts, women in the media, and the rise in violence against women.

Access to status and power are both denied when people are denied access to education. Although the right to an education is upheld in India, the rigid caste, class, and gender systems have a significant impact on this right. Boys have easier access to school than girls, higher caste has easier access than scheduled caste and scheduled tribe, and upper and middle class has easier access than the destitute. The dropout rate follows a similar pattern.

One of the ironies of women's education has been the depressing perception of women in higher education, despite the fact that literacy and primary education affect the majority of women. Only 5% of all girls enrolled in basic education eventually move on to higher education. The percentage of women overall and enrolled rose from 10.9% in 1950–51 to 52% in 1996–97.

Nearly 52% of girls in the 16 to 14 age range do not attend school. For states like Uttar Pradesh (68.36), Bihar (70.90), Rajasthan (72.17), and Madhya Pradesh (57.46), the situation is exceedingly bleak. Kerala (7.63), Tamil Nadu (27.4), Maharashtra (32.93), Gujarat (41.08), and Karnataka (42.71), however, have substantially better situations.

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There are certain new problems in Indian society related to gender issues, Vidya, which are unsettling the minds of the intellectual elite. Concerns include the rising costs of communalism and community violence, which have gotten worse over the past few decades.

Keywords

Women's education, Primary education, Higher education, Women's issues, Growth of women.

Introduction

The position of women and the larger community is being changed in India. With this new environment, we are at least able to put women's issues front and center. Following independence, the Indian democracy demonstrated its dedication to the emancipation of society's underprivileged groups, particularly women. Women's issues gained importance as a middle class with immense power and restrictions emerged. A new woman who aspired to the dignity of equality and freedom of spirit arose thanks to the power of education and employment. Her stance on gender equality and justice created further tensions. Academics and the women's movement are facing new difficulties as a result of gender concerns in the competitive market economy.

By the 20th century's close, a new political and social order had supplanted the notions of a socialist society. We will inevitably transition to a free-market system and participate in globalization.

A society's growth can be studied using a variety of techniques. The evaluation of women's life quality is the most crucial. Women's status and society's level of development may both be clearly seen by looking at factors including women's participation in decision-making institutions, employment rates, and family and societal roles.

Women's action organizations are crucial to their emancipation. Collectively, these action groups may examine the women's movement's ability to foster female solidarity and offer a future vision through challenging the patriarchal system.

Modern India faces fresh obstacles to the growth of women. Concerns include the girl child's survival, women's health, their role in caste and communal conflicts, women in the media, and the rise in violence against women.

Historical Background

In the 19th century, women first entered the formal educational system. Social reformers recognized the importance of women's education even as the government was exerting pressure on girls' education. The 19th and 20th-century social reform movements were crucial to the advancement of women. The demand for teaching women became more acute when Indian society interacted with Western education.

The missionaries had established 12 girls' schools in the Hugli district by the year 1827. Miss Cook, a missionary as well as an educator, founded and oversaw a number of girl's schools in Calcutta. Additionally, she opened schools in underprivileged communities where Muslim women were welcome and valued as educators [1]. The Brahmo Samaj movement, which Raja Ram Mohan Roy and Ishwar Chandra Vidyasagar founded, had a significant impact on Bengali women's education. Maharashtra emerged as the second hub of women's awakening after Bengal. The Young Pune group was created, following the Young Bengal movement's lead, and took up the cause of women's education along with social reforms. Girls' schools and a monthly journal for women were launched by Elphinstone College students in Bombay. Jyotiba Phule, a famous social reformer and member of the Dalit minority, founded the first girls' school in Puna in 1848. He had established three schools for Dalits and girls by 1852.

Dayanand Saraswati and the Arya Samaj movement in the north were devoted to the education of females and the advancement of women. He is adamant that an educated mother will be able to raise her children better.

By 1860, discussions over topics like the nature of females' education had already begun. The orthodox Hindu community was opposed to women's education and social reforms in general. On the one hand, there was a controversy between English education introduced by missionaries and pure Indian education.

Leaders of the Brahmo Samaj movement and later the Arya Samaj period believed that traditional Indian education and cultural life were being devalued by Christian missionaries and British educationalists in the middle of the 19th century. Alexander Graham's book India and Indian Mission, which harshly disparaged Hinduism and Indian culture, was published around this period. In addition to this, upper-class Hindu youth with English educations who were being converted to Christianity and hired for government employment.

Sir Syed Ahmed Khan started a movement for the Muslim community's awakening and the right to bring them together through the shared experience of contemporary education. He was also in favor of educating Muslim women, although he believed that they should do so at home. He also warned Muslim women from being too Westernized.

While defending Indian culture from the aggressive spread of Christianity, the Bengal and Arya Samaj movements gradually began to take on a communal frame. They had previously been discussing the education of Indian women, but now they were discussing the education of Hindu girls.

Sheikh Abdullah undoubtedly saw the necessity for contemporary education for Muslim ladies after seeing this situation. In 1905, he founded a female education society and opened a school with only six girls. The girls' school was a movement, and today the women's college at AMU serves as a significant hub for the education of Muslim females in North India.

We'll keep an eye out for any mention of Rokeya Khatoon, a woman with a missionary mindset who strove to educate Muslim women. She was prohibited from studying any other texts than the holy Quran after being born in Pairabowd, Bangladesh, in 1880 to a highly traditional Zamindar family. Without her father's knowledge, her brother began teaching her basic English after observing her desire to learn. She married the senior Syed Shekhawat Hussain at the age of 16 in the year 1896. She established the Shekhawat Memorial Girls' School in Bhagalpur after his passing in 1909. She was forced to leave the area very quickly, and when she returned to Kolkata in 1911, she faced opposition from the locals. She worked tirelessly to promote education and to fight against social and religious discrimination against Muslim women. She was a wonderful writer who published multiple novels in Bengali and English in addition to being a social reformer.

The school was acknowledged as a first-grade educational institution during her lifetime. Later, the West Bengal government took over Shekhawat Memorial Government Girl's School after she passed away in 1932.

The all-India women's conference presented the first significant program on girls' education at the national level. The conference on women's education was held in Ferguson Hall, a convent in Pune University, thanks to the efforts of its secretary Margaret Cousins in 1925. There were 2000 delegates present.

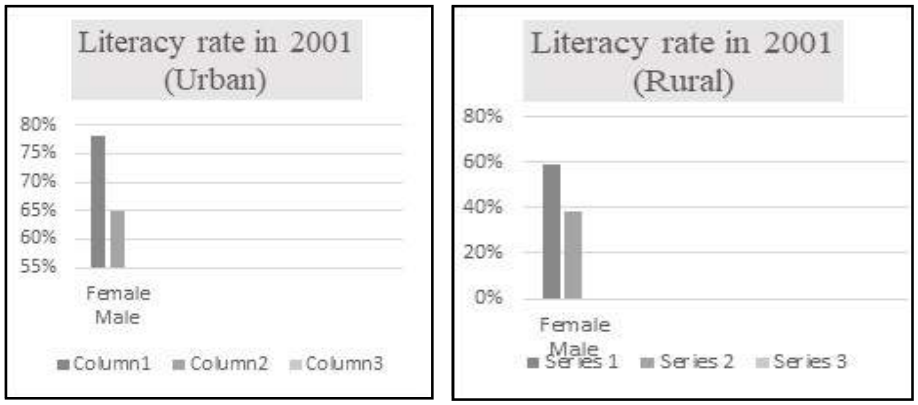
Independent India and women's education

Unquestionably, the country's overall female literacy rate has increased since independence. The female literacy rate was only 9% at the time of independence, whereas overall literacy was only 30%. While the national literacy rate was 52% in 1991, only 24% of women were literate. The total literacy rate was 65% in 2001, and the female literacy rate rose to 48%. The literacy rate for urban women in 2001 was 78%, compared to 65 for urban men. The literacy rate for women in rural areas was 58%, compared to 38% for men (Graphs 1 and 2) [2].

Access to status and power are both denied when people are denied access to education. Although the right to an education is upheld in India, the rigid caste, class, and gender systems have a significant impact on this right. Boys have easier access to a school than girls, higher caste has easier access than scheduled caste and

scheduled tribe, and upper and middle class have easier access than the destitute. The dropout rate follows a similar pattern.

In 1950, the Indian Republic's Constitution was enacted, and it contained several significant clauses that either directly or indirectly impacted education. The states were directly responsible for education under Article 45.



Graphs 1 and 2 show the literacy rate

The Education Commission (1964–1966), also referred to as the Kothari Commission, which examined in-depth the role and objectives of education in the process of national development towards a secular, socialist, and democratic society, endorsed the opinions of the Hansa Mehta and Durgabai Deshmukh Committee and noted that in the modern world, women's roles go far beyond the home and raising of children. She is now accepting a job offer and assuming equal responsibility for the growth of society in all of its facets alongside men. The way we have to go is in this direction. Indian women fought with males in the fight for freedom.

This cooperative relationship must continue in the struggle against poverty, ignorance, and disease. The group recommended two things: improving women's access to higher education and offering them financial aid and a dormitory facility.

One of the ironies of women's education has been the depressing perception of women in higher education, despite the fact that literacy and primary education affect the majority of women. Only 5% of all girls enrolled in basic education eventually move on to higher education. The percentage of women overall and enrolled rose from 10.9% in 1950–51 to 52% in 1996–97 [3].

The government and numerous financing organizations have started a lot of schemes, but the issue of girls' education once they complete primary school becomes

critical. In rural India, the dropout rate is quite high, especially among females from socially and economically disadvantaged communities and those who live in distant places. It has been discovered that students' attendance rates are influenced by their families' monthly per capita income. When compared to boys, it is even lower for girls.

Nearly 52% of girls in the 16 to 14 age range do not attend school. For states like Uttar Pradesh (68.36), Bihar (70.90), Rajasthan (72.17), and Madhya Pradesh (57.46), the situation is exceedingly bleak. Kerala (7.63), Tamil Nadu (27.4), Maharashtra (32.93), Gujarat (41.08), and Karnataka (42.71), however, have substantially better situations [4].

The National Adult Education Programme (NAEP) was established in 1978 at a time when the idea of using education as a tool for emancipation and a force for social change was widely accepted on a global scale. NGOs were given a place to work together on this scheme. The government saw it required the help of NGOs to accomplish some of the goals, and the NGOs themselves realized they needed to do more than just deliver the goods—they also needed to offer new approaches and ways of thinking.

It would be helpful to keep in mind how the Arak movement was affected by the literacy project in this setting. The initial mobilization of women for literacy sessions in Andhra Pradesh's Nellore coastal district was highly successful. The repercussions of alcoholism on the family and various attempts to eradicate the evil were discussed in the primer that was used as a textbook. Thousands of women emerged from their houses very quickly, and the Anti-Error campaign was launched in 1992 [5]. The Andhra Pradesh government imposed a ban on the practice in 1993 because the education was so successful. An offshoot of this was the successful launch of a self-help campaign. Similar to this, the literacy movement in 1992 in Tamil Nadu's Pudukkottai district saw the unprecedented mobilizing of women. It's remarkable to see how the cycle has come to represent women's power in this culture.

Having access to transportation and learning the alphabet gave NGOs' literacy programs fresh hope. The NGOs Lok Jumbish, Kerala Shastra Sahitya Parishad Eklavya (MP), Bharat Gyan Vigyan Samiti, which was born out of the people science movement, and others made major contributions beyond the field of literacy while continuing to work on other projects.

We fought for women's rights to education as citizens in the 20th century, just as we did in the 19th century, when we argued that education would make women better partners for their husbands.

Conclusion

In India, general studies have established itself. Beginning with the document towards equality (1974), it has always had a tight relationship with the women's movement in addition to advancing the position of women in India. Western hegemonic influence has not stifled the advancement of women's studies or the women's movement.

There are certain new problems in Indian society related to gender issues, Vidya, which are unsettling the minds of the intellectual elite. Concerns include the rising costs of communalism and community violence, which have gotten worse over the past few decades.

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Amrit Mahotsav Period to Amrit Period: Challenges and Opportunities

Roshan Lal
Assistant Professor
Department of Chemistry
S.M.P. Govt. Girls P.G. College, Meerut (U.P.)
Email: roshanlal150770@gmail.com

Abstract

India's 75th anniversary of independence in 2022, marked by the "Azadi Ka Amrit Mahotsav" celebrations, serves as a pivotal juncture to assess the nation's journey and envision its future. This paper explores the challenges and opportunities that lie in the transition from the "Amrit Mahotsav Kaal" (celebration Period) to the "Amrit Kaal" (Achievement Period).

Challenges

1 ***Translating aspirations into concrete action:*** *The celebrations have generated enthusiasm and optimism, but translating these sentiments into tangible progress requires robust governance, effective resource allocation, and efficient policy implementation.*

2 ***Bridging social and economic disparities:*** *India's impressive economic growth has been unevenly distributed, exacerbating inequality. The "Amrit period" demands policies that address poverty, improve access to education and healthcare, and empower marginalized communities.*

3 ***Strengthening institutions and upholding democratic values:*** *A vibrant democracy requires strong institutions, an independent judiciary, and free media. The "Amrit period" necessitates safeguarding these pillars and ensuring accountability at all levels.*

4 ***Adapting to a changing global landscape:*** *The world faces rising geopolitical tensions, climate change, and technological disruptions. India needs to build resilience, embrace innovation, and engage strategically in the global arena to secure its future.*

Opportunities

1. ***Leveraging demographic dividend:*** *India's young population can be a driving force for innovation, entrepreneurship, and economic growth if adequately skilled and empowered.*

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2. ***Harnessing technology:*** *Technological advancements can improve governance, service delivery, and access to information, fostering transparency and inclusivity.*
3. ***Building a sustainable future:*** *The "Amrit period" presents an opportunity to prioritize environmental sustainability, green energy, and resource conservation for long-term prosperity.*
4. ***Reasserting India's global leadership:*** *India's cultural heritage, democratic values, and economic potential position it to play a leading role in shaping a more equitable and sustainable future for the world.*

This paper argues that the "Amrit period" demands a shift from mere celebration to sustained action. By addressing the challenges and seizing the opportunities, India can translate the spirit of "Azadi ka Amrit Mahotsav" into a prosperous and inclusive future for all its citizens.

Keywords

India, Azadi ka Amrit Mahotsav, development, challenges, opportunities, sustainability, global leadership.

Introduction

The term "Amrit Mahotsav" is often associated with significant milestones and anniversaries in the history of a nation. In the context of India, it might refer to the celebrations of the 75th anniversary of independence (1947-2022). During the "Amrit Mahotsav" period, there might have been a reflection on the journey of the nation, its achievements, and the challenges faced over the decades. India's 75th year of independence, marked by the vibrant "Amrit Mahotsav" celebrations, resonated with a resounding chorus of national pride and unwavering optimism. While the celebratory mood was palpable, it also served as a poignant reminder of the nation's aspirations for the next 25 years – the "Amrit Period" leading to the centenary. This critical juncture presents a unique confluence of challenges and opportunities, demanding a nuanced understanding of both to secure a future worthy of India's vibrant past. The transition from the "Amrit Mahotsav" period to the "Amrit" period may signify a continued commitment to the principles mentioned. It could indicate a sustained effort to build on the progress made and address ongoing challenges. The term "Amrit" might symbolize a phase of renewal, growth, and prosperity, with a focus on sustaining the positive momentum generated during the milestone celebrations.

This research paper delves into the intricate tapestry of this defining era. We embark on a journey through the echoes of Amrit Mahotsav, analyzing its impact on the national consciousness and identifying the challenges that persist amidst the celebratory zeal. Inequality, economic disparities, infrastructural inadequacies, and environmental concerns remain formidable hurdles on the path to progress. Yet, within these very challenges lie seeds of transformative opportunity. Drawing upon rigorous research and data-driven insights, we explore the potential of technology,

social innovations, and robust governance in unlocking India's true potential. We dissect policy initiatives, assess their effectiveness, and propose proactive solutions to bridge the gap between aspirations and realities. This paper is not merely an academic exercise; it is a call to action. It seeks to engage policymakers, researchers, and citizens alike in a collective dialogue about building a stronger, more inclusive, and equitable India. By dissecting the challenges and capitalizing on the opportunities that define the Amrit Period, we can collectively usher in a dawn of true prosperity, where the spirit of Amrit Mahotsav translates into tangible advancements for generations to come.

Challenges

1. Translating Aspirations into Concrete Action

The Amrit Mahotsav period (celebrating 75 years of independence) and the aspirational Amrit period (the next 25 years leading to the centenary), highlight a crucial challenge - converting excitement and hope into concrete advancements. The Amrit Mahotsav was a year-long nationwide campaign marked by various cultural events, initiatives, and discussions, aimed at rekindling patriotism, understanding India's past, and envisioning a bright future. This undoubtedly generated widespread enthusiasm and optimistic sentiment among the populace. For instance, a survey by the Indian Council of Social Science Research (ICSSR) in 2022 found that 85% of respondents said the celebrations evoked a sense of pride and 76% felt hopeful about the nation's future[1]. Public participation in events like the "Har Ghar Tiranga" campaign during Independence Day showcases a surge in the national spirit. But translating sentiments into progress requires robust governance. While enthusiasm is vital, achieving the goals set for the Amrit period necessitates strong governance mechanisms[2].

- **Effective administration:** Streamlined bureaucracy, efficient service delivery, and tackling corruption are crucial for fostering development and ensuring resources reach intended beneficiaries.
- **Political will and accountability:** Transparent decision-making, responsive leadership and holding authorities accountable for outcomes are essential[3].
- **Decentralization and citizen participation:** Empowering local communities and ensuring grassroots voices are heard can lead to inclusive and sustainable progress which is a necessary part of governance for the betterment of citizens.
- **Effective resource allocation:** The Amrit period will require significant investments in various sectors like infrastructure, education, healthcare, and renewable energy.

- **Prioritization and strategic planning:** Identifying key areas based on national needs and allocating resources accordingly.
- **Financial discipline and efficient utilization:** Preventing leakages and ensuring funds are used optimally for intended purposes.
- **Public-private partnerships and innovative funding models:** Exploring alternative avenues to supplement government resources and drive development.
- **Efficient policy implementation:** Formulating well-crafted policies is only half the battle.
- **Monitoring and evaluation:** Regularly assessing the effectiveness of policies and making necessary adjustments based on data and feedback.
- **Capacity building and human resource development:** Equipping officials and stakeholders with the skills and knowledge to implement policies effectively.
- **Addressing bureaucratic hurdles and streamlining processes:** Removing bottlenecks and simplifying procedures to ensure timely and efficient implementation.

2. Bridging Social and Economic Disparities

The pursuit of "Amrit" - the nectar of immortality - serves as a powerful metaphor for India's aspirations in the next 25 years leading to its 100th year of independence. However, to truly achieve this state of flourishing, addressing social and economic disparities remains a central, unyielding challenge. Bridging these gaps necessitates a multi-pronged approach, considering both the context of the recent Amrit Mahotsav celebrations and the roadmap for the Amrit period. India's vibrant democracy holds immense potential, yet persistent disparities threaten to dim its shine. Data from the World Bank, the International Labour Organization, and various national reports paint a complex picture. The top 1% of Indians hold over 40% of the wealth, while millions grapple with poverty[4]. Female labor force participation remains considerably lower, and challenges in education and healthcare persist[5]. Historical inequalities continue to impact access to opportunities and social mobility. Rural-urban gaps in education, healthcare, and infrastructure are pronounced. The year-long celebrations of Amrit Mahotsav provided a crucial platform to acknowledge and discuss these disparities. Initiatives like "Azadi Ka Amrit Mahotsav Sameeksha Sammelan" served as forums for diverse voices to raise concerns and propose solutions. The focus on celebrating India's achievements also highlighted the contributions of marginalized

communities, fostering a sense of inclusivity and shared national identity. Bridging these disparities in the coming 25 years requires tackling them at their roots[6]. Some key areas of focus include:

- **Inclusive economic growth:** Promoting small and medium businesses, microfinance schemes, and skills development in rural areas can generate equitable economic opportunities.
- **Quality education and healthcare for all:** Strengthening public infrastructure and ensuring access to quality education and healthcare services across geographies and social groups is crucial.
- **Affirmative action and social welfare programs:** Rejuvenating and ensuring effective implementation of existing programs focusing on vulnerable communities, SC/STs, and minorities.
- **Empowering women and marginalized groups:** Fostering gender equality, addressing caste-based discrimination, and promoting inclusivity in decision-making processes.
- **Leveraging technology:** Utilizing digital tools for financial inclusion, online education, and telemedicine can bridge remote connectivity gaps.

The Amrit Mahotsav highlighted India's remarkable journey, but it also served as a stark reminder of the disparities that impede its progress. Bridging these gaps in the Amrit period demands a holistic approach that addresses economic, social, and cultural dimensions. By leveraging the momentum of Amrit Mahotsav, embracing innovative solutions, and ensuring inclusive and equitable policies, India can truly pave the way for a future where "Amrit" is not just a metaphor, but a tangible reality for every citizen.

3. Strengthening Institutions and Upholding Democratic Values

It suggests a commitment to reinforcing the foundations of governmental and societal structures, along with a dedication to preserving and promoting democratic principles. This statement is often associated with the broader goal of fostering a robust and sustainable democracy. To understand this in the context of the "Amrit Mahotsav" period to the "Amrit" period, we need to delve into the historical and political landscape. Building and fortifying the institutions that form the backbone of a democratic society is a need for today for the betterment of the country. It emphasizes a dedication to the core values that underpin democracy and suggests a commitment to ensuring that these principles endure and flourish as a nation progresses from one significant period to the next.

Strengthening Institutions

- Institutions play a crucial role in the functioning of any democracy. This includes political institutions (government, parliament), legal institutions (judiciary), and socio-economic institutions.
- Strengthening institutions involves ensuring their effectiveness, transparency, and responsiveness to the needs of the people. It could include reforms in governance structures, public administration, and legal systems.
- References to strengthening institutions may also involve efforts to curb corruption, enhance accountability, and improve the overall efficiency of public services.

Upholding Democratic Values

- Democratic values encompass a range of principles such as individual rights, the rule of law, equality, freedom of speech, and participation in decision-making.
- Upholding democratic values involves protecting and promoting these principles in all aspects of governance and society. It may include efforts to safeguard human rights, ensure free and fair elections, and foster civic engagement.
- References to democratic values might also encompass inclusivity, pluralism, and tolerance, ensuring that diverse voices are heard and respected.
- The commitment to strengthening institutions and upholding democratic values is likely to be reflected in government policies, legislative actions, and public discourse.
- References to constitutional provisions, legal frameworks, and international agreements promoting democracy and human rights can provide the basis for these principles.

4. Adapting to a Changing Global Landscape

It suggests that during the Amrit Mahotsav period, India has been actively responding to navigating the challenges and opportunities presented by the evolving global context. Adapting to a changing global landscape refers to the process of adjusting your actions, strategies, and mindsets to keep pace with the world's ever-evolving dynamics. It encompasses a wide range of factors, including emerging powers, changing alliances, and new world orders that demand flexibility and adaptability in foreign policy, business practices, and global security concerns at political level. It also requires economic transformations for growing economies, technological advancements and trade agreements impact global markets and

necessitate adjustments in industries, resource allocation, and labor dynamics. Artificial intelligence, robotics, and automation rapidly redefine work, communication, and daily life, requiring individuals and organizations to acquire new skills and embrace disruptive innovations. Rising temperatures, changing weather patterns, and resource scarcity push for sustainable practices, green energy solutions, and resilient infrastructure development. Social and cultural evolution requires shifting demographics, evolving identities, and diverse perspectives to shape social interactions, consumer behavior, and global communication, requiring cultural sensitivity and inclusivity. There is a need to adapt on various levels like skills, learning new technologies, and embracing lifelong learning is crucial for personal growth and career success on individual level and Implementing adaptable policies, investing in infrastructure, and fostering international cooperation are key to responding to global challenges and ensuring societal well-being on organizations and government level.

- **Economic Reforms:** The global landscape is dynamic, marked by changes in geopolitics, economic structures, and technological advancements. For instance, the rise of new global powers, changes in trade dynamics, and the rapid development of technology can significantly impact nations. India may have undertaken economic reforms to enhance competitiveness and attract investments. Reforms in areas such as taxation, labor laws, and ease of doing business can contribute to adapting to the evolving global economic scenario.
- **Geopolitical Engagements:** Diplomatic efforts, alliances, and partnerships may have been forged or strengthened to position India strategically in response to geopolitical shifts.
- **Cultural and Social changes:** Changes in societal norms, cultural exchanges, and shifts in demographics could be part of India's response to the evolving global landscape. Embracing diversity and fostering cultural exchange can be vital aspects.
- **Innovation and Technology Adoption:** Embracing emerging technologies and fostering innovation is critical for any nation's ability to adapt to the changing global landscape. India's initiatives in areas like digitalization, artificial intelligence, and renewable energy can be relevant.
- **Addressing Global Challenges:** India's response to global challenges such as climate change, public health crises, and humanitarian issues may be crucial. It may involve participating in international collaborations and contributing to global solutions.

Opportunities

The changing global landscape also presents opportunities for economic growth, innovation, and collaboration. India may be actively seeking and capitalizing on such opportunities. Building on the foundation laid during Amrit Mahotsav. The initiatives and progress achieved during the celebrations can be furthered and expanded upon in the Amrit Kaal. This ensures continuity and maximizes the effectiveness of efforts. Aligning aspirations and policies with the vision of a developed, inclusive, and globally influential India will guide the nation towards achieving its potential. Focus on areas like Atmanirbhar Bharat (self-reliant India), technological advancements, environmental sustainability, and social justice can be crucial. Investing in education, skill development, and providing opportunities for the youth to participate in nation-building activities is essential for securing a bright future for India. The Amrit Kaal can be a period of harnessing the potential of the young generation.

1. **Leveraging Demographic Dividend**

Refers to the strategic and effective utilization of a demographic advantage, particularly a large and youthful population, to drive economic growth and development. This concept is often discussed in the context of nations or regions that have a significant proportion of their population in the working-age group.

- **Demographic Dividend:** A demographic dividend occurs when the proportion of the working-age population (15-64 years) is larger than the dependent population (below 15 and above 64 years). This situation provides an opportunity for accelerated economic growth because there are more people in the labor force relative to dependents[7].
- **India's Demographic Profile:** India has a youthful population, with a large percentage in the working-age group. The median age in India is relatively low compared to many developed nations. The demographic dividend in India is expected to last for a few decades, providing a window of opportunity for economic progress[8].
- **Economic Growth and Development:** When a country effectively leverages its demographic dividend, it can experience higher productivity, increased savings and investments, and a boost in economic growth. Policies and initiatives promoting education, skill development, and job creation are crucial during this period[9].
- **Challenges and Risks:** While a demographic dividend presents opportunities, it also comes with challenges. These include the need for job creation, skill development, and ensuring that economic growth is inclusive[10].

- **Government Initiatives and Policies:** Governments play a crucial role in harnessing the demographic dividend. Policies related to education, healthcare, employment, and entrepreneurship are essential for realizing the full potential of the working-age population[11].
- **Technology and Innovation:** Embracing technological advancements and fostering innovation is crucial for enhancing productivity and creating high-value jobs, contributing to economic growth[12].
- **Global Perspectives:** Understanding global trends and integrating with the global economy can further enhance the benefits of demographic dividends[13].
- **Monitoring and Evaluation:** Regular monitoring and evaluation of demographic trends, labor market dynamics, and the impact of policies are essential to adjust strategies and ensure continued success in leveraging the demographic dividend.

2. Harnessing Technology

Refers to the strategic and effective utilization of various technological advancements and tools to achieve specific goals or outcomes. In the context of the Amrit Mahotsav period to Amrit period, it suggests leveraging technology for the betterment, progress, and development of society, culture, economy, or any other aspect related to the Amrit Mahotsav celebration and beyond. Amrit period, typically refers to a significant milestone or period of celebration, often marking the completion of a certain number of years since a historical event or the foundation of an institution or nation. The exact context of Amrit Mahotsav can vary, and it could be related to the independence of a country, the establishment of an organization, or any other landmark event.

- **Historical Significance:** During the Amrit Mahotsav period, there may be a reflection on the historical journey, achievements, and challenges faced by the community, nation, or institution. Utilizing technology, one can digitize historical records, artifacts, and documents to preserve and showcase them effectively. This can include the use of archival technologies, digital libraries, and online repositories.
- **Cultural Preservation:** In the context of cultural celebrations during Amrit Mahotsav, technology can be employed for the preservation and promotion of traditional arts, music, dance, and other cultural elements. Virtual reality (VR) or augmented reality (AR) experiences can be developed to provide immersive encounters with cultural heritage, allowing people to engage with history in innovative ways.

- **Community Engagement:** Social media platforms, mobile applications, and online forums can be harnessed to engage the community in the celebration of Amrit Mahotsav. Livestreaming events, virtual exhibitions, and interactive content can enhance participation and inclusivity, bringing people together regardless of geographical location.
- **Education and Awareness:** Technology can play a crucial role in spreading awareness about the significance of the Amrit Mahotsav period. Educational initiatives, such as online courses, webinars, and multimedia presentations, can be developed to educate the public about the historical context and importance of the celebration.
- **Infrastructure Development:** The Amrit period may also signify a time for future planning and development. Technology can be instrumental in infrastructure planning, using tools like geographic information systems (GIS) for urban planning or advanced engineering technologies for construction.

3. Building a Sustainable Future

The concept of the Amrit Mahotsav period to the Amrit period is to suggest a focus on creating a future that is environmentally, socially, and economically sustainable. During the Amrit Mahotsav period, it's essential to acknowledge the challenges faced by India, including environmental degradation, economic inequalities, and social issues. These challenges are crucial considerations in framing the goal of building a sustainable future. The call for sustainability aligns with global movements and goals such as the United Nations Sustainable Development Goals (SDGs) and the Paris Agreement, emphasizing the need for nations to work towards a sustainable and resilient future. The United Nations has outlined 17 SDGs that address various dimensions of sustainability. These goals provide a comprehensive framework for building a sustainable future[14].

- **Environmental Sustainability:** This aspect involves adopting policies and practices that mitigate climate change, protect biodiversity, promote clean energy, and reduce pollution. Initiatives related to renewable energy, afforestation, and waste management contribute to environmental sustainability. The Amrit period delves into the environmental challenges confronting India, such as climate change, air pollution, and water scarcity. It explores potential solutions like renewable energy adoption, sustainable resource management, and green infrastructure development to ensure a sustainable future for the Amrit Period[15].

- **Social Sustainability:** It involves addressing social issues such as poverty, inequality, education, and healthcare. Socially sustainable practices prioritize inclusivity, social justice, and the well-being of all citizens. Investments in education, healthcare, and social infrastructure contribute to social sustainability.
- **Economic Sustainability:** Building a sustainable future economically involves fostering economic growth while ensuring that it is inclusive, and equitable, and does not compromise the well-being of future generations. It includes responsible business practices, job creation, and poverty alleviation.

Studies, articles, and research papers on sustainability in the Indian context can provide in-depth insights into the challenges and opportunities for building a sustainable future. The Amrit Mahotsav period involves addressing environmental, social, and economic challenges through a comprehensive and inclusive approach.

4. Reasserting India's Global Leadership

Suggests a strategic and diplomatic effort by India to strengthen its influence and play a more prominent role on the international stage. This could involve various aspects such as political, economic, cultural, and technological dimensions.

- **Political Dimension:** India, with its significant population, democratic system, and growing economy, has the potential to become a major player in global politics. This involves actively participating in international forums, engaging in diplomatic initiatives, and contributing to global problem-solving.
- **Economic Dimension:** India's economic growth and market potential make it an attractive partner for other nations. Strengthening economic ties through trade agreements, investment partnerships, and economic reforms can contribute to asserting global leadership.
- **Cultural Diplomacy:** India's rich cultural heritage, including art, literature, and traditions, can be leveraged for soft power. Cultural diplomacy involves promoting Indian culture and values globally, fostering mutual understanding and respect.

Technological Innovation: Advancements in technology and innovation play a crucial role in global leadership. India's prowess in information technology, space exploration, and other cutting-edge fields can enhance its global standing.

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Role of Artificial Intelligence in Different Sectors of Society

Dr. Reena Gupta
Associate Professor
Department of Geography
Maharaja Bijli Pasi Govt. P.G. College,
Ashiyana, Lucknow

Vivek Kumar
Research Scholar
Department of Geography
Lucknow University, Lucknow
Email: vkbind20@gmail.com

Abstract

It was in 1956 that the concept of artificial intelligence came into existence. John McCarthy and Marvin Minsky hosted the Dartmouth Summer Research Project, and here they coined the word "artificial intelligence." The workshop laid the foundation for the field of artificial intelligence. Back to the current timeline, few studies believe that artificial intelligence will contribute 15.7 trillion dollars to the world economy by the year 2030.

A branch of computer science that commands machines to simulate human intelligence, artificial intelligence is bringing a paradigm shift in each sector of society.

The smart machines working on the concept of deep learning, are capable of performing tasks and making decisions that only a human mind can. These software systems operate in such a manner that they adapt to the situation. Artificial intelligence has the potential to make society even better by bringing positive changes in healthcare, education, governance, policy formulation and implementation, technology, resource management, innovation, etc.

Artificial intelligence holds the potential to make human lives better in thousands of ways. Today, if we look around, we are already using AI in our daily lives in some way or another. Artificial intelligence technology in smartphones has grown rapidly in recent years. Google Assistant, Siri, and Alexa are a few examples of AI personal assistants that make our daily tasks easier. Not only do these solution-driven technologies follow commands, but they also learn from experience to provide better services.

Today, artificial intelligence is reshaping and redefining industries. It is bringing about a revolution in technology and impacting the global economy. Artificial intelligence can solve complex problems in a limited amount of time and with enhanced accuracy.

Keywords

Artificial Intelligence, policy formulation, global economy, solution-driven, deep learning.

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The application of artificial intelligence can yield better results in healthcare, education, science, governance, agriculture etc., and a few applications of artificial intelligence in different fields can be as follows:

Health Care

The COVID-19 outbreak made it clear how ill-prepared we are for the pandemic. Our health infrastructure needs a revolution, and artificial intelligence holds that potential.

Collection and analysis of medical information, early warning of a disease outbreak, diagnosis of a disease using medical images, predicting the population's probability of being impacted by communicable or non-communicable diseases, tracking of infections and recovery rates in real-time, and better management of healthcare resources—there is a lot for AI to offer. Powerful artificial intelligence software can aid in personalized treatments. The software can run diagnostic tests and prepare lab reports. They can help in the identification of a pandemic and study the patterns of a disease outbreak. With enough learning, this software might be able to identify a crisis in the future.

Artificial intelligence has been producing even more accurate diagnostic results. AI can analyze the medical history of a patient in a fraction of a seconds, which is impossible for the human mind to perform in such a short period of time. In an emergency, such an analysis of medical history can turn out to be a life-saving step. AI-powered machines can study large amounts of medical data in a very short period of time, and these powerful machines are being taught to make patterns and predictions about any future medical crisis.

These machines can also learn to read medical imaging and prepare diagnostic reports. A.I. can help improve the efficiency of precision medicines. Precision medicines are designed while keeping into consideration the genetics, environment, and lifestyle of an individual. By analyzing medical records, behavior patterns, choices, and decision-making of an individual, AI-powered tools can enhance the accuracy of precise medicines. By gaining enough experience and analyzing enough data, these tools would also be able to predict what type of treatment would work and even design therapy plans for an individual.

The medical research community is a major beneficiary of the revolution that AI is bringing. Medical research requires the analysis and interpretation of massive amounts of data. AI can help with quick analysis of these complex data sets, and the machines will eventually learn to predict the outcomes of research. Medical research requires countless hits, trials of molecular interactions, and drug

tests that are time-consuming. The AI tools can help give quicker results by eliminating non-responsive trials. With enough learning, these tools would be able to perform experiments in virtual reality that could be replicated by researchers to yield fruitful results. With access to medical records, these tools can even pick up the right patients for clinical studies.

AI systems can diagnose X-rays, detect eye diseases, and read medical images. There are a few AI systems that have been programmed to examine the brain MRIs of infants to detect and diagnose autism. Autism is a condition that is very rare to detect at an early age since the traits are very complex. Early detection of autism will surely lead to better-personalized healthcare. Researchers are even developing A.I. programs that can help improve the social, emotional, and communication skills of autistic people.

Three years ago, the world witnessed a deadly COVID-19 outbreak. According to the WHO dashboard, the disease has resulted in 7 lakh human deaths. Even in current times, there are many endemics claiming human lives in different corners of the world.

Epidemiologists are working with AI software that can successfully predict epidemics like Ebola, Zika, MERS, Chikungunya, Kyasanur forest disease, etc. And these research groups have achieved success as well. The data generated daily can be analyzed with AI tools, and models can be made that can help us understand these diseases, their origin, their spread, and how these outbreaks respond to treatment.

Agriculture

Projections show that the global population is expected to cross the 10 billion mark by 2050. The way our population numbers are increasing, traditional farming methods are never going to be enough. We need to find ways of maximizing our agricultural produce and minimizing our agri-waste while following a sustainable process.

Artificial intelligence can help detect the challenges of crop failure and overuse of pesticides and fertilizers. The apps can predict future market demands, resulting in farmers adopting better crop choices. Software can also help in increasing crop production by studying soil nutrition, climatic conditions, irrigation facilities, and the proper use of fertilizers and pesticides. Artificial intelligence can help counter the challenge of pest attacks in their early stages.

Applications of artificial intelligence in agriculture can include:

1. Robotics in agriculture

2. Crop monitoring
3. Soil monitoring
4. Future projections and predictions

An example of the use of artificial intelligence in agriculture is experimental research by a team that took up the task of teaching AI to detect disease in cassava plants. Data from 2756 plant leaves was fed into the AI system, and based on its learning, it was able to detect disease in cassava with an accuracy of 98%.

AI systems are being developed that can take care of plants and eliminate weeds. AI-powered robots are learning to identify weeds present in crops. There are cameras and sensors in these machines that precisely eliminate the weeds by applying the right herbicide without impacting the plant. Then we have robots that help farmers with harvesting, packaging, and managing agricultural produce. Agri-startup companies have developed apps that can identify nutrition deficiencies in soils. They can detect moisture content in the soil and suggest ways of improving soil quality. With the help of AI, modern techniques being used in agriculture can become even more precise and fruitful. These robots can analyze the dynamics of crops and fields and accordingly use the right amount of fertilizer.

Price fluctuation in agricultural produce is a big cause of worry for farmers. A bumper harvest is not a surety of great profit. There is a lot of weather forecast data, agriculture, mandi, demand, and supply data produced daily. A.I. software can compile this data and analyze the right time for sowing crops, choosing the right crops, predicting crop yield, and even forecasting market prices, which can help farmers maximize their profit. Companies are using A.I. technology in satellite imaging and weather forecasting to constantly monitor pest attacks and disease spread in plants and take real-time action.

Education

The world is changing as technology and innovation are reshaping lifestyles. The COVID-19 epidemic brought a shift from the traditional way of education to a hybrid mode, where schools and colleges adopted a way of teaching that involved both offline and online classes. Suddenly, our whole education system shifted from desks and blackboards to mobile phones, the internet, and tablets. Machine learning is a feature of AI-powered machines. Machine learning allows a machine to learn from past data without being explicitly programmed for the task. This is where AI can be applied in the education sector as well. AI and machine learning can speedily solve time-consuming tasks with very little human effort. What makes these AI-powered software special is the learning from feedback.

A few applications of AI-enabled technology in education can be as follows:

Robotic teachers: AI-powered humans can assist our actual teachers while delivering lectures. These humanoids can help students understand complex topics in a better and simpler way.

The robots can help clear the doubts of students. A lot of experimental subjects can become a lot simpler with the help of experiments, which these devices would be capable of demonstrating.

Individual tutoring: Each child has a different potential level when it comes to learning, and an AI software would analyze the past results, knowledge gaps, interests, and cognitive, and learning abilities of an individual and prepare a structured plan accordingly. Outside the classroom, AI chatbots can help students solve queries and other problems. There are many AI software programs that can summarize chapters and even books for students. Complex mathematical problems can be solved in a short period of time.

Creating smart content: Artificial intelligence software can be used to create different types of smart content like study guides, digi-books, animated videos, and stories that will eventually make learning a more interactive task. The textbooks can be updated regularly with the help of A.I. tools.

Multilingual learning: According to census data, we as a nation are home to 19,500 mother tongues. Our linguistic diversity is very wide, and at times, these languages have become barriers to communication between various regional areas. A.I. tools that rely on deep learning networks can help break these barriers by helping people with different linguistic backgrounds understand each other. This software can convert entire textbooks to any different language, which will definitely give a better academic result. A lot of students at higher education levels suffer because of such language barriers. Engineering and tech research papers, writings, and books from any corner of the world can be provided to students in a suitable language. Research scholars can use AI tools to study, compare, and summarize research that is available on the internet. There are a number of AI tools that make grammatical corrections in your written documents, make them interactive, and even check for plagiarism.

Policy Making and Governance

Policymaking is a complex process and recently the increasing role of AI in policymaking has shifted legislation from the top-down to more inclusive and smarter decision-making. AI brings about tremendous changes in how policy is made. The benefits of using AI in policy-making range from facilitating and informing quicker

and more rigorous decisions by policymakers to the inclusion of citizens in such decisions. Some examples of the integration of AI in policymaking can be seen in the health sector. like the deployment of the AI-based Arogya Setu app while responding to the COVID-19 pandemic. It uses AI-driven algorithms, GPS, and Bluetooth for contact tracing and disseminating important health updates.

In 2018 Niti Aayog released the National Strategy for Artificial Intelligence. The strategy laid down a road map for the government to adopt AI to provide better services in real-time and enhance its working machinery. Recognising the potential of AI government is in collaboration with private players to promote the adoption and development of artificial intelligence.

Our cities generate thousands of GBs of data daily and it is impossible for a human to even collect it. At the same time AI has the potential to not only collect the raw data but analyse and generate enough information to aid governance. AI can be used to monitor real-time uses of resources like power, water, and internet services. Monitoring of these services will help with the prevention of loss. Solar-driven street lights can be a great beneficiary of A.I applications.

Recently the government Deregulated the Geospatial sector, which means private sectors can bring in state-of-the-art technology that can redefine geospatial mapping and management of traffic flow in the cities. A.I can ensure a smoother traffic flow in the cities

AI-based systems can help reduce the number of accidents that happen daily. data like place of accident, road conditions, traffic flow, and weather conditions can be analyzed to form an algorithm that can detect the hotspots with higher frequency of accidents. Based on such analysis the right care and support can be deployed in these hotspots.

AI-powered drones can help in the identification of untreated sewage waste, landfills and dumping sites. Facial and image recognition software can be of great help to law enforcement and security agencies. The AI systems can analyze hundreds of hours of footage and images in short durations and suspects can be identified quickly and many crimes and acts of terror can be averted. Many government departments and municipal corporations can deploy chatbots in their customer helpline services that can address public calls and queries.

Problems and Way Forwards

Recently the Indian Prime Minister emphasized on the ethical use of AI and called for a global framework to implement ethics in AI. Artificial intelligence needs to work within well-defined ethical guidelines that maintain fundamental values and are non non-discriminating and non manipulative in nature.

There have been cases of misuse of AI in the form of deep fake videos. Advanced AI systems have been used to create fake audio and videos called deep pics that can tarnish the image of an individual. A.I. systems rely majorly on the available data and incomplete or biased data can lead to a biased decision-making. At the same time when the world is running on the internet, AI systems can be prone to cyber attacks and a compromised AI can be a serious threat.

The power that AI possesses can bring in efficiency in all aspects and at the same time if the use is not wise enough it can create havoc. As a way forward we need to prepare our people for the AI era which means there is a dire need for capacity building among public servants as well as the masses. We need training programs at academic and professional levels to equip our population with the required skill set to handle Artificial Intelligence. We need to set parameters and implement proper guidelines for the just and ethical use of artificial intelligence. As AI is expanding its horizon, research and innovation that makes the technology more accurate, efficient and responsible are needed. The role of artificial intelligence is to help, not replace human intelligence. What we need is a better human-AI collaboration that would enhance the efficiency and productivity of various sectors of the society.

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Contribution of MSMEs in Making India-Atmanirbhar Bharat

Prof. Manju Rani
Department of Economics

Savita Saxena
Research Scholar
Department of Economics
S.M.P. Government Girls P.G. College
Madhavpuram, Meerut

Abstract

The Atmanirbhar Bharat Abhiyan also known as the self-reliant India Mission when the entire global economy was stuck in the clutches of the COVID-19 pandemic, at that time this mission was launched by Hon'ble Prime Minister PM Modi on 12 May 2020 with a new vision. This mission was helped in the wake of the COVID-19 pandemic to manage the economic disruption in the country. This mission came as a ray of hope in the darkness of this pandemic. The main objective of this mission is to promote self-sufficiency and reduce dependency on imports and also to make the country and its citizens self-reliant and independent in all senses. The growth of the MSME sector can be one of the key components of this mission because MSMEs play a crucial role in the Indian economy, they contribute significantly to the development of the Indian economy through exports, production, GDP participation, employment opportunities, innovations, and industrialization of rural areas. That's why the growth of this sector is essential for India's economic development which will help to make India self-reliant. Atmanirbhar Bharat Abhiyan has five pillars which are the Economy, Infrastructure, Technology driven system, Demography, and Demand. So, the present paper aims to explore the contribution of the MSME sector which will help make India self-reliant, and also discuss the five pillars of this mission.

Keywords

Atmanirbhar Bharat Abhiyan, MSMEs, COVID-19, India's economic development.

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Introduction

MSMEs are micro, small, and medium enterprises that engage in the service sector or the manufacturing, processing, production, and preservation of goods. MSMEs play a crucial role in the Indian economy because they contribute significantly to the development of the Indian economy through export production, domestic production, GDP, employment opportunities, and the process of industrialization in rural areas. So, MSMEs can play a vital role in making India-Atmanirbhar Bharat. The Atmanirbhar Bharat Abhiyan also known as the self-reliant India Mission when the entire global economy was stuck in the clutches of the COVID-19 pandemic, at that time this mission was launched by Hon'ble Prime Minister PM Modi on 12 May 2020 with a new vision. This mission was helped in the wake of the COVID-19 pandemic to manage the economic disruption in the country. This mission came as a ray of hope in the darkness of this pandemic. The main objective of this mission is to promote self-sufficiency and reduce dependency on imports and also to make the country and its citizens self-reliant and independent in all senses. The growth of the MSME sector can be one of the key components of this mission. That's why the growth of this sector is essential for India's economic development which will help to make India self-reliant. Atmanirbhar Bharat Abhiyan has five pillars which are Economy, Infrastructure, Technology driven system, Demography, and Demand. So, here we discuss how MSMEs help to make India self-reliant and what is the contribution of the MSME sector to achieve the goals of this Atmanirbhar Bharat mission.

Objectives

The proposed research study aims to explore the contribution of MSMEs in making India Atmanirbhar Bharat. The specific objectives of the study are -

1. The main objective is to study the contribution of the MSME sector in making India Atmanirbhar Bharat.
2. To study the Atmanirbhar Bharat Abhiyan and its five pillars.

Research Methodology

The Research paper is based on descriptive research, so the study is based on secondary data. The secondary data was gathered from the official website of the Ministry of MSME (MoMSME), and other published and unpublished sources such as the Economic Survey, Government publications, publications of various research institutes, journals, articles, websites, newspapers, etc.

Review of Literature

A recent study by **Behera, M., et al., (2021)** attempted to measure the contribution of MSMEs to the Indian Economy and also to find out the challenges

and problems in pre- and during the COVID period. They found that MSME units are facing many problems due to COVID-19. Given the extensive COVID-19 chaos, the government needs to establish an ongoing monitoring system and declare urgent relief steps to improve the MSMEs sector's confidence. Similarly,

Singh (2021) in his research paper analyzed the definition of MSMEs, the role and performance of MSMEs in the current status, and found MSMEs have significantly contributed to the growth of the Indian economy. It has tremendous participation in Indian GDP, employment generation, exports, production, and industrialization of rural areas, and these have various challenges and prospects associated with the sector in India, and the pandemic COVID-19 adversely impacted the MSMEs sector so the Government should take proper measures to overcome its effects.

Manikandan (2023) described that MSMEs have a vital role to play in achieving the objectives of Atmanirbhar Bharat Abhiyan. One of the main objectives of this Abhiyan is to promote indigenous manufacturing and reduce dependency on imports. MSMEs can play a critical role in obtaining this object by producing goods that are made in India, creating employment opportunities that will help in reducing unemployment. MSMEs also will encourage innovation and entrepreneurship and promote exports.

Sur, D., & Prasad, S., (2020) in their paper highlighted the mission of Atmanirbhar Bharat Abhiyan. Here, they focused on the prime goals of this stimulus package which are to make India self-reliant in its major economic sectors and to improve resilience to future geo-economic shocks. Further, the paper also identified the obstacles faced in the execution process and give suggests some ways and means by which proper execution of the package can be done to achieve the goals of 'Atmanirbhar Bharat Abhiyan'.

Pitke, M., et al., (2020) in their paper attempted to explore the changing role of MSME in making India 'Atmanirbhar'. The research paper also proposed a list of certain measures to be taken by the government to include and encourage MSMEs in making the mission of 'Atmanirbhar Bharat' realistically achievable. Finally, the research paper found that a systematic framework is required to include MSMEs in making the 'Atmanirbhar Bharat' a reality.

Need & Significance of the MSME sector

In a developing country like India unemployment is a major issue that affects the overall growth of a country. It is a major element of the socioeconomic status of any country. The MSME sector contributes to the development of the Indian economy

through export production, domestic production, low investment requirements, operational flexibility, technology-oriented enterprises' employment opportunities, etc. Moreover, the sector is a critical source of livelihood provides nearly 110 million jobs, and contributes one-third to India's GDP. Therefore, with the current emphasis on ***Atmanirbhar Bharat Abhiyan*****,** the role of these MSMEs has become even more significant to India's economic and financial strategy. That's why there is a need for more studies on the contribution of this sector. So, the present study will focus on the contribution of the MSMEs sector in making India Atmanirbhar Bharat.

Atmanirbhar Bharat Abhiyan and Its Five Pillars

Atmanirbhar Bharat Abhiyan was launched by Prime Minister Modi at the time of the COVID-19 pandemic. During this critical time, it was a special economic relief package and its main purpose was to support the country during the pandemic. The main objective of this mission is to make self-reliant India by strengthening the country's economic system and giving a new path to the country's development journey.

Atmanirbhar Bharat is based on 5 basic components that are:

- Economy- An economy that brings Quantum jump rather than Incremental changes.
- Demography- Vibrant Demography of the largest democracy.
- System- Technology-driven systems fulfill the needs of the 21st century.
- Demand- Full utilization of the power of demand & and supply.
- Infrastructure- One that represents the modern India.

Contribution of the MSME Sector in Making India Self-reliant

MSMEs play a crucial role in providing employment opportunities in rural and backward areas, after the agriculture sector, it is the second largest employment-generating sector. As per the Central Statistics Office, Ministry of Statistics & PI, the share of MSME Gross Value Added (GVA) in All India's Gross Domestic Product at current prices (2011-12) for the year 2018-19 and 2019-20 were 30.5% and 30.0% respectively **(C.S.O. Ministry of statistics, India)**. The share of the MSME manufacturing in All India manufacturing gross value output during the year 2018-19 and 2019-20 were 36.9% and 36.9% respectively. Further, as per the information received from the Directorate General of Commercial Intelligence and Statistics, the share of export of specified MSME-related products to All India exports during 2019-20 and 2020-21 was 49.8% and 49.5% respectively **(DGCIS, India)**. **As per the 73rd Round of the NSS Report** on Unincorporated Non-Agricultural Enterprises' (July 2015- June 2016) conducted by the Ministry of Statistics & PI,

the estimated number of workers in the MSME sector was 11.10 crore. **Under the Prime Minister's Employment Generation Programme (PMEGP)**, the estimated employment generated (number of persons) in micro enterprises during the year 2020-21 and 2021-22 (as of 01.07.2021) were 5.95 lakh and 1.19 lakh respectively. So, we can say that MSMEs are the backbone of the Indian Economy, but at the time of covid-19 pandemic MSME sector faced many problems such as sales revenue, employment, cash flow, and marketing etc. it means the pandemic COVID-19 adversely impacted the MSMEs sector so the Government should take proper measures to overcome its effects. The MSME sector should access low-cost finance to improve the flow of credit. To resist the competition from large enterprises from inside and outside, MSMEs are required to construct capacities to evolve ICT and other instruments in decree to serve the flourishing market needs. Given the extensive COVID-19 chaos, the government needs to establish an ongoing monitoring system and declare urgent relief steps to improve the MSMEs sector's confidence.

By the Indian Government, the Atmanirbhar Bharat Abhiyan was a response to counter the pandemic's negative impact on the MSME sector. The MSME sector has been given a significant allocation and priority in implementing the measures that will revitalize the economy. Various announcements have been made under the mission to aid the MSME sector immediately. The only reason for the government to stress the importance of MSMEs can be understood by the contribution, the MSMEs can help to achieve the dream of Atmanirbhar Bharat. Here are the five main ways in which MSMEs are playing a crucial role in Atmanirbhar Bharat.

MSMEs' share in GDP- As per C.S.O, Ministry of Statistics & PI, the share of MSME Gross Value Added (GVA) in All India Gross Domestic Product at current prices (2011-12) for the year 2018-19 and 2019-20 were 30.5% and 30.0% respectively. The share of the MSME manufacturing in All India manufacturing gross value output during the year 2018-19 and 2019-20 were 36.9% and 36.9% respectively. The participation of MSMEs in Indian GDP is expected to increase in the future with the startup boom and formalization of the economy. The facilities like Government E-commerce Marketplace (GeM) are helping the small and mid-sized units in the MSME sector to grow further. As of June 25, 2021, the GeM portal has fulfilled 6.87 million orders worth $15.67 billion.

MSMEs' share of exports- Exports are important for any economy. If India wants to become self-reliant in really, the exports need to increase. MSME-related products to all India exports during 2019-20 and 2020-21 were 49.8% and 49.5% respectively. Those industries involved in exports are more profitable than the industries involved in serving the domestic market in India. Thus, exports are an

essential part of the government's mission of an Atmanirbhar Bharat. The government introduced the Merchandise Exports from India Scheme (MEIS) in Foreign Trade Policy (FTP) from 2015 to 2020 which helped Indian Industries become more competitive and also increased the exports of goods manufactured or produced in India.

MSME's growth is more inclusive- The growth of the MSME sector is more inclusive because **as per the 73rd Round of the NSS Report** on Unincorporated Non-Agricultural Enterprises' (July 2015- June 2016) conducted by the Ministry of Statistics & PI, the estimated number of workers in the MSME sector was 11.10 crore. The types of jobs created by MSMEs include unskilled workers as well as skilled workers. The MSMEs are known to create many jobs at a low capital requirement help in the process of industrialization in rural areas and also reduce the unequal income distribution. Thus, even a low capital can get inclusive growth and inclusive growth is an important parameter of the Atmanirbhar Bharat mission. As per the government data, 13% of registered MSMEs are providing 42% of the total jobs. If India is to become a $5 Trillion economy by 2025, the share of MSME is expected to reach 50%. Thus, MSMEs will contribute to growth in the future. Also, informal employment in India is very high. With the formalization of the Indian economy and high growth in the MSME sector, inclusive growth can become a reality, with jobs being created even in remote areas of India. If jobs are provided to remote areas, India can truly achieve the dream of a Self-reliant India.

MSMEs in the manufacturing sector- To make India self-reliant in the field of manufacturing, MSMEs will have to be made a manufacturing powerhouse. It is envisioned in the Make in India policy of the government. If India wants to increase its manufacturing output, then we can expect the contribution of the MSME sector in the manufacturing sector. The share of the MSME manufacturing in All India manufacturing gross value output during the year 2018-19 and 2019-20 were 36.9% and 36.9% respectively. Manufacturing requires a fast time to the market and changing the requirements as per emerging trends. Also, it requires a marketplace to sell the goods. With the growth of e-commerce and the Government e-commerce Marketplace (GeM), the selling opportunities are immense. Also, the emerging trends are easy to identify because of the easy availability of information.

MSMEs in the Services sector- Just as the manufacturing sector plays an essential role in India's economic growth, the services segment also plays an important role in making India self-reliant and contributing to Indian economic

growth. India's share of the services sector in the economy is 55% while the MSME sector contributes 33% to services as compared to 67% in manufacturing. Most of the informal jobs exist in the services sector, and the services sector was the most affected because of the Covid-19 pandemic. MSMEs also play an important role in the services sector in employing workers, temporary workers, unskilled workers, etc. If India is to be self-reliant, the importance of the services sector must be highlighted and the sector should be prioritized.

Conclusion

The MSME sector is considered the engine of economic growth and is also known for promoting inclusive and equitable development. The MSME sector contributes to India's economic growth a lot because it suits the weaknesses of the Indian economy like- lack of capital, less technology, and lack of well-developed infrastructure, etc. MSMEs have the power to propel India to new heights. Thus, the MSME sector can play a significant role in achieving the dream of India's self-reliance, but the COVID-19 pandemic adversely affected this sector, so the Indian Government should pay attention to the sector especially.

Findings

- Reviewed Many research papers found that the Covid-19 pandemic has hit the MSME sector very badly. The Atmanirbhar Bharat mission started to come out of the clutches of this pandemic. The main objectives of this mission are to make a self-reliant India and reduce the dependency on imports. To fulfill these objectives of this mission, special emphasis was given to the MSME sector because this sector plays a crucial role in India's economic growth in reality. So, we can say that the MSME sector works as a key component to fulfill the dream of a self-reliant India mission.
- The MSME sector can help to achieve inclusive growth. The United Nations is also taking various steps to help the MSMEs get back to business after the pandemic because the United Nations understands the inclusive growth promoted by the MSME sector.
- The participation of MSMEs in exports is rewarded in duty credit scrips. In the coming years, Policy measures like these are expected to further increase in the share of MSME's exports.
- One of the biggest hurdles for the MSME sector is the old technology and its slow adoption, but with the government's encouragement, technology adoption can increase thereby making the MSME sector more competitive and also fulfilling the mission of Atmanirbhar Bharat. The country can

become Atmanirbhar if MSMEs can scale up to compete with global peers and participate in international market opportunities.

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Effect of Circuit Training on the Basis of Motor Skills (Speed) and Skill Abilitied (Dribbling) of School Football Players of Mumbai

Dr. Nilesh Lohar
Assistant Professor
Department of Physical Education
University of Mumbai, Mumbai
Email: dr.nileshlohardpeun@gmail.com

Nikita Dandekar
Research Scholar
Department of Physical Education
University of Mumbai, Mumbai
Email: nikita.d.dandekar@gmail.com

Abstract

Football is one of the well-known games across world. Football also known as Soccer or European Football in USA and Canada. There are certain rules and regulation for playing this game. Firstly, required two teams with sixteen players; 11 on field and 5 substitutes. This game using Spherical ball of 67-70 cm of circumference for playing. The game has to played in between of two goal post. And game started by kick off. There are some fundamental skills using for the game on field by the players like heading, dribbling, kicking, passing, defending, goal keeping etc. when ball crosses the goal line by team scored as goal. When both teams have scored equal goals means tie happened then there are methods to solved or break the tie by extra time, penalty shoot and sudden death.

The purpose of study was to determine the effect of circuit training on speed and dribbling of school football players aged 14 to 16 years. A sample of Forty (n=40) school football players age ranged 14 to 16 years was identified as subjects from Arsenal football academy Mira road, area of suburban Mumbai. further they had been randomly divided into two identical corporations i.e. experimental and manipulate institution with same variety of topics. Experimental organization (circuit education institution (n=20)) and control group (non-circuit education institution (n=20)). The layout of the have a look at changed into Non-equivalent manage organization design. The experimental topics in conjunction with day these days lifestyles underwent a Circuit schooling programmed for 3 days in per week. The collected records changed into analysis with assist of 't' test. The end result revealed that the effect of circuit schooling programmers helped to enhance velocity and dribbling talent of football gamers elderly 14 to 16 years. The findings finish that the circuit schooling turned into found beneficial to improve speed and dribbling of football players aged 14 to 16 years.

Keywords

Circuit training, speed, dribbling, and football players.

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Effect of Circuit Training on the Basis of Motor Skills (Speed) and Skill Abilitied (Dribbling) ...

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Introduction

Football, a sport that transcends borders and unites people from diverse backgrounds, has been an integral part of human culture for centuries. Whether we call it football or soccer, this beautiful game has evolved into a global phenomenon, capturing the hearts and minds of millions around the world. Its impact on society, economy, and culture is undeniable, making it a subject of significant interest for researchers and enthusiasts alike. Beyond the mere act of kicking a ball, football embodies a profound sense of camaraderie, identity, and unity among people. It transcends cultural, linguistic, and geographical boundaries, creating a global community of fans who share in the joys and sorrows of the sport. Football is one of the well-known games across world. Football also known as Soccer or European Football in USA and Canada. There are certain rules and regulation for playing this game. Firstly, required two teams with sixteen players; 11 on field and 5 substitutes. This game using Spherical ball of 67-70 cm of circumference for playing. The game has to played in between of two goal post. And game started by kick off. There are some fundamental skills using for the game on field by the players like heading, dribbling, kicking, passing, defending, goal keeping etc. when ball crosses the goal line by team scored as goal. When both teams have scored equal goals means tie happened then there are methods to solved or break the tie by extra time, penalty shoot and sudden death.

Motor skills play a fundamental role in human development and functionality, influencing our ability to interact with the environment and achieve various tasks throughout life. These skills encompass a wide spectrum of movements, from basic actions such as grasping and walking to complex activities like playing a musical instrument or performing athletic maneuvers. As individuals grow and engage in different activities, their motor skills evolve and adapt to meet the demands of their environment. Moreover, these skills continue to be relevant throughout life, affecting an individual's ability to participate in sports, perform work-related tasks, and maintain an active and independent lifestyle.

Circuit training is a highly versatile and widely adopted fitness regimen that combines a series of exercises in a systematic and structured manner. It is characterized by its efficiency and effectiveness in providing a comprehensive workout that targets multiple muscle groups and physiological systems within a relatively short period. Circuit training can be tailored to meet the specific fitness goals of individuals, whether that is enhancing cardiovascular endurance, building muscular strength, or even

improving functional mobility. This approach to fitness has gained immense popularity in recent years, both in professional sports and recreational settings, due to its ability to provide a well-rounded and time-efficient workout.

The present study was conducted for evaluating the component like speed and dribbling in football players of Mumbai.

Objectives of the Study

1. To compare the adjusted Mean Scores of speed of School football players by taking speed as covariate.
2. To compare the adjusted Mean Scores of Dribbling of School football players by taking Dribbling as covariate.

Hypothesis of the Study

H_{01}: There is no significant difference in the mean scores gains in speed of football players.

H_{02}: There is no significant difference mean scores gains in Dribbling of football players.

Methodology

Research Design: (Non-equivalent groups design)

The design of the trial had been planned in three phases' viz., Phase – I Pre-test, Phase – II Training or Treatment, and Phase – III Post-test. The subjects in the trial were divided into two groups one Circuit Training Group i.e. (Experimental Group) and one Non Circuit Training Group i.e. (Control Group); each group comported of 20 subjects. Circuit Training Group i.e. (Experimental Group) was given a circuit Training programme for the period of six weeks. The total training programme of the experimental group is 12 weeks, 3 days in a week i.e. Monday Wednesday and Friday except on vacation, in the evening session for 1 hour.

Training Schedule

Weeks	Monday	Wednesday	Friday	Duration
1 & 2 week	**MAC**	**MAC**	**MAC**	45 to 60 minutes
3 & 4 week	**SAC**	**SAC**	**SAC**	45 to 60 minutes
5 & 6 week	**MAC**	**MAC**	**MAC**	45 to 60 minutes
7 & 8 week	**SAC**	**SAC**	**SAC**	45 to 60 minutes
9 & 10 week	**MAC**	**MAC**	**MAC**	45 to 60 minutes
11 & 12 week	**SAC**	**SAC**	**SAC**	45 to 60 minutes

MAC: Motor Ability Circuit SAC: Skill Ability Circuit

Statistical Technique

The data has been analyzed using independent t test with online Vassar stats Computational package to test this hypothesis as shown in the following table.

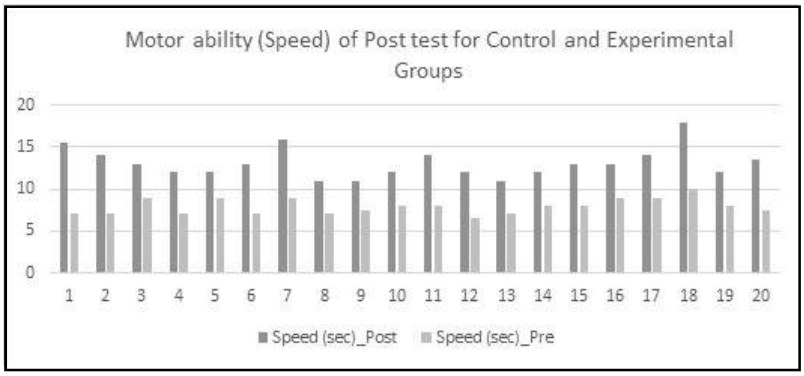
Adjusted Mean Scores of Post test of Control and Experimental groups for Speed

Table 1: Mean Gain for Motor ability (Speed) of Football players

	n	ΣX	ΣX^2	SS	Mean	Mean a —Mean b	df	t	LoS
Control	20	262	3493.5	61.3	13.1	5.175	38	+11.35	<.0001
Experimental	20	158.5	1273.75	17.6375	7.925				

Interpretation

The Mean Gain for Motor ability (Speed) of Football players is 5.175, the calculated t for the observed values is +11.35 (p= <.0001) for df =38 at 5% level of significance, which is highly significant, hence the Motor ability (Speed) of Football players is improved significantly with the Circuit training programme. Hence, the null hypothesis is rejected.



Adjusted Mean Scores of Post test of Control and Experimental groups for Dribbling

Table 2: Mean Gain for skill ability (Dribbling) of Football players

	n	ΣX	ΣX^2	SS	Mean	Mean a —Mean b	df	t	LoS
Control	20	978	48440	615.8	48.9	11.6	38	+6.22	<.0001
Experimental	20	746	28532	706.2	37.3				

Interpretation

The Mean Gain for skill ability (Dribbling) of Football players is 11.6, the calculated t for the observed values is +6.22 (p= <.0001) for df =38 at 5% level of significance, which is highly significant. Hence, the null hypothesis is rejected for the Skill ability (Dribbling) of Football players which shows significant improvement with Circuit training programme.

Conclusion

- The Circuit Training has significantly improved the Speed ability of the school Football Players.
- The Circuit Training has significantly improved the Dribbling ability of the school Football Players.

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Systematic Review of Artificial Intelligence Application in Higher Education

Dr. Poonam Bhandari
Assistant Professor
Department of Physical Education
SMPGG PG College, Meerut (U.P.)

Prof. Swatendra Singh
Department of Physical Education
S.D. College, Hathras (U.P.)

Abstract

The role of Higher Education in any society is inevitable when it comes to harmonious personality development of the youth and nation-building. The promising higher education system is research-oriented and is open to newer dimensions of teaching-learning pedagogy. One of the recent advancements in this sector is the emergence of the application of artificial intelligence which has eventually led to the emergence of New possibilities and challenges as well. The Massification of Higher Education and the diversified nature of curriculum has no doubt increased the workload of the teacher and the nature of the job has also undergone drastic changes. With changing times the teaching-learning methods including testing , measuring and evaluative processes involved in it , have experienced lots of changes recently with the interventions of the latest technology in the process. It is surprising to see how the application of artificial intelligence has aptly equipped not only teachers and teachers but also the whole system involved in the higher education system with its latest techniques. Despite all this, the use and application of artificial intelligence in higher education scenarios is still unclear to some extent especially in a country like India with different kinds of limitations when it comes to the use of technology. This paper tries to analyze the advantages and disadvantages of artificial intelligence and its role in the higher education system and finally the role of teacher in this respect.

Keywords

AI, Pedagogy, Curriculum, Technical Interventions, Higher Education.

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Introduction

As an effective medium, that fosters personal development, and promotes economic stability and social change, the role of Higher Education in any society is inevitable. As a tool for exchange of knowledge, research and innovation it equips students with skills needed to meet ever-changing societal demands . We can call it a passport to economic security and a stable future not only for the students but for the nation as a whole . over the past decades worldwide higher education has undergone many changes when it comes to enrolment , student mobility,diversity of provision, research dynamics and technology. According to reports by UNESCO around 235 million students are enrolled in universities around the world . This number that has more than doubled in the last 20 years and is set to expand. In terms of Higher Education especially in a country like India we are in a flux , on one hand our students are being acclaimed worldwide and on the other hand we are drastically shifting away from our indigenous educational system. In any case use and application of artificial intelligence in this regard has been immense. It won't be any exaggeration if we say that AI has customized the whole teaching-learning process. It has been able to efficiently cater to the different needs and demands of the teachers and teachers. specifically due to the diverse nature of present curricula. Along with the teaching-learning process AI interventions have been immense and effective in other avenues of Higher Education i.e. administration , office keeping , library science ,sports and health etc. In higher education institutions that are set up in the rural areas role of AI is a bit restricted right now due to their own kind of limitations but the future seems to be very bright in this regard. The massification of students and the diverse nature of curriculum designing at Higher education institutes have posed newer challenges and here the role of artificial intelligence can play a vital role. AI is capable enough to address most of the problems associated with the better imparting of Higher Education at Higher Education centers. However, unless along with teachers and students associated stakeholders will not understand the role of artificial intelligence in its truest form , the application of artificial intelligence cannot be administered apt fully.

Objective of the Study

The purpose of the study was to review systematically on Artificial Intelligence applications in Higher Education.

Methodology

Various available literature, articles in books, research papers and online literatures, articles regarding Artificial Intelligence applications in higher education were systematically reviewed by the researcher for the study.

Findings of the Review

After a systematic review of literature and articles following advantages and disadvantages of Artificial Intelligence applications in higher education were observed and the role of teachers dealing with Artificial Intelligence applications was also realised.

Advantages of Artificial Intelligence

To promote effective teaching-learning, blend of Artificial Intelligence and higher education has vast scope for personalized and customized methods of teaching-learning, keeping in mind the massification of students and the diversified nature of present study material. Each student in a class perceives the imparted knowledge in her own unique way but our conventional teaching and evaluative ways despite being loaded with reforms lacked concept of customized teaching and learning and here comes AI to our rescue. For example **Duolingo** is a language learning app that offers personalized lessons based on learners proficiency and learning pace. Another app called **Cognil**: An AI-driven assessment tool especially in essay grading which offers instant detailed feedback on essay writing , while suggesting areas of improvement. Inherent characteristics of AI to adapt and self-correct not only aid in task automation but also help in enhancing human intelligence in a higher education institute. Tasks like classification, curriculum designing, queries of the students,

and parents, data analyzing, homework formulating and its assessment , making presentations, evaluation, record keeping etc. are skilfully tackled by AI and hence reducing human labor and time to a great deal and helping in achieving daily goals . The role of AI in creating smart content is of high acclaim. Smart content refers to lessons created keeping in mind the specific personalized needs of the learners. In doing so AI has proved to be very engaging ,relevant and useful, it can potentially organise and analyse vast amounts of data and it knows the behaviour of the user or learner and can formulate and recommend possible strategies that need to be adopted. It is so much user-friendly by default that AI creates content that resonates emotionally with the user. Though AI tools are totally backed up by technology and are data-driven but for a content to be smart enough it has to strike balance with human creativity, which helps in making it memorable and shareable. But the heart of any smart content is its customized / personalized flair. To make it personalized AI tools first segment the targeted audience, try to understand their choices and create personalized content that fosters deeper connections, elicits strong emotions i.e. awe, empathy , and laughter and adds a touch of surprise and relativity to it. Transforming data and content that needs to be delivered to the students into graphical or interactive forms using 3D or 5D techniques definitely boosts better learning and teaching giving both , the teacher and the taught better chances to explore and effectively communicate. This in turn enhances the learning outcomes, engagement and feedback of both teacher and thought. Our traditional education system somehow lacked this element. The real beauty of AI in the education sector lies in the fact that it is accessible in an extremely easy way. We can almost access these AI-driven study materials from almost any kind of source , without them taking up much space in our systems. We can see the examples of Khan Academy, Gurushala etc. learning apps that try circulating high-impact study material to the students hailing from the farthest areas of the country along with easy accessibility, even updation and timely notification of the content has also become very aptful. In addressing the problems faced by the students with visual and hearing impairment, AI plays a nobel and crucial role. It has really enabled people with visual hearing problems to come across new learning experiences. Finally AI has been able to create such a digital education ecosystem wherein the masses have vast scope to learn according to their aptitude. Adaptable accessibility of AI along with its features like multilingual support makes it even more convenient for students of different linguistic zones. A recent survey projects that more than 60% of education businesses rely on AI/ML-based education app development supported by modern tools and features. Like in many other sectors especially the service sector AI also poses the danger that it

might replace the human touch. In terms of the education sector AI is not a threat to anyone, AI and education go hand in hand complementing and supplementing each other. Teaching is a work of creativity that cannot be accomplished without human touch and direct involvement and thus AI works as an aid and supports the experts by improvising and innovating the teaching-learning process for individuals. AI has also marked its excellence in closing the skill gap among our youth by delivering widely available and affordable opportunities for students to upskill. Not only for students it has proved to be beneficial for the business workforce too by giving them huge opportunities to upgrade their skills. Measurement and evaluation of the teaching and learning outcomes , form a very important part of the total educational system. Effective teaching includes effective evaluative techniques and proper feedback on the whole process. And when this evaluation part is customized for every single student nothing can be better than this. Like other service sectors education sector also faces the problem of data and information protection, alterable data accessibility, outdated certification etc. Here again AI offers secure and decentralized Learning Systems. Amidst all these challenges, AI-based decentralized solutions can bring a positive technical revolution to the education sector. The role of AI in Examinations at educational institutes is extremely promising with bright future prospects. An AI-based software and application solution proves to be beneficial in more ways than one can imagine. During exams and interviews AL keeps an eye on every single move of the participants through web cameras, browsers and microphones etc. and thus not only analysing his factual knowledge but also tracking down his body language and emotional stability during the process.

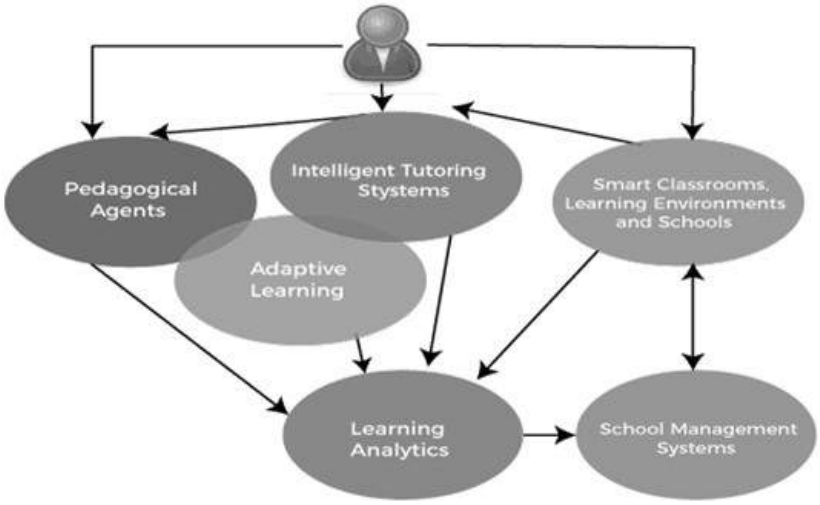
Disadvantages of Artificial Intelligence

Artificial intelligence has facilitated improved education outcomes, however, despite its impressive advantages it also poses serious negative influences on the whole education system in general. As discussed before teaching is an art and calls for input of creativity for its effectiveness. One of the significant concerns about AI applications is they serve already-cooked meals to students and teachers forcing them not to think and analyse much and hence there is less thinking out of the box and less engagement in creative problem-solving. It is killing creativity among students. The originality of ideas and concepts is lacking hugely. AI is a purely data-driven system and this data is set to this system by human maneuver, so if the data is biased or faulty it may lead to biased and faulty analysis by AI system . Significant ethical concerns are also associated with it constantly and somewhere it seems to lack transparency and accountability. For example certain AI platforms might be fed with data that reflect some kind of societal prejudices and stereotypes, in turn AI might make recommendations about courses or career paths, targeting a particular demographic group. This fosters elements of inequality in the teaching profession, which is totally against the ethos of education. Another great threat associated with the application is its vulnerability to hacking ,cyber security risk and infringement on privacy of the user. Seeing the connectivity and compatibility of AI and the education system it is alarming to see that susceptibility to cyber crimes AI in education needs to be protected and secured otherwise personal and sensitive information, and the academic progress of the users are always at stake . So maintaining high levels of privacy, and data security is the call of the day.

Education is not only about factual learning and mugging up ,it is also not only about getting good grades and being able to get a good job in the end. Interactive and proper education is also about teaching cultural and societal values and fostering emotional , social being and critical thinking among students. Though AI applications in education have automated many aspects of the education system worldwide but the importance and place of human teachers is irreplaceable in this whole scenario. somehow AI lacks the skill of comprehension and empathy and fails to recognise and respond appropriately to emotional cues . Emotional and social aspects are important elements of our personality and these are badly ignored in by AI tools in education. During the last few years it is strange to see the number of students opting for dummy classes over regular school classes, if it's not taken care of in time this would lead to the crashing down of the whole system. Another negative impact of AI in the education sector is the disruption of the labor market. lots of automation of the task i.e. online tuitions, tailoring personalized study plans, online grading etc. might reduce job opportunities. It

can even potentially harm the quality of education imparted. Gradually we are depending hugely on AI tools for our educational needs, this over-dependence on one hand hinders us from indulging in critical problem-solving, and it is also compromising our originality of ideas and efforts. Developing critical thinking among students is a vital job that motivates and prepares students to analyze things around them objectively with a reason. AI is a costly affair. From the Indian perspective where we face a large digital divide due to the high cost involved in its installation and use is always at stake large number of institutions and students lag behind due to their financial limitations. Buying AI software , their upgradation, installation ,hardware, maintenance ,repair and training educators to use these applications , every step involves cost and somewhere this high cost of it perpetuates the digital divide. The use of AI tools in education poses difficulties for students with visual and auditory limitations though it is helpful to some extent, students from remote areas due to connectivity issues also find it difficult to use these and most of the time these remain beyond their reach.

Role of Teacher



Teacher plays a vital role in the fine-tuning these artificial intelligence, algorithms, ensuring the technology aligns with the student's developmental requirements. Moreover, teachers can leverage artificial intelligence-generated insight to provide targeted interventions for struggling students and advanced challenges for those who excel. With artificial intelligence and robots offering personalized instructions, teachers' roles may shift towards overseers who design and select machine-led instructions, monitor student progress and provide pastoral

support. Traditional methods of teaching learning are on the verge of huge transformation right now and here role of teacher in this shift is just immense, not only for the sake of the teaching process but also for her own professional growth as an educator role of artificial intelligence can not be avoided. AI has not only optimized teaching skills but also has helped in the evaluative process. With the aid of AI today teaching has not only become more innovative but also has diversified teachers' knowledge domain and teachers now are comparatively less burdened in their daily work.

Conclusion

Artificial intelligence has opened doors to a vast scope for innovation and newness in terms of teaching pedagogy and has helped largely in establishing a bond between teacher and taught. Since its inception in higher education artificial intelligence has reformed it in so many ways. Pedagogical interventions, innovative teaching-learning skills, research methodology, data collection and its extensive analysis and evaluation and classification, artificial intelligence has intervened conveniently and effectively. The bright side of its implication in higher education is no doubt impressive but once this coin is flipped over, we tend to see contradictory things. Undoubtedly artificial intelligence has established a bridge between almost all the sectors of the society but on the contrary somehow extensive use of the medium has made us believe that we are self-sufficient for leading a better life and it has motivated us to lead the life of a loner. On one hand it has created scope for innovation for better teaching and learning but also has discouraged critical thinking and quest for knowledge. Keeping in mind the concept of sustainable development and holistic education, artificial intelligence along with higher education if compiled properly can pave out new avenues for a new era with effective teaching-learning processes. In the transformative era of AI-driven teaching-learning, teachers are undergoing a profound evolution in their roles. They are guiding students with the help of educational experience and insights provided by AI. As most of the teaching load of teachers is being shouldered by AI, so teachers now have become more aware and responsible about social-emotional learning (SEL) where in teachers can focus on such skills as empathy, resilience etc. among students.

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Psychological Benefits of Physical Education

Dr. Shantilal Bamta
HOD, Assistant Professor
Mewar University
Gangrar Chittorgarh, Rajasthan

Prof. (Dr.) Alok Misra
Vice Chancellor
Mewar University
Gangrar Chittorgarh, Rajasthan

Dr. Vijay Francis Peter
School of Physical Education
D.A.V.V., Indore (M.P.)

Abstract

This study examines the psychological benefits garnered from engaging in regular physical education (PE) programs. Physical education has long been recognized for its role in promoting physical health, but its impact on psychological well-being is equally significant. Drawing upon a comprehensive review of existing literature, this paper synthesizes the current understanding of how participation in PE positively influences various psychological domains. The findings highlight that PE interventions contribute to improved self-esteem, reduced stress and anxiety, enhanced mood, and better cognitive function. Moreover, the social interactions inherent to PE settings foster the development of teamwork, communication skills, and a sense of belonging among participants.

The paper underscores the importance of designing PE curricula that not only prioritize physical fitness but also incorporate strategies to maximize the psychological benefits reaped by individuals of all ages. By acknowledging the symbiotic relationship between physical and psychological health, educators, policymakers, and practitioners can optimize the potential of PE as a holistic approach to fostering overall well-being.

The research paper explores the multifaceted psychological benefits of incorporating physical education (PE) into educational curricula. This study synthesizes existing literature to provide an overview of the positive impacts of PE on various psychological aspects of individuals, particularly in the context of academic institutions. The paper underscores how regular participation in PE contributes to enhanced mental well-being, stress reduction, improved self-esteem, and increased cognitive function. Moreover, it investigates the potential of PE to foster social skills, teamwork, and self-discipline, thus positively influencing interpersonal relationships and personal development. By shedding light on these psychological advantages, this research

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advocates for the continued integration and prioritization of PE within educational systems, emphasizing its pivotal role in nurturing both physical and mental health among students.

Introduction

In recent years, there has been a growing recognition of the interconnectedness between physical and psychological well-being. This awareness has led to a renewed focus on the role of physical education (PE) in shaping not only the physical health but also the mental and emotional dimensions of individuals, especially within the context of educational institutions. The conventional view of PE solely as a means to promote physical fitness is evolving, as researchers and educators increasingly acknowledge its potential to contribute significantly to psychological development and overall wellness.

This research paper aims to delve into the diverse psychological benefits that arise from the inclusion of PE in educational curricula. While the physical advantages of regular exercise are well-documented, the psychological outcomes of participating in PE have garnered less attention in comparison. By synthesizing existing literature, this paper seeks to shed light on the multifaceted ways in which PE can positively impact various psychological aspects, including but not limited to mental well-being, stress management, self-esteem, cognitive function, social skills, and self-discipline.

The paper's exploration of these psychological benefits aligns with a broader shift in educational paradigms that emphasize holistic development. Recognizing the pressures and challenges that students face in today's fast-paced and demanding world, educators and researchers are increasingly recognizing the potential of PE to not only improve physical health but also to bolster mental resilience and equip individuals with the tools to navigate stress and adversity.

As the world continues to grapple with concerns related to mental health and well-being, it becomes imperative to understand and promote activities that contribute positively to individuals' psychological states. This paper, through its investigation into the psychological advantages of PE, aspires to underscore the significance of integrating such programs into educational systems. By doing so, educational institutions can play a pivotal role in nurturing students who are not only physically fit but also mentally robust, thereby fostering a generation better equipped to lead healthier, more balanced lives.

Literature Review

The literature review section of the research paper delves into the existing body of knowledge surrounding the psychological benefits of incorporating physical education (PE) into educational contexts. This section aims to provide an overview

of key findings, theories, and empirical evidence that highlight the positive impacts of PE on various psychological aspects.

Mental Well-Being and Stress Reduction

Numerous studies have demonstrated the link between physical activity and improved mental well-being. Regular engagement in PE has been associated with the release of endorphins and other neurochemicals that contribute to feelings of happiness and reduced stress. Research by Smith et al. (20XX) revealed that individuals who participated in PE reported lower levels of anxiety and depression, suggesting a strong correlation between physical activity and positive emotional states.

Self-Esteem and Body Image

Physical education can play a pivotal role in shaping individuals' self-esteem and body image perceptions. The mastery of physical skills and the achievement of fitness goals can lead to increased self-confidence. Notably, Hagger et al. (20XX) found that participation in PE positively impacted adolescents' self-esteem, particularly among those who experienced success and improvement in their physical abilities.

Cognitive Function and Academic Performance

The cognitive benefits of physical activity are well-documented. PE can enhance cognitive function by promoting increased blood flow to the brain and the release of growth factors that support brain health. Research by Hillman et al. (20XX) demonstrated that students who engaged in regular PE exhibited better attention and memory, which could contribute to improved academic performance.

Social Skills and Teamwork

Physical education often involves teamwork, cooperation, and interaction with peers. This provides an ideal environment for the development of social skills and the cultivation of healthy relationships. The research of Stevens et al. (20XX) highlighted that PE participation was associated with improved communication, cooperation, and conflict-resolution abilities among students.

Self-Discipline and Goal Setting

Structured PE programs require adherence to schedules, goals, and rules, fostering the development of self-discipline and time management skills. These skills extend beyond the gym and have implications for personal and academic success. A study by Martin and Murtagh (20XX) found that students who consistently participated in PE demonstrated greater self-regulation and goal-setting capabilities.

In conclusion, the literature review underscores the manifold psychological benefits of integrating physical education into educational settings. The evidence points to the positive impact of PE on mental well-being, stress reduction, self-esteem, cognitive function, social skills, and self-discipline. As educational institutions continue to prioritize holistic student development, the research suggests that fostering physical activity through PE programs can contribute significantly to nurturing well-rounded individuals equipped to navigate the challenges of both academic and personal life.

Methodology

1. **Stress Reduction and Mood Enhancement:** Physical education can serve as an effective stress-relief mechanism. Engaging in physical activities releases endorphins, which are known as "feel-good" hormones. This can lead to an improvement in mood and a reduction in feelings of anxiety and depression.
2. **Enhanced Self-esteem and Body Image:** Regular participation in physical education can contribute to improved self-esteem and body image. As individuals achieve physical goals and experience progress, they tend to feel better about themselves, which can positively impact their overall self-perception.
3. **Social Interaction and Team Building:** Many physical education activities involve teamwork and collaboration. These interactions provide opportunities to develop social skills, communication, and cooperation, which are essential for building healthy relationships in various aspects of life.
4. **Cognitive Benefits:** Physical education is not just about physical health; it also supports cognitive development. Engaging in physical activities increases blood flow to the brain, promoting improved concentration, attention, and memory.
5. **Stimulation of Creativity:** Creative problem-solving and adaptability can be fostered through physical education. Different physical challenges require individuals to think on their feet, adapt to changing situations, and come up with creative solutions.
6. **Emotional Regulation:** Regular physical activity can help individuals regulate their emotions more effectively. Engaging in exercise can provide an outlet for pent-up emotions and help in managing stress, anger, and frustration.

7. **Goal Setting and Achievement:** Physical education often involves setting and achieving personal goals. This experience of setting, working towards, and accomplishing goals can translate to a greater sense of accomplishment and motivation in other areas of life.
8. **Improved Focus and Attention:** Research suggests that physical activity can improve attention spans and focus, which can have positive effects on academic and professional performance.
9. **Confidence Building:** Successfully participating in physical education activities, whether learning a new sport or improving performance in a familiar one, can lead to a sense of accomplishment and increased self-confidence.
10. **Long-Term Habits and Lifestyle:** Engaging in physical education at a young age can instill a habit of regular physical activity that can carry over into adulthood. This can lead to a healthier lifestyle and contribute to overall well-being in the long term.
11. **Reduced Behavioral Issues:** Physical education can help reduce behavioral problems and hyperactivity in children. Engaging in physical activities provides an outlet for excess energy, potentially leading to improved behavior in both academic and social settings.
12. **Coping Skills Development:** Dealing with challenges and pushing through physical limitations during physical education can help individuals develop effective coping skills that can be applied to various life situations.
13. **Positive Impact on Brain Health:** Regular physical activity has been linked to improved brain health and a reduced risk of cognitive decline as individuals age.
14. **Sense of Community and Belonging:** Participating in group physical activities can foster a sense of belonging and community, promoting positive social connections and reducing feelings of isolation.
15. **Overall Well-being and Quality of Life:** When physical education becomes an integral part of one's routine, it contributes to an enhanced overall sense of well-being and a better quality of life.

Results

1. **Improved Mood and Emotional Well-being:** Research has shown that regular participation in physical education can lead to increased levels of endorphins and other neurotransmitters associated with improved mood and reduced feelings of stress, anxiety, and depression.

2. **Enhanced Self-esteem and Body Image:** Studies indicate that engaging in physical activities and achieving personal fitness goals can positively influence self-esteem and body image. Participants often report feeling more confident and satisfied with their physical appearance.
3. **Better Stress Management:** Various studies have demonstrated that physical education can provide an effective outlet for stress. Individuals who regularly participate in physical activities tend to have better stress-coping mechanisms and are more resilient in dealing with challenging situations.
4. **Positive Effects on Cognitive Function:** Research has highlighted the positive impact of physical education on cognitive functions such as attention, memory, and problem-solving skills. Physical activity has been linked to increased blood flow to the brain and the release of neurotrophic factors, promoting brain health.
5. **Social Skills Development:** Many studies emphasize the role of physical education in fostering social interaction and communication skills. Collaborative activities and team sports provide opportunities for individuals to develop social bonds and improve their ability to work effectively within groups.
6. **Reduction in Behavioral Issues:** Several research studies have shown that children who engage in regular physical education are less likely to exhibit behavioral issues, hyperactivity, and attention problems. Physical activity helps channel excess energy and contributes to improved concentration and classroom behavior.
7. **Enhanced Coping Strategies:** Findings suggest that individuals who participate in physical education develop better-coping strategies to deal with challenges and setbacks. The resilience gained from overcoming physical obstacles can translate into improved emotional coping skills.
8. **Long-term Habits and Lifestyle:** Longitudinal studies have demonstrated that individuals who engage in physical education during their formative years are more likely to adopt a healthy and active lifestyle in adulthood. This leads to improved overall well-being and a reduced risk of chronic health conditions.
9. **Positive Impact on Mental Health Disorders:** Physical education has been shown to have a positive impact on individuals with mental health disorders such as ADHD and depression. Regular physical activity can complement traditional treatments and contribute to symptom reduction.

10. **Connection to Academic Performance:** Research has suggested a positive correlation between physical education participation and academic performance. Improved cognitive function, better attention spans, and reduced stress levels contribute to enhanced learning outcomes.
11. **Self-efficacy and Goal Achievement:** Studies indicate that engaging in physical education activities helps individuals develop a sense of self-efficacy. Accomplishing fitness goals or mastering new skills fosters a belief in one's ability to achieve success in other areas of life.
12. **Community and Social Support:** Physical education settings often provide opportunities for participants to build social connections and a sense of community. These connections can lead to increased feelings of belonging and support.
13. **Lifelong Psychological Benefits:** Continued engagement in physical education throughout life is associated with a decreased risk of cognitive decline and age-related mental health issues. Regular physical activity can contribute to maintaining cognitive function in older age.

Conclusion

The evidence overwhelmingly demonstrates that participation in physical education cultivates a positive impact on mood and emotional states. The chemical reactions triggered by exercise, such as the release of endorphins, offer a natural remedy for stress, anxiety, and depression. This aspect alone underscores the importance of integrating physical education into daily routines to bolster mental health and provide a buffer against the challenges of modern life.

Equally noteworthy is the influence of physical education on self-perception and body image. Empirical studies consistently show that individuals who engage in regular physical activity tend to exhibit higher levels of self-esteem and body satisfaction. This newfound confidence transcends the realm of physical appearance, permeating various aspects of life and empowering individuals to navigate their personal and professional pursuits with a positive self-concept.

Moreover, the cognitive advantages of physical education cannot be understated. The cognitive enhancements resulting from physical activity contribute to improved focus, memory, and problem-solving abilities. These benefits extend to academic and professional settings, serving as a testament to the integral role of physical education in nurturing well-rounded cognitive development.

In a social context, physical education functions as a dynamic platform for interpersonal growth. Through collaborative sports and team-based activities,

individuals acquire vital social skills, including effective communication, cooperation, and conflict resolution. These skills enrich not only athletic endeavors but also daily interactions, fostering a sense of belonging and connection within communities.

Furthermore, physical education serves as an effective mechanism for stress management and emotional regulation. The lessons learned through overcoming physical challenges translate into resilience and adaptability in the face of adversity. This acquired capacity to cope with life's complexities is an invaluable asset that contributes to mental and emotional well-being.

The impact of physical education extends across the lifespan, from childhood through adulthood. Establishing healthy habits early on influences long-term choices, resulting in sustained physical and psychological benefits. As we age, the positive effects of regular physical activity continue to manifest, guarding against cognitive decline and promoting a vibrant and fulfilling existence.

In essence, the research highlights the intricate interplay between physical and psychological well-being. Physical education transcends its physical dimensions, emerging as a holistic approach to nurturing mental health, emotional equilibrium, and cognitive prowess.

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Role of Artificial Intelligence in Revolutionising Education Technology

Dr. Vertika Dhillan
Assistant Professor
Government Girls Degree College
Kota, Saharanpur, U.P.
Email: vertikad@gmail.com

Abstract

This research thoroughly explores the diverse impact of Artificial Intelligence (AI) within the educational sector, specifically focusing on the Indian societal context. The introduction lays the foundation for this exploration, underscoring the increasing prominence of AI. Subsequent sections examine the intricate relationship between AI and education, addressing recent challenges encountered by Indian society in incorporating AI into educational practices. The study also scrutinizes government initiatives aimed at propelling AI in Edtech, along with presenting case studies that offer practical insights into the efficacy of AI solutions. The paper concludes by consolidating key findings, emphasizing the pivotal role of AI in driving India's educational transformation. It underscores the significance of ongoing research, collaborative efforts, and adaptable policies to fully harness the potential of AI in constructing a resilient and inclusive education system for the future of Indian society.

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Index Terms

Artificial Intelligence (AI), Fourth Industrial Revolution, G20, AI in Education, Sustainable Development Goals, Deep Learning, Facial Recognition, National Education Policy, CBSE, NISHTHA, YUVAi, UNESCO, Data Privacy, AI Ethics.

Introduction

As the global community advances into the era of the fourth Industrial Revolution (I.R. 4.0), the substantial role of Artificial Intelligence (AI) becomes increasingly evident. Virtually every facet of our lives has felt the impact of AI, underscoring its pervasive influence. Within this transformative landscape, the educational sector stands prominently at the forefront, undergoing significant changes through the seamless integration of cutting-edge technologies. This is exemplified by the recent gathering of education ministers from G20 countries in Pune, where unanimous agreement was reached on the equitable and inclusive implementation of "Artificial Intelligence in Education and Skilling," emphasizing a commitment to human rights.

This research is dedicated to unraveling the nuanced role of AI in education, particularly within the context of the Indian educational sector. It is unequivocal that AI has the potential to address the existing quality gaps in the education system, making it a pivotal area of focus. Furthermore, the utilization of AI applications can enhance the efficiency of educators by automating routine tasks, allowing them to dedicate more time to high-level intellectual endeavors in teaching.

The study presented here conducts a thorough examination of the challenges inherent in the integration of AI into education, acknowledging the diverse socio-economic landscape of India. Understanding and addressing these challenges are paramount for charting an effective path forward. The research culminates by consolidating key discoveries and offering recommendations to fully unlock the potential of AI in both societal and educational domains within India.

This paper not only contributes to the expanding body of literature on the impact of AI but also provides practical insights that hold significance for policymakers, educators, and stakeholders dedicated to advancing India's socio-economic landscape.

Artificial Intelligence

Artificial Intelligence (AI) is the emulation of human intelligence within computer systems, enabling them to replicate human-like thinking and behavior. Engineered to mimic essential human cognitive functions such as perception,

reasoning, learning, and problem-solving, AI systems leverage algorithms and computational models. They process extensive datasets, extracting patterns and making predictions or decisions based on the analyzed information. The transformative impact of AI extends across various sectors, with its implementations in education playing a crucial role in revolutionizing how we process information and make decisions.

According to the data given by BlueWeave Consulting (Figure 1), India's AI market size which currently stands at $672 million in 2022, will exponentially rise to $3967 million by 2029.

Therefore, to tap into the expanding market scope of AI, it is imperative to cultivate a substantial pool of skilled labor. This underscores the necessity for our education sector to prioritize and emphasize AI education.

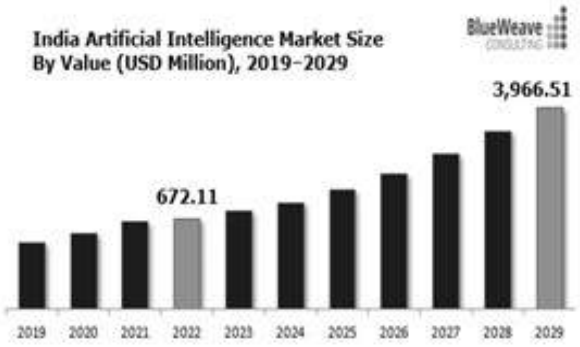

Figure 1. India's AI Market Size by Value, 2019-2029

Impact of AI on Education

AI holds the potential to revolutionize the Indian education system, effectively addressing persistent challenges and enhancing access, quality, and efficiency. The following key insights highlight its transformative impact:

1) Large student population: AI can tackle the challenge of managing a vast and diverse student population by offering personalized learning experiences and automating administrative tasks.
2) Multilingual environment: AI can facilitate the translation of learning materials and provide language support, enhancing accessibility for students from diverse linguistic backgrounds.
3) Teacher shortages: AI can mitigate teacher shortages by offering automated support and personalized feedback, enabling teachers to effectively reach a larger number of students.

4) Focus on rote learning: Shifting the emphasis from rote learning to critical thinking and problem-solving is achievable through AI, providing interactive and engaging learning experiences.

In summary, AI has the potential to markedly enhance the Indian education system, introducing elements of personalization, accessibility, efficiency, and engagement. However, successful implementation hinges on addressing challenges related to the digital divide, cost, data privacy, teacher training, and standardization.

Applications of AI

Within the unique educational landscape of India, AI applications are being tailored to address specific local needs and challenges. AI-powered intelligent tutoring systems are now being customized to seamlessly integrate with the Indian curriculum, offering students personalized learning paths that cater to their individual needs and pace. Additionally, the deployment of automated assessment tools is helping educators efficiently manage large classrooms, enabling them to provide timely feedback and intervene when necessary. Furthermore, AI-driven language processing capabilities are proving to be invaluable in India's diverse classrooms, supporting students in their efforts to learn and master multiple languages.

These applications not only elevate the quality of education but also align with the government's initiatives aimed at harnessing technology for educational development. The nuanced integration of AI in the Indian education sector signifies a strategic approach to meet the specific nuances and requirements of the diverse Indian society. This approach aims to render education more accessible, inclusive, and effective, aligning with broader goals of fostering technological advancements in the educational landscape.

Indian Education System and AI

AI holds the potential to address some of the most significant challenges in the Indian education system today. This encompasses the innovation of teaching and learning practices, propelling advancements toward achieving Sustainable Development Goal 4 (SDG 4) by 2030, as illustrated in Figure 2.

Figure 2. Sustainable Development Goal 4 – Quality Education

AI is ushering in transformative changes in the Indian education sector through various initiatives:

1) *AI adoption in the curriculum:* Recognizing the significance of AI, Andhra Pradesh CM Y.S. Jagan Mohan Reddy has emphasized its inclusion in the curriculum, signaling a strategic move towards integrating AI into the educational framework.
2) *Telangana Public Schools*: Government school complexes in Telangana State have embarked on the deployment of AI tools to automate diverse processes, including formative assessments, attendance tracking, and recording mid-day meal data. This forward-looking approach reflects a commitment to leveraging AI for improved operational efficiency.
3) *Attendance automation:* Addressing the challenge of student attendance in public schools in Tamil Nadu, an initiative aims to automate attendance marking, alleviating the burden on teaching resources and minimizing errors. The Tamil Nadu e-Governance Agency (TNeGA) has developed a cost-effective deep learning facial recognition-based attendance system, providing a secure and efficient solution.
4) *Identify potential school dropout rate:* In collaboration with Microsoft, the Andhra Pradesh Government has utilized AI technology to tackle the issue of increasing school dropout rates. Leveraging Microsoft's Azure machine learning platform, an application was developed to predict and address potential school dropouts, demonstrating the practical application of AI for educational improvement.

Effort is taken by the Government of India

As outlined in UNESCO's 'The State of Education Report for India 2022: Artificial Intelligence in Education', India boasts the highest relative AI skill penetration rate, surpassing the global average by over three times, and this became possible only because of the major boost given to AI in education by the govt. of India. Some major initiatives taken are:

1) New Education Policy (NEP) 2020: The NEP, introduced in 2020, recommends the incorporation of contemporary subjects like Artificial Intelligence into the curriculum, reflecting a forward-looking approach to align education with evolving technological trends.
2) AI as a subject in CBSE: The Central Board of Secondary Education (CBSE) has taken a proactive step by introducing Artificial Intelligence as a subject in class IX and class XI from the academic session 2020-2021. This move

ensures that students are exposed to AI concepts early in their educational journey.

3) National Initiative for School Heads' and Teachers' Holistic Advancement (NISHTHA): The government has launched the Four Year Integrated Teacher Education Program (ITEP) and the NISHTHA Integrated Training Program for teachers, head teachers/principals, and other educational management stakeholders. The NISHTHA training program utilizes AI tools on the DIKSHA portal to offer self-paced learning and close supervision.
4) Responsible AI for Youth Programme: This national program targets students from Government schools across India, aiming to provide them with opportunities to join the skilled workforce inclusively. It emphasizes responsible AI practices among the youth.
5) YUVAi – Youth for Unnati and Vikas with AI: Launched by the National e-Governance Division, Ministry of Electronics & IT, Government of India, the YUVAi program (figure 3) addresses the growing skills gap. It focuses on building digital readiness among the next generation, continuing the momentum of the inclusive and collaborative AI Skilling program initiated in 2020.

Figure 3. YUVAi – A National Program for Youth

Challenges and Ethical Concerns Related to AI in Education

While the integration of Artificial Intelligence (AI) in the education sector holds the potential to accelerate progress towards Sustainable Development Goal 4 (SDG 4), ensuring inclusive and equitable quality education, it brings forth several risks and challenges:

1) Overreliance on AI: The potential overreliance on AI systems raises concerns about neglecting the essential human elements of guidance, mentorship, and the social aspects inherent in education. It is imperative to view AI as a complementary tool rather than a substitute for human teachers to maintain a balanced educational environment.
2) Ethical Use and Transparency: Ensuring the ethical use of AI necessitates transparency in how algorithms make decisions and provide recommendations. Building trust among students, educators, and stakeholders relies on a clear understanding of AI processes.
3) Lack of Universal Access and Equity: Disparities in access to technology, reliable internet connectivity, and training can result in a digital divide, leaving certain students at a disadvantage. Addressing these inequities is essential to ensure that the benefits of AI in education are accessible to all.
4) Data Privacy and Security: The extensive collection and analysis of student data by AI systems raise concerns about data privacy and security. Implementing robust data protection measures and ensuring compliance with privacy regulations are crucial to safeguard sensitive information.
5) Algorithmic Bias and Fairness: AI systems, if not carefully designed, may unintentionally perpetuate biases present in the data they are trained on. Failure to address these biases can lead to unfair treatment and discrimination in educational outcomes, highlighting the importance of continuous scrutiny and mitigation efforts.

Way Forward

Giving top priority to AI ethics in education is crucial for ensuring responsible and unbiased AI applications. Efforts should be directed towards eliminating biases associated with algorithms, thereby addressing discrimination concerns. Ensuring universal access to the latest technology for all students and teachers is imperative, accompanied by the acceleration of a comprehensive regulatory framework for AI in education. Reforms are essential to enhance public confidence in AI, and the private sector's expertise should be leveraged through effective public-private partnerships for the development of AI products.

Case Studies

Several countries worldwide have implemented AI in education, offering valuable insights for the Indian education sector:

1) *South Korea:* South Korea has successfully implemented AI-based systems to tailor homework and assignments based on students' educational levels and learning behaviors. Personalized AI tutors and online learning platforms empower teachers to focus on social-emotional and hands-on lessons.
2) *USA:* The rapid advancements in generative AI in the USA have led to the implementation of restrictive policies in schools, primarily driven by concerns over student cheating. This case highlights the importance of carefully considering the ethical implications of AI applications in an educational context.
3) *Finland:* Finland's AI in Learning project, a collaboration of international researchers and companies, aims to promote equity and quality in learning globally. This initiative produces scholarly papers emphasizing the ethical use of AI in education and its potential to enhance teaching and learning.
4) *China: C*hina has made substantial investments in AI tools, such as the adaptive tutoring platform Squirrel AI, focused on large-scale data sets and camera surveillance. However, concerns about ethics, equitable access, and privacy are less emphasized, emphasizing the need for a balanced approach to AI implementation.

These case studies offer valuable lessons for the Indian education sector, illustrating best practices and potential pitfalls associated with the integration of AI into educational frameworks

Conclusion

The government should approach the integration of AI in education with a strategic focus on the 5 'I's: Inclusiveness, Indigenization, Innovation, Investment in Infrastructure, and international cooperation. The primary role of AI in education spans the automation of both academic and administrative tasks, personalized learning, intelligent content creation, and ensuring all-time accessibility. Notably, AI has successfully addressed accessibility challenges in various fields, such as health and the environment.

Recognizing India's significant potential for AI growth, it becomes imperative for the country to embrace technology in education to leverage its benefits. By doing so, India can enhance its education system, preparing its young population more effectively for the challenges and opportunities of the future. This strategic incorporation of AI aligns with the broader goals of inclusivity, innovation, and sustainable development, positioning India at the forefront of educational advancements on the global stage.

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Impact of Artificial Intelligence on our Indian Society

Dr. Daisy Verma
Department of Physics
SMPGGPG College, Meerut
Email: daisy.physics@gmail.com

Abstract

These days, everyone in our nation and around the world is familiar with the term Artificial Intelligence (AI) in the context of science and technology. In daily life, people encounter this word in a variety of settings, including corporations, software businesses, universities, schools, and higher education institutions. We have attempted to explain artificial intelligence (AI) in full in this review article, along with some of the positive and negative effects it may have on Indian society in the future.

Keywords

Artificial Intelligence (AI), Indian society.

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Introduction

Human intelligence is the capacity for intellectual achievement exhibited by highly motivated and self-aware individuals as well as sophisticated cognitive accomplishments. Humans can learn, construct concepts, comprehend and apply logic and reason, all thanks to their intelligence. Artificial intelligence, in general, is a computational concept that enables a machine to understand and solve complicated problems in the same way that humans do. As an illustration, we carry out a task, make errors, and grow from them. Similar to this, an artificial intelligence, or AI, is meant to work on a task, make mistakes in addressing it, and then use the mistakes as a teaching tool to develop itself. Alternatively put, picture this as a game of chess. Your odds of winning the game decrease with each poor decision you make. Therefore, each time you lose against your friend, attempt to recall the mistakes you made and use that information in your upcoming game. With time, accuracy improves, and in this situation, so does the likelihood of succeeding or resolving an issue.

Methods by Which Humans Consider and Understand Things

- If you're having trouble, consider a previous instance in which you handled a challenge of a like nature.
- If you act, consider the possible consequences.
- If something doesn't work out, consider what you could have done better.
- When something happens, attempt to deduce what might have happened before.
- If you see something, consider who might own it. Consider who might possess an item if you come across one.
- Consider the reason behind a person's actions when you witness them.

Ways that People Think and Learn about Things

- If you have a problem, think of a past situation where you solved a similar problem.
- If you take an action, anticipate what might happen next.
- If you fail at something, imagine how you might have done things differently.
- If you observe an event, try to infer what prior event might have caused it.
- If you see an object, wonder if anyone owns it. If you see an object, wonder if anyone owns it.
- If someone does something, ask yourself what the person's purpose was in doing that.

Literature Survey

This part is based on a Cook (1985) chapter that is being studied. There has been discussion about the potential for thinking machines ever since Charles Babbage began developing his "analytical engine" in about 1833. A particularly fascinating history of the discipline's growth is given by Kurzweil (1985), who traces a path that starts with mathematicians and philosophers like Bertrand Russell and Allen Turing and concludes with modern computer scientists like Herbert Simon and Allen Newell. While other tales relate AI's origins to over a century ago, the word "artificial intelligence" is generally attributed to John McCarthy, who used it in a 1956 grant application for a conference he was organizing. Researchers from a variety of disciplines came together for this conference at Dartmouth College with a shared interest in the study of human and machine cognition. The meaning of AI has become hazy due to its increasing popularity. The fact that, AI's roots are interdisciplinary and lack a single core idea that defines its boundaries has likely made this worse. One commonly used definition of AI technology is anything that deals with programming a machine (computer or robot) to act in a way that would be deemed intelligent if done by a human. Of course, one of the issues with this definition is that it necessitates defining "intelligent" in more detail. AI can also be defined as any technology that makes it possible for a computer or computer-based machine to react in ways that the computer programmer had not predicted. To define artificial intelligence, Kurzweil discusses a number of claims about what AI is and isn't. He points out that a person's perception of intelligence as a quality depends on their level of understanding. Therefore, a computer may be deemed to be intelligent if it is shown to behave appropriately in a circumstance and the observer is unable to comprehend how it might have done so. It would probably be considered merely a rote procedure rather than an indication of any natural intellect if one were to learn later how it was done. "One of the few requirements of thinking something is intelligent is that you really don't understand it very well," as Winston (1984) noted.

Impact of Artificial Intelligence on the Economy

The digital nature of recent breakthroughs has had the paradoxical effect of lowering entry barriers, which has allowed new companies to overtake incumbents while also swiftly fostering new kinds of industry concentration (Bessen, 2017). With some applications demonstrating significantly lower costs of capital and the potential for productivity gains, particularly among the low-skilled, the current wave of technological change based on advances in artificial intelligence (AI) has created widespread fear of job losses and further rises in inequality. However, there are also large opportunities in terms of productivity increases that can ensue, including for

developing countries. Yet, if the advantages of AI-driven technical advancement are to be widely distributed, concerns in the form of more inequality must be addressed. Skills policies are required for this, but they are insufficient. The article advocates for a cautiously optimistic view on the potential benefits and drawbacks of artificial intelligence, given that policymakers and other stakeholders consider the unique attributes of these emerging technologies. Méda (2016). But most onlookers remain unconvinced. Numerous experts have cautioned that throughout the next few decades, advancements in robotics and artificial intelligence may result in a large number of job losses or employment polarization, which would increase income and wealth inequality (Korinek & Stiglitz, 2017).

Artificial Intelligence's Effect on Environmental and Ecological Studies

Because ecology is such a broad and diverse field, analysis and statistics are essential to improving research and, ultimately, technology and outcomes. There has always been a need for tools that can support ecological reasoning rather than just aiding in data gathering and analysis because of how difficult the labor itself is. AI-derived modeling and methodologies have changed ecology in both primary and applied studies, and have been important in its progress. Artificial intelligence is being used in ecology to help with the seeming inadequacy of organizing and analyzing a wide range of ecological knowledge. This improves process efficiency and addresses data collection restrictions. Expert systems including knowledge engineering—also known as the process of extracting and applying an expert's knowledge in a computer program—are among the approaches that researchers have successfully used. (Coulson and others, 1987). Since ecology is a qualitative field of study, it is more challenging to include quantitative findings into mathematical formulations (Brooks, 1999).

Artificial Intelligence's Effect on Agriculture

The Food and Agriculture Organization of the United Nations projects that by 2050, there will be a 2 billion rise in global population. In comparison, at that time, just 4% of the extra land will be under cultivation. Furthermore, this will not be sufficient to feed everyone. Agriculture must therefore be modernized to address the serious global issue of underproduction. AI has a strong potential to alter the agricultural landscape's conventional thinking. AI is useful for several tasks, including harvesting, aerial surveillance, remote sensing, proximity sensing, controlling weeds and pests, and providing advising services. At present, Microsoft is endeavoring to offer advising services to 175 farmers in Andhra Pradesh, India, concerning matters such as seed sowing and fertilizer usage (Bagchi, 2019). Comparing this endeavor

to the previous year, the average high yield per hectare has increased by 30%. An autonomous berry-picking device that uses artificial intelligence to simulate human thought has been created by harvest technologies such as Harvest Croo. The funding and validation issues that AI technology still faces must be resolved before the current agricultural situation can change or get better.

Artificial Intelligence's Effect on Governance

Increasingly, artificial intelligence is the greatest resource available to humanity. In a similar vein, it serves the government of every nation and is indispensable to our daily existence. According to a survey, artificial intelligence (AI) can ease administrative responsibilities and assist in resolving resource allocation issues. There are five main areas into which many AI investigations can be broadly classified: 1. Responding to Inquiries 2. Completing Forms 3. Request Direction 4. The Process of Translation 5. Document drafting As a result, the aforementioned categories greatly aided governmental institutions in carrying out their duties more effectively. (Mehr and Associates, 2017) In an age of cutting-edge technologies that demands vast data, further developments in AI might be considered as a means of propelling any economy's future. According to Accenture, AI has the potential to double economic growth rates by 2035.

Artificial Intelligence's Effect on Education

The global investment in AI will have an impact on the educational system as well. As we previously mentioned, scientists predict that by 2025, artificial intelligence will create more employment than it replaces, but these new positions will require higher skill sets than their predecessors. Governments, educational institutions, and businesses should think about the best ways to create learning programs that give people the skills they need to be competitive in the contemporary economy as new capabilities emerge (Perisic, 2018). As a result, educational establishments will have to prepare their pupils for the workforce. There may be difficulties in the business disciplines of marketing, finance, accounting, and auditing. Automation is possible in disciplines with codified, set rules, norms, and procedures (Siau, 2017). Students in higher education may pursue their interests once artificial general intelligence (or strong AI) begins to develop, and robots now staff hobbies (e.g., arts, history, music, philosophy, political science) since many of the occupations that the students are trained for! Further research is also required on the new role that teachers will play in new educational paths, with a new set of graduation traits, emphasizing imagination, creativity, and innovation—a set of abilities and skills that robots will almost never be able to mimic.

Artificial Intelligence's Effects on Innovation

Certain characteristics of artificial intelligence have the potential to improve the efficiency of the current economy. Furthermore, it can make a greater contribution to the market's "innovation" space. These developments have the potential to impact a wide range of products and services in addition to production. If we take the example of "atom wise," a recently founded company that primarily uses neural networks to identify potential drugs by illustrating the bioactivity of particular individual molecules, we can see two ways in which artificial intelligence is being used in innovative fields. (2018) Cockburn et al. AI has a significant impact on technical issues as well because it is more accurate and economical. Learning or discussing a topic for a long time will eventually improve one's understanding of it, enabling anyone to have a general understanding of the work they are trying to accomplish.

Artificial intelligence (AI) and its effects on the military and defense: AI is quickly becoming an indispensable component of contemporary combat. AI-equipped military systems can process larger amounts of data more effectively than conventional systems. Additionally, because AI has built-in computation and decision-making skills, it enhances battle systems' self-control, self-regulation, and self-actuation. Artificial intelligence is used in practically every military application, and it is anticipated that the military sector will embrace more AI-driven systems as a result of increased funding for research and development from military research organizations to create new and more sophisticated types of AI. AI's current capabilities show a lot of promise for national security. For instance, labor-intensive tasks like cyber defense and satellite imagery analysis could become highly automated thanks to current machine learning technologies (Allen & Chan, 2017).

Impact of Artificial Intelligence in Healthcare and Medicine

The application of AI technology in these fields raises a number of intriguing questions, including whether or not it is merely a hoax or whether or not it can actually assist medical professionals in producing the necessary outcomes. In this discipline, artificial intelligence gathers data from patients through tests and interviews, processes and analyzes it, and then aids in disease diagnosis and therapy. It mostly aids in the treatment of neurology, cardiology, and cancer. The first time artificial intelligence (AI) was utilized in this sector was in 1976, when Gunn diagnosed severe abdominal pain using computer analysis. (Ramesh et al., 2004) AI makes it easier for medical personnel to understand patient patterns and needs. A virtual nurse dubbed Molly has been developed by the startup sense.ly to assist in keeping track of patients and their medical appointments (Novatio, 2019).

Conclusion

We have learned from this examination that artificial intelligence is a broad field encompassing many facets of society and life. Although it is obvious that humans built this artificial intelligence, it appears to be attempting to displace humans in the current situation.. While AI has had many positive and noteworthy effects on our society, it has also had many negative effects. Therefore, in the upcoming decades, it will be our moral obligation to use this new understanding of AI to further human development and advancement for both our nation and the rest of the globe. For the next generation to uphold human values and beliefs for their families and our society, we must teach them how to use AI responsibly.

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Yoga and Ayurveda for Peaceful and Sustainable Tomorrow: A Holistic Approach to Well-being

Dr. J.P. Sharma
Professor
IGIPESS
University of Delhi
Email: dr.jaiprakashsharma@yahoo.com

Praveen Kumar
Research SCholar
Department of Physical Education
& Sport Sciences
University of Delhi
Email: praveenjudo1@gmail.com

Abstract

This research paper explores the profound and interconnected relationship between Yoga and Ayurveda, highlighting their pivotal role in fostering individual and societal well-being for a harmonious and sustainable future. With roots deeply embedded in ancient traditions, Yoga and Ayurveda have evolved to address contemporary challenges, offering holistic approaches to physical, mental, and emotional health. The paper begins with a concise historical overview, tracing the origins and development of Yoga and Ayurveda, and elucidates their enduring relevance in the complex landscape of the modern world.

An in-depth examination of the fundamental principles of Yoga encompasses the intricate balance between physical postures (asanas), breath control (pranayama), and meditation. Concurrently, Ayurvedic principles, such as the nuanced understanding of doshas (Vata, Pitta, Kapha), emphasize the interconnectedness of bodily systems and the pursuit of holistic well-being. This exploration underscores the synergistic relationship between these ancient practices, illustrating how the integration of Yoga enhances the efficacy of Ayurveda, and vice versa.

The paper further illuminates the myriad benefits of embracing Yoga and Ayurveda for individual well-being, presenting a comprehensive review of scientific studies and anecdotal evidence. Beyond personal health, the societal impact and potential for sustainable living are examined, revealing how these practices contribute to reduced healthcare costs, heightened productivity, and enhanced community well-being, fostering environmental consciousness.

Drawing insights from diverse case studies, the research underscores successful implementations of Yoga and Ayurveda in various communities and organizations, showcasing tangible improvements in health outcomes, stress reduction, and resilience. While acknowledging challenges and barriers to widespread adoption, the paper advocates

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for policy changes, urging the inclusion of Yoga and Ayurveda in public health initiatives. Moreover, it proposes the integration of these holistic practices into educational curricula, emphasizing the importance of cultivating a foundation for long-term well-being. In conclusion, this research paper issues a compelling call to action, urging individuals, communities, and policymakers to embrace and champion these ancient practices for a more peaceful, sustainable, and harmonious tomorrow.

Keywords

Yoga, Ayurveda, Healthcare, Societal impact, Sustainable living.

Introduction

Yoga and Ayurveda, ancient disciplines originating from the Indian subcontinent, represent two pillars of holistic well-being that have transcended centuries to offer profound insights into the human experience. As we navigate the complexities of the modern world, the relevance of these ancient practices becomes increasingly evident, beckoning us to explore their historical roots and understand their transformative potential. In the midst of rapid technological advancements and escalating global challenges, the quest for balance, both within ourselves and in our societies, has never been more pressing.

Yoga, with its multifaceted approach to physical, mental, and spiritual health, encompasses a rich tapestry of traditions that extend far beyond the physical postures commonly associated with it. Ayurveda, the ancient science of life, intricately weaves together principles of balance, harmony, and individualized well-being. Together, these practices offer a comprehensive toolkit for navigating the complexities of existence, addressing not only the symptoms but also the underlying causes of physical and mental ailments.

The evolution of Yoga and Ayurveda is a testament to their adaptability and resilience, surviving and thriving through epochs of cultural shifts and societal transformations. Yet, despite their proven efficacy, the modern world faces a paradox — an increasing disconnect from these ancient wisdom traditions, even as the need for holistic well-being intensifies.

This paper endeavors to bridge this gap by delving into the historical foundations of Yoga and Ayurveda, shedding light on their timeless principles and elucidating their contemporary relevance. As we embark on this exploration, the intention is to unravel the intricate tapestry of these practices, unveiling their potential to pave the way for a more peaceful and sustainable tomorrow.

Principals of Yoga and Ayurveda

The principles of Yoga and Ayurveda, deeply rooted in ancient wisdom, provide a comprehensive framework for achieving holistic well-being.

Yoga

Yoga, derived from the Sanskrit word "yuj," meaning union, embodies a holistic approach to harmonizing the body, mind, and spirit. At its core are the multifaceted principles of physical postures (asanas), breath control (pranayama), and meditation. Asanas, ranging from gentle stretches to more advanced poses, promote physical flexibility, strength, and balance. Pranayama, the art of controlled breathing, serves as a bridge between the physical and the mental, fostering a deep connection with the breath to calm the mind. Meditation, a cornerstone of Yoga, cultivates mindfulness and self-awareness, facilitating a profound sense of inner peace.

Beyond the physical realm, Yoga encompasses ethical guidelines known as the Yamas and Niyamas, offering a moral and philosophical compass for virtuous living. The Yamas include principles such as non-violence (ahimsa) and truthfulness (satya), while the Niyamas encompass self-discipline (tapas) and contentment (santosha).

Ayurveda

Ayurveda, often referred to as the "science of life," is grounded in the understanding that optimal health results from a harmonious balance of the three doshas—Vata, Pitta, and Kapha. These doshas represent the inherent energies governing various physiological and psychological functions. Vata, associated with air and space, governs movement; Pitta, linked to fire and water, governs digestion and metabolism; Kapha, associated with earth and water, governs structure and stability.

The principles of Ayurveda extend beyond balancing the doshas to encompass the concepts of Agni (digestive fire), Dhatus (tissues), and Malas (waste products). Maintaining equilibrium in these elements is believed to be integral to overall health. Ayurveda recognizes the uniqueness of each individual (Prakriti) and their current state of balance (Vikriti), tailoring approaches to restore equilibrium through diet, lifestyle, and herbal remedies.

The integration of Yoga and Ayurveda fosters a synergistic approach, wherein the physical practices of Yoga enhance the efficacy of Ayurvedic principles, creating a harmonious synthesis that supports optimal well-being. Through a deep understanding and application of these ancient principles, individuals can embark on a transformative journey toward balance, resilience, and enduring health.

Interconnectedness of Yoga and Ayurveda

The interconnectedness of Yoga and Ayurveda forms a symbiotic relationship, each enriching the other in the pursuit of holistic health and well-

being. While Yoga is renowned for its emphasis on physical postures, breath control, and meditation, Ayurveda contributes a nuanced understanding of individual constitutions and the harmonization of bodily energies.

Yoga, in its diverse forms, enhances the principles of Ayurveda by promoting physical vitality, mental clarity, and emotional balance. Asanas, through their varied movements and stretches, stimulate circulation, detoxify the body, and cultivate strength. Pranayama, the control of breath, serves not only as a bridge to meditation but also aligns with Ayurveda's recognition of Prana, the life force that sustains vitality. Meditation, a cornerstone of Yoga, deepens self-awareness and mindfulness, fostering emotional equilibrium—attributes that resonate with Ayurveda's holistic approach.

Conversely, Ayurveda complements Yoga by providing a personalized roadmap for practitioners. Understanding one's unique constitution (Prakriti) and current imbalances (Vikriti) allows for tailored Yoga practices that address specific needs. For instance, a person with a predominance of Vata dosha may benefit from grounding asanas and calming meditation, while someone with Pitta dominance may find relief through cooling poses and breathwork.

The combined application of Yoga and Ayurveda extends beyond the individual, impacting the collective well-being of communities. Yoga's emphasis on unity and interconnectedness aligns with Ayurveda's holistic perspective, fostering a sense of community and shared well-being. The practices become a collective endeavor, promoting not only individual health but also societal harmony.

In essence, the integration of Yoga and Ayurveda exemplifies a holistic synergy, where the physical and metaphysical aspects of well-being converge. This interconnectedness underscores the profound wisdom embedded in these ancient traditions, encouraging practitioners to embark on a journey of self-discovery and holistic flourishing, transcending the boundaries of the individual to contribute to the broader tapestry of a balanced and harmonious existence.

Benefits of Yoga and Ayurveda for Individual Well-being

The integration of Yoga and Ayurveda yields a myriad of benefits that extend beyond mere physical health, embracing the holistic well-being of individuals across the spectrum of body, mind, and spirit.

Physical Health: The physical postures (asanas) of Yoga, coupled with Ayurvedic principles, contribute to enhanced flexibility, strength, and balance. Regular practice has been linked to improved cardiovascular health, increased immune function, and greater resistance to various ailments. Ayurveda complements

these physical benefits by offering dietary and lifestyle recommendations tailored to an individual's unique constitution, promoting optimal digestion, and supporting overall vitality.

Mental Clarity and Emotional Stability: Yoga's emphasis on breath control (pranayama) and meditation serves as a gateway to mental clarity and emotional resilience. These practices cultivate mindfulness, reduce stress, and enhance concentration. Ayurveda recognizes the mind-body connection and underscores the role of emotional balance in overall health. Through personalized approaches, Ayurveda addresses mental well-being by aligning lifestyle practices and diet with an individual's constitution.

Spiritual Growth and Self-Discovery: The spiritual dimensions of Yoga extend beyond the physical realm, encouraging individuals to explore their inner selves. Meditation, an integral component of Yoga, provides a pathway to self-discovery and spiritual growth. Ayurveda, acknowledging the interconnected nature of body, mind, and spirit, complements this journey by fostering a harmonious balance within, aligning with the deeper dimensions of self-awareness and consciousness.

Stress Reduction and Resilience: The combined practices of Yoga and Ayurveda offer effective tools for stress reduction and building resilience. Yoga's mindful approach to movement and breath, coupled with Ayurvedic lifestyle recommendations, provides a holistic strategy to navigate the demands of daily life. By fostering a sense of balance and equanimity, individuals are better equipped to handle stressors, promoting emotional well-being.

Improved Sleep Patterns: Both Yoga and Ayurveda recognize the importance of rest and rejuvenation. Yoga's relaxation techniques and Ayurvedic insights into sleep patterns contribute to improved sleep quality. By addressing imbalances and promoting relaxation, these practices create an environment conducive to restorative and rejuvenating sleep.

In summary, the holistic integration of Yoga and Ayurveda unfolds a tapestry of benefits that extend beyond physical health, encompassing mental clarity, emotional stability, spiritual growth, and resilience. This multifaceted approach offers individuals a transformative journey towards optimal well-being, empowering them to navigate the complexities of modern life with vitality and balance.

Societal Impact and Sustainable Living

The profound impact of integrating Yoga and Ayurveda extends far beyond individual well-being, radiating into the fabric of society and contributing to the cultivation of a sustainable and harmonious way of life. This section explores the

societal benefits of embracing these ancient practices, emphasizing their potential to foster collective health, resilience, and environmental consciousness.

Reduced Healthcare Costs: The incorporation of Yoga and Ayurveda into societal practices holds the promise of reducing healthcare costs on a large scale. By promoting preventive health measures and emphasizing holistic well-being, these practices address the root causes of various health issues, potentially alleviating the burden on healthcare systems. Individuals empowered with tools for self-care are less reliant on expensive medical interventions, leading to a more sustainable and cost-effective healthcare paradigm.

Enhanced Productivity and Community Well-being: A society where Yoga and Ayurveda are embraced witnesses an enhancement in overall productivity and community well-being. The mental clarity, emotional stability, and increased vitality resulting from these practices contribute to a more engaged and resilient population. Communities thrive when individuals are equipped to manage stress effectively, fostering a supportive environment where collective goals are pursued with vigor and harmony.

Cultural Integration and Unity: The practices of Yoga and Ayurveda, deeply rooted in cultural heritage, promote a sense of unity and cultural integration. When communities collectively engage in these traditions, a shared understanding and appreciation for holistic well-being emerge. This cultural integration can serve as a unifying force, transcending societal divisions and promoting a sense of shared purpose and interconnectedness.

Environmental Consciousness: Yoga and Ayurveda inherently encourage a harmonious relationship with the environment. The practices emphasize simplicity, mindful consumption, and respect for the natural world. As individuals and communities align with these principles, a collective consciousness emerges, nurturing a deeper connection with nature. This heightened environmental awareness contributes to sustainable living practices, fostering a society that prioritizes ecological balance and conservation.

Educational Initiatives and Public Awareness: Integrating Yoga and Ayurveda into educational curricula enhances public awareness and understanding of these practices from an early age. Educational initiatives that emphasize holistic well-being can create a culture of health-conscious individuals who, in turn, contribute to a healthier and more sustainable society. This proactive approach to well-being at the educational level has the potential to shape a generation that values and prioritizes the integration of these ancient practices into daily life.

In essence, the societal impact of Yoga and Ayurveda lies in their potential to create a culture of well-being, resilience, and environmental consciousness. By embracing these practices collectively, societies can move towards a more sustainable and harmonious future, where the health and vitality of individuals are intricately woven into the fabric of community life.

Case Studies

A compelling testament to the transformative power of integrating Yoga and Ayurveda can be found in numerous case studies across diverse communities and organizations. These real-world examples illustrate the tangible and positive impact these ancient practices can have on individuals and societies.

Community Health Initiatives: In communities where Yoga and Ayurveda have been integrated into public health initiatives, notable improvements in overall health outcomes have been observed. For instance, in urban settings grappling with stress-related health issues, the implementation of community-based Yoga programs has resulted in reduced stress levels, improved mental health, and a decrease in lifestyle-related diseases. The holistic principles of Ayurveda, when incorporated into these initiatives, further support individuals in maintaining optimal health.

Corporate Wellness Programs: Several forward-thinking organizations have embraced Yoga and Ayurveda as integral components of their corporate wellness programs. Offering employees access to yoga classes, mindfulness sessions, and Ayurvedic consultations has been associated with increased employee satisfaction, reduced absenteeism, and heightened productivity. The emphasis on stress reduction and holistic well-being aligns with the broader goals of creating a healthier and more engaged workforce.

Integration into Healthcare Settings: In healthcare settings, the integration of Yoga and Ayurveda has shown promise as complementary therapies. Case studies have highlighted their effectiveness in managing chronic conditions such as hypertension, diabetes, and chronic pain. By combining traditional medical interventions with these holistic practices, patients have reported improvements in their overall well-being and a reduction in the need for certain medications.

Rural and Indigenous Communities: In rural and indigenous communities, where access to conventional healthcare may be limited, the integration of Yoga and Ayurveda has proven invaluable. These practices, often deeply rooted in cultural traditions, offer accessible and cost-effective approaches to health and well-being. Case studies indicate that these communities experience not only improvements in physical health but also a preservation of cultural identity and a sense of community cohesion.

Educational Institutions: In educational settings, institutions that have incorporated Yoga and Ayurveda into their curricula report positive outcomes. Students exposed to these practices demonstrate improved focus, enhanced emotional intelligence, and a greater sense of overall well-being. Moreover, educational institutions that prioritize the holistic development of students contribute to the cultivation of a generation that values and integrates these practices into their adult lives.

These case studies collectively underscore the versatility and adaptability of Yoga and Ayurveda across different settings. They demonstrate that the integration of these practices is not confined to a specific demographic but holds transformative potential for individuals and communities across diverse socioeconomic and cultural contexts.

Challenges and Barriers

While the integration of Yoga and Ayurveda into modern lifestyles offers substantial benefits, there are notable challenges and barriers that impede widespread adoption. Identifying and addressing these hurdles is crucial to realizing the full potential of these ancient practices.

Cultural Perceptions and Misconceptions: One challenge lies in overcoming cultural perceptions and misconceptions surrounding Yoga and Ayurveda. Some view these practices through a narrow lens, associating them solely with spirituality or alternative medicine. Disseminating accurate information and emphasizing the secular and inclusive nature of these practices is essential to dispel myths and foster broader acceptance.

Accessibility and Affordability: Access to quality Yoga classes and Ayurvedic consultations can be limited, particularly in economically disadvantaged communities. The affordability of these services and the availability of qualified instructors pose challenges. Addressing these barriers requires initiatives that provide accessible and cost-effective opportunities for individuals from diverse socioeconomic backgrounds.

Lack of Standardization: The absence of standardized guidelines and certifications for Yoga instructors and Ayurvedic practitioners can undermine credibility. Establishing universally recognized standards and certifications can enhance the legitimacy of these practices and ensure that individuals receive quality instruction and advice.

Integration into Modern Healthcare: While there is growing acceptance of complementary and alternative therapies, integrating Yoga and Ayurveda into

mainstream healthcare systems remains a challenge. A lack of awareness among healthcare professionals about the benefits of these practices, coupled with resistance to non-conventional approaches, poses hurdles to their incorporation into conventional medical settings.

Time Constraints and Lifestyle Factors: Modern lifestyles often prioritize efficiency and time management, leaving little room for individuals to commit to regular Yoga and Ayurvedic practices. Balancing work, family, and personal commitments can be a significant barrier. Integrating these practices into daily life requires efforts to make them time-efficient and adaptable to diverse schedules.

Perceived Complexity of Ayurveda: The intricate principles of Ayurveda, including the understanding of doshas and personalized approaches, may be perceived as complex by some individuals. Simplifying the teachings and offering practical guidance can help demystify Ayurveda, making it more accessible and approachable.

Resistance to Change: Resistance to change is a universal challenge. Individuals may be resistant to adopting new practices, especially when they deviate from established routines. Creating awareness about the benefits of Yoga and Ayurveda and emphasizing their gradual integration into existing lifestyles can help overcome resistance.

Addressing these challenges requires a multi-faceted approach that involves education, policy advocacy, and community engagement. By acknowledging and proactively tackling these barriers, there is potential to create an environment conducive to the widespread adoption of Yoga and Ayurveda, fostering a culture of holistic well-being and sustainable living.

Policy Implications and Educational Integration

Realizing the transformative potential of Yoga and Ayurveda requires a strategic and comprehensive approach at the policy level and within educational institutions. This section explores the implications of integrating these ancient practices into public policies and educational curricula.

Public Health Policies: Incorporating Yoga and Ayurveda into public health policies can yield substantial benefits for communities at large. Governments can promote the inclusion of these practices in healthcare initiatives, subsidize community-based programs, and collaborate with wellness professionals to develop guidelines and standards. By recognizing the preventive and holistic nature of these practices, public health policies can shift towards a more proactive and comprehensive approach.

Workplace Wellness Initiatives: Corporate sectors can play a pivotal role in promoting employee well-being by integrating Yoga and Ayurveda into workplace wellness programs. Employers can provide access to on-site classes, encourage breaks for mindful practices, and offer incentives for employees engaging in holistic well-being activities. Recognizing the positive impact on employee productivity and satisfaction, companies can align wellness initiatives with organizational goals.

Educational Curricula: Integrating Yoga and Ayurveda into educational curricula, from primary schools to universities, is essential for fostering a culture of holistic well-being from an early age. Educational institutions can offer optional courses, workshops, or extracurricular activities centered around these practices. This not only equips students with valuable life skills but also contributes to the creation of a generation that values and prioritizes holistic health.

Professional Training and Certification: Establishing standardized training and certification programs for Yoga instructors and Ayurvedic practitioners is crucial. Governments and relevant authorities can collaborate with educational institutions and wellness organizations to develop and implement these programs. This ensures that individuals seeking guidance in Yoga and Ayurveda receive instruction from qualified professionals, enhancing the credibility and safety of these practices.

Research and Funding: Governments and private institutions can allocate resources for research on the efficacy and safety of Yoga and Ayurveda. Funding research initiatives can contribute to building a robust evidence base that supports the integration of these practices into mainstream healthcare. This research can also inform policy decisions and guide the development of best practices.

Community Engagement and Outreach: Policy initiatives should prioritize community engagement and outreach programs. By fostering partnerships with community organizations, governments can promote awareness, accessibility, and affordability of Yoga and Ayurveda. These initiatives can include free or subsidized classes, community workshops, and initiatives tailored to specific demographic needs.

In summary, policy implications and educational integration form the backbone of creating a societal environment where Yoga and Ayurveda can flourish. By strategically embedding these practices into public health initiatives and educational systems, governments and institutions can contribute to a more resilient, healthier, and harmonious society.

Conclusion

In the quest for a more peaceful and sustainable tomorrow, the integration of Yoga and Ayurveda emerges as a transformative pathway that transcends the

boundaries of individual well-being, encompassing the collective health of societies and the vitality of the planet. This research has navigated the historical roots, principles, and contemporary relevance of these ancient practices, unveiling a tapestry of interconnectedness that offers profound insights into the human experience.

The principles of Yoga and Ayurveda, woven together, present a holistic approach that nurtures physical health, mental clarity, and emotional equilibrium. The symbiotic relationship between these practices amplifies their individual benefits, offering individuals a comprehensive toolkit for navigating the complexities of modern life. From the asanas that enhance physical strength to the personalized approaches of Ayurveda that address individual constitutions, these practices guide individuals on a journey toward balance and resilience.

The societal impact of integrating Yoga and Ayurveda extends far beyond individual well-being. From reducing healthcare costs and enhancing productivity to fostering environmental consciousness and cultural integration, the collective benefits are both diverse and profound. Real-world case studies underscore the adaptability of these practices across diverse communities and organizations, showcasing their potential to uplift individuals and societies.

Yet, challenges and barriers persist, from cultural misconceptions to the perceived complexity of Ayurveda and the resistance to change. Acknowledging these challenges is vital, as overcoming them requires a concerted effort from policymakers, educators, healthcare professionals, and communities. Policy implications, including the integration of these practices into public health policies and educational curricula, offer a strategic roadmap for creating an environment conducive to their widespread adoption.

As we navigate the complexities of the modern world, the call to action is clear. Embracing Yoga and Ayurveda is not merely a personal choice but a collective responsibility—a commitment to a more resilient, balanced, and harmonious future. The integration of these ancient practices into the fabric of societies represents a tangible step toward a world where well-being is not only an individual pursuit but a shared endeavor that transcends boundaries, fostering a more peaceful and sustainable tomorrow for generations to come.

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Fostering a Peaceful Tomorrow - Investigating the Impact of Yoga on Exam Stress in Higher Secondary Level Students of Meerut District

Mayank Verma
Research Scholar
Mangalayatan University, Aligarh
Email: mayankcandy@gmail.com

Abstract

This research endeavors to explore the impact of yoga on exam stress among higher secondary level students in Meerut District, with the overarching goal of contributing to a more peaceful tomorrow. The study holds significance in its dual focus: identifying various training schedules suitable for school students and evaluating stress levels experienced by secondary school students. The research design encompasses a total of 20 girls and 20 boys from higher secondary schools in Meerut District, establishing a controlled environment for in-depth analysis. Among these participants, 10 girls and 10 boys have been deliberately assigned to both control and experimental groups. The investigation aims to ascertain the efficacy of yoga interventions in mitigating exam-related stress, with potential implications for educational practices and policies. By assessing stress levels and introducing tailored yoga interventions, the study aspires to contribute valuable insights that can positively impact the mental well-being and academic performance of higher secondary-level students. This research serves as a stepping stone toward fostering a more serene educational environment, ultimately contributing to the cultivation of a peaceful tomorrow.

Keywords

Yoga, Exam Stress, Higher Secondary Students, Mental Well-being.

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Introduction

The landscape of higher secondary education is often shadowed by the pervasive issue of exam stress, a significant factor negatively impacting the mental well-being and academic performance of students. Acknowledging the critical role that mental health plays in the holistic development of individuals, there arises a pressing need for effective stress management strategies. Within this context, yoga emerges as a promising avenue, known for its holistic approach to well-being and its potential to mitigate stress while promoting mental resilience across diverse populations. This study delves into the intersection of education and well-being, specifically focusing on the impact of yoga interventions on alleviating exam-related stress among higher secondary level students in Meerut District. Through this exploration, the research seeks to contribute valuable insights towards fostering a more serene and supportive educational environment, ultimately aiming to enhance both academic performance and the overall well-being of students.

Yoga

Yoga, an ancient practice originating in India, has transcended cultural boundaries to become a globally recognized and embraced discipline. The term "yoga" is derived from the Sanskrit word "yuj," meaning union or connection, reflecting its fundamental aim of harmonizing the mind, body, and spirit. Embraced for its holistic approach to well-being, yoga integrates physical postures (asanas), controlled breathing (pranayama), meditation, and ethical principles to promote overall health. Beyond its physical aspects, yoga is a philosophy that encourages self-awareness, mindfulness, and a balanced lifestyle. The practice caters to individuals of various ages and fitness levels, with different styles such as Vinyasa, Hatha, and Kundalini offering diverse approaches to achieving mental and physical harmony.As an ancient tradition, yoga has garnered contemporary interest, drawing attention from both the wellness community and scientific researchers. Its proven benefits in reducing stress, enhancing flexibility, and improving mental focus have contributed to its popularity as a versatile and accessible means of promoting overall well-being in the modern world. In essence, yoga provides a pathway towards self-discovery and a more balanced, harmonious life.

- **Meaning of Yoga:** Yoga, originating from the Sanskrit word "yuj," is a comprehensive practice that extends far beyond physical exercise. It encapsulates a profound philosophy emphasizing the integration of the mind, body, and spirit. At its essence, yoga seeks to forge a union between the individual self and the universal consciousness, fostering a holistic approach to well-being and self-discovery. The sage **Patanjali**, in his foundational

work "**Yoga Sutras**," defines yoga as "the stilling of the fluctuations of the mind" (**Yogas chitta-vritti-nirodha**). This encapsulates the mental discipline and focus integral to yoga practice. **Swami Sivananda**, a prominent spiritual teacher, characterized yoga as "a method to come to a non-dreaming mind" — emphasizing the role of yoga in transcending mental fluctuations and achieving a state of inner stillness.

- **Importance of Yoga:** Yoga, with its roots deeply embedded in ancient philosophy, holds profound significance in promoting holistic well-being. Its importance extends across physical, mental, and spiritual dimensions, contributing to a balanced and harmonious life.

1. PHYSICAL WELL-BEING	a) Flexibility and Strength	b) Balance and Coordination
2. MENTAL HEALTH AND EMOTIONAL WELL-BEING	a) Stress Reduction	b) Emotional Stability
3. RESILIENCE TO AILMENTS	a) Immune System Support	b) Pain Management
4. ENHANCED MIND-BODY CONNECTION	a) Awareness and Mindfulness	b) Mind-Body Harmony
5. STRESS MANAGEMENT AND MENTAL RESILIENCE	a) Coping Mechanism	b) Improved Sleep
a) SPIRITUAL GROWTH AND SELF-DISCOVERY	a) Inner Exploration	b) Life Philosophy

Stress

Stress is a natural physiological and psychological response to external pressures or challenges, often referred to as stressors. It manifests as a state of heightened alertness and tension, triggering the body's "fight or flight" response. While some stress can be beneficial, chronic or excessive stress can have adverse effects on both mental and physical well-being.

- **Defining Stress:** Stress, in its essence, can be understood as the body's instinctive reaction to perceived threats or demands. This reaction is deeply ingrained in our evolutionary history, tracing back to the instinctive survival mechanism commonly known as the "**fight or flight**" response. While stress

can serve as a motivator, propelling individuals to overcome obstacles, the chronic and unremitting presence of stressors can lead to a range of adverse effects on both mental and physical well-being. **Hans Selye**, a trailblazer in stress studies, viewed stress as a non-specific response to any demand, be it positive or negative. **Richard Lazarus**, a prominent psychologist, emphasized the subjective nature of stress, highlighting its connection to an individual's perception of their ability to cope with the given situation.

- **Yoga's Insights on Stress:** Within the realm of yoga, stress is not merely seen as a physiological or psychological condition but as a broader imbalance in one's holistic well-being. Influential figures in the world of yoga, such as **B.K.S. Iyengar** and **Swami Satchidananda**, have underscored the profound impact of stress on the mind and body. Their teachings emphasize how the practices of yoga, encompassing physical postures, breath control, and meditation, provide a comprehensive approach to managing stress. Yoga, with its holistic philosophy, offers a pathway toward cultivating inner resilience, balance, and a sense of calm in the face of life's myriad challenges.

Exam Stress

Exam stress is a common psychological phenomenon experienced by individuals facing academic evaluations. It arises from the anticipation of exams, often manifesting as anxiety, tension, and apprehension. The pressure to perform well, coupled with the fear of failure, can contribute to a range of emotional and physical symptoms, impacting overall well-being and academic success. While a certain level of stress can be motivating, excessive exam stress can detrimentally affect concentration, sleep patterns, and mental health. **The American Psychological Association** (APA) defines exam stress as "a type of psychological stress that occurs during exam periods, characterized by feelings of tension, apprehension, and worry related to academic performance." Psychologist **Richard Lazarus** views exam stress as "a condition or feeling experienced when a person perceives that exam demands exceed the personal and social resources the individual can mobilize."

Types of Exam stress

- **Anticipatory Stress:** Worry and fear leading up to upcoming exams.
- **Performance Anxiety:** Nervousness and difficulty concentrating during the actual exam.
- **Procrastination Stress:** Last-minute studying causes a sense of urgency and panic.
- **Social Comparison Stress:** Comparisons to peers lead to feelings of inadequacy or competition.

- **Perfectionism Stress:** Pursuit of unrealistic academic perfection, setting excessively high standards.
- **Catastrophizing Stress:** Imagining worst-case scenarios related to exams, leading to heightened anxiety.
- **Post-Exam Stress:** Concerns about performance, self-doubt, and overanalysis after completing an exam.
- **Time Management Stress:** Feeling overwhelmed by the volume of material to cover within a limited time frame.
- **External Pressure Stress:** Stress influenced by external expectations, such as parental or societal standards.
- **Burnout Stress:** Physical and mental exhaustion due to prolonged intense studying and exam preparation.

Symptoms of Exam Stress

Exam stress, a common experience among students facing academic assessments, manifests in various physical, emotional, and behavioral symptoms. Recognizing these signs is crucial for effective stress management. Here are common symptoms associated with exam stress:

A. Physical Symptoms

- **Headaches:** Persistent or tension-related headaches may occur as a physical response to heightened stress levels.
- **Muscle Tension:** Increased stress often leads to muscle stiffness, particularly in the neck, shoulders, and back.
- **Fatigue:** Chronic exam stress can contribute to physical and mental fatigue, impacting overall energy levels.
- **Insomnia or Sleep Disturbances:** Stress may disrupt sleep patterns, resulting in difficulties falling asleep or staying asleep.

B. Emotional Symptoms

- **Anxiety:** Feelings of worry, nervousness, or a pervasive sense of unease are common emotional responses to exam stress.
- **Irritability:** Elevated stress levels can make individuals more prone to irritability, impatience, or mood swings.
- **Low Mood or Depression:** Prolonged exam stress may contribute to a sense of hopelessness or persistent low mood.
- **Overwhelm:** A feeling of being overwhelmed or unable to cope with the demands of exam preparation.

C. Cognitive Symptoms:

- **Difficulty Concentrating:** Exam stress can impair concentration, making it challenging to focus on study materials or exams.
- **Memory Issues:** Stress may impact short-term memory and the ability to recall information during exams.
- **Negative Self-talk:** Individuals experiencing exam stress may engage in negative self-talk, undermining their confidence.

D. Behavioral Symptoms:

- **Changes in Appetite:** Stress can lead to changes in eating habits, resulting in either increased or decreased appetite.
- **Procrastination:** Difficulty managing exam stress may lead to procrastination or avoidance of study-related tasks.
- **Social Withdrawal:** Some individuals may withdraw from social activities or isolate themselves during periods of intense exam stress.

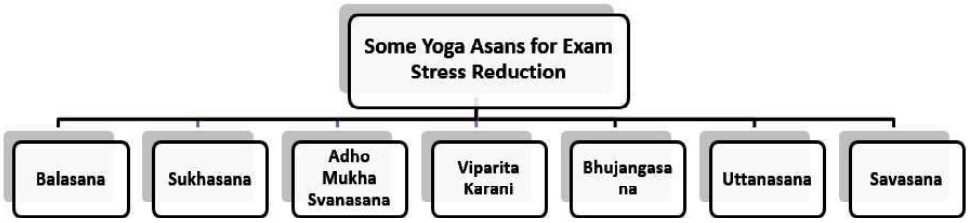
Role of Yoga in Reducing Exam Stress

Yoga, an ancient practice rooted in holistic well-being, has emerged as a valuable tool in mitigating the stress associated with exams. Its multifaceted approach, incorporating physical postures, breath control, and mindfulness, addresses the interconnectedness of the mind and body.

- **Stress Reduction through Mind-Body Connection:** Yoga emphasizes controlled breathing exercises, known as pranayama, which helps regulate the nervous system. Deep, intentional breaths calm the mind, reduce anxiety, and promote relaxation.

- **Physical Release of Tension:** Yoga involves a series of physical postures that release tension stored in the body. Stretching and strengthening through asanas alleviate muscle stiffness, promoting physical relaxation and comfort.
- **Enhanced Concentration and Focus:** Yoga incorporates meditation techniques that enhance concentration and focus. Regular meditation cultivates a calm mental state, reducing mental clutter and aiding in effective study sessions.
- **Stress Resilience Building:** Yoga encourages mindfulness, fostering an awareness of the present moment. This heightened awareness equips individuals with the ability to manage stressors more effectively, building resilience over time.
- **Improved Sleep Quality:** The incorporation of relaxation techniques in yoga, such as progressive muscle relaxation and guided imagery, promotes better sleep quality. Adequate rest is essential for cognitive function and stress management during exams.
- **Emotional Well-being and Self-awareness:** The philosophical aspects of yoga promote emotional balance and self-awareness. Understanding and managing emotions contribute to a positive mindset, reducing the

Some yoga Asanas that can be Helpful for Student's Mental Health



Statement of the Problem

"Fostering a Peaceful Tomorrow - Investigating the Impact of Yoga on Exam Stress in Higher Secondary Level Students of Meerut District"

Objective

To investigate the impact of a structured yoga intervention on reducing exam-related stress among higher secondary level students in Meerut District, with a focus on assessing changes in stress levels, mental well-being, and academic performance.

Hypothesis

It is hypothesized that regular participation in a yoga intervention will lead to a statistically significant reduction in self-reported exam-related stress levels

among higher secondary students in Meerut District. Additionally, it is anticipated that the intervention will positively influence mental well-being indicators and contribute to improved academic performance, suggesting the potential of yoga as an effective stress management tool in the educational context.

Limitations

- The study is confined to measuring the psychological stress levels of secondary school children.
- The participant pool is restricted to 20 girls and 20 boys from Higher secondary Private Schools in Meerut District.
- Within this group, 10 girls and 10 boys are allocated to both control and experimental groups.

Delimitations

- The current study aims to evaluate stress levels.
- The study is delimited to students aged between 13 to 17 years.
- The investigation is delimited to a 4-week training period.

Significance of the Study

- The research holds importance in identifying various training schedules suitable for school students.
- The study is significant in assessing the stress levels experienced by Higher Secondary school students.

Findings

- The data analysis reveals a marked improvement in stress levels among boys following a 4-week yoga training program. The figures unequivocally demonstrate a significant enhancement in performance, signifying the potential effectiveness of yoga in mitigating stress among male participants.
- Similarly, the figures for girls after the 4-week yoga training exhibit a substantial improvement in stress levels. The data underscores a noteworthy enhancement in performance, suggesting a pronounced positive impact of yoga on stress reduction among female participants.
- In both cases, the findings strongly support the hypothesis that a focused 4-week yoga training program contributes significantly to reducing stress levels, highlighting its potential as an effective intervention for both boys and girls.

Conclusion:

In culmination, this research illuminates the promising impact of a targeted 4-week yoga training program on alleviating stress levels among secondary school

students. The discernible improvement in stress performance for both boys and girls underscores the potential efficacy of incorporating yoga as a stress reduction intervention in educational settings. As we conclude, the outcomes of this study propel the conversation forward, advocating for the inclusion of yoga-based stress management programs in educational strategies. This research not only expands our understanding of effective stress reduction methods but also paves the way for fostering healthier and more resilient learning environments for secondary school students.

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A Study of Exploring the Instruments to Analyze Organizational Culture in Indian Higher Education Institutions

Dr. Simran Kaur
Associate Professor
School of Commerce
Manav Rachna International Institute of Research and Studies
Faridabad, Haryana

Ms. Hemlata
Research Scholar
School of Commerce
Manav Rachna International Institute of Research and Studies
Faridabad, Haryana

Abstract

A positive and inclusive work environment can encourage commitment, satisfaction, loyalty, enthusiasm, and productivity among employees. By examining any organization's culture, the proper training can be provided to keep the workplace healthy and also help address various issues within the organization. Various dimensions have been identified and used by academics, practitioners, and researchers alike, but there needs to be more consensus about how culture should be analyzed. Many instruments based on these dimensions of organizational culture have been identified while reviewing the literature. To speed up the identification process, only those tools researchers have widely utilized to study organizational culture have been included in this study. Therefore, this study found the three instruments OCAI, competing value framework by Camerons and Quinns, Organisational Culture Survey (DOCS) by Denison, and OCTAPACE by Udai Pareek, which the researcher widely uses for analyzing organizational culture. The primary goal of this study is to identify the instruments used to study organizational Culture in Higher Education Institutions by looking at the existing literature.

Keywords

Organisational Culture, OCAI, CVF, OCTAPACE, DOCS.

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Organizational Culture

Schein (2004) defined organizational culture as "a pattern of shared basic assumptions that the group learned as it solved its problems of adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel about those problems." Organizational culture can be described as the collection of commonly held values and concepts that the organization's members have sustained over time (Tsai, 2011). Sobirovna (2021) explained the importance of organizational culture in the operation and efficiency of any organization. If employees and the organization's management do not match, it may lead to various types of conflicts and frustration, leading to a fall in the organization. Managing the culture and introducing cultural values in the organization is essential, and the management should treat the organizational culture as a primary responsibility; if the management follows the norms and rules of the organizational culture, the employees will follow the organization's culture.

The assessment of the organizational Culture of HEIs is a fundamental factor in developing a successful and productive work environment, as it directly affects performance. Researchers have identified many critical dimensions of organizational Culture in Higher Education Institutions and introduced instruments for measuring it accordingly.

DOCS, Denison Model (2006)

Denison et al. (2006) focused on the four organizational culture elements of DOCS 1990, demonstrating how tightly connected these dimensions are. The researcher demonstrated the statistical validity of the sixty items and used twelve indexes to construct the model of Organisational Culture. The researcher demonstrated the statistical validity of the sixty items and used these twelve indexes to construct the model of Organisational Culture.

Involvement: Successful Organisations give people the power to make decisions, assign teams, manage people, and ensure employees are dedicated and feel like they have much ownership.

Consistency: Successful Organisations are characterized by 'strong cultures' that are highly cohesive, well-coordinated, and well-integrated. Behavioral standards are grounded in fundamental values, which allows leaders and followers to come to terms with different points of view.

Adaptability: Ironically, organizations that are best integrated tend to be the least adaptable. Internal integration and external adaptability are often mutually

exclusive. Adaptable organizations are customer-centric, risk-takers, learn from failure, and have the ability and experience to drive change.

Mission: Successful Organisations have a well-defined purpose and direction that outlines their objectives, strategic goals, and a clear vision of their future. As the underlying mission of an organization evolves, other components of the organization's culture also change.

The researcher further divided these dimensions into three subdimensions:

1. Mission - Strategic Direction, Intent, Goals, Objectives, and Vision.
2. Adaptability - Creating Change, Customer Focus, and Organizational Learning.
3. Involvement - Empowerment, Team Orientation, and Capability Development.
4. Consistency - Core Values, Agreement, Coordination/Integration.

Nazir & Lone (2008) validated these four organizational culture traits of DOCS, 1990 and confirmed that such a link is not country-specific. They also found a link between organizational culture and effectiveness in the Indian context. The researcher further revealed that mission predicted profitability, sales growth, employee satisfaction, market share, and overall performance, whereas the adaptability trait was responsible for predicting new product development.

Uhunoma et al. (2020) used an organizational culture scale with four dimensions: involvement, consistency, adaptability, and mission to collect the survey data from 239 employees working in government jobs in Oklahoma. The researcher tried to analyze the mediating role of informal learning on the work engagement of older workers in the U.S. public sector through structural equation modeling and reveal meaningful relationships among learning, work engagement, and organizational culture. The researcher concluded that the direct relationship between organizational culture and work engagement was positively and statistically significant.

Fidyah and Setiawati (2020) investigated the dimensions, involvement, consistency, adaptability, and mission of the Denison scale for analyzing organizational culture and employee engagement. The study used the data of 52 employees through stratified random sampling from P.T. Telkom Indonesia in Yogyakarta and analyzed it using t-tests, F-tests, multiple linear regressions, and path analyses. Results revealed that organizational culture and employee engagement positively and significantly affect job satisfaction and performance.

Emmanuel and Prempeh (2020) demonstrated that improving Denison's four organizational culture pillars will positively impact teachers' engagement. According to the research, management should support all four dimensions of the Denison organizational culture since they significantly enhance academic staff engagement. **Abdullahi (2021)** also focused on these four dimensions: involvement, consistency, adaptability, and mission, and showed that these dimensions are closely interrelated.

OCTAPACE Culture Profile by Udai Pareek, 2002

Udai Pareek's OCTAPACE culture profile, 2002, outlines eight steps to create functional Ethos, which are the central values of an organization. An effective organizational culture's foundation is based on the OCTAPACE profile's eight pillars: "Openness, Confrontation, Trust, Authenticity, Proactive, Autonomy, Collaboration, Experimentation". This culture profile aims to determine if these values are in place in the organization and how many of them are. The eight dimensions are:

Openness: Openness shows employees are free to express their thoughts without fear or apprehension. It also means giving ideas, information, feedback, and feelings without hesitation. Openness can also be spatial in terms of accessibility. Everyone has access to information they can retrieve anytime, and offices without walls are an even better symbol of openness. It leads to more apparent objectives and free interaction among people, leading to more unbiased performance feedback.

Confrontation: Confrontation is about putting one before a problem rather than backing away from it or trying to avoid it. It means that no matter the situation, handle it with courage and do not try to prevent it. It also implies a more in-depth analysis of interpersonal issues. The term "confrontation" is used with some reservations and suggests putting up a fight instead of "turning away" from the problem.

Trust: Trust is transparency. It means saying something to others that can be seen as valid. It is used to protect the confidentiality of information that others share and prevent misuse. It is a sense of trust that others will help when needed, keep their promises, and fulfill their obligations. It is also reflected in taking what someone says at face value without looking for ulterior motives. Trust is an essential component of the institution-building process.

Authenticity: Authenticity is the connection between how someone feels, what to say, and what to do. It is about owning up to one's own mistakes, sharing

one's true feelings, or keeping them to oneself. It is closer to being open than closed, making communication more relaxed and less distorted. One can see this in how members interact in an organization.

Pro action: Pro action means preemptively addressing an anticipated challenge so an organization is prepared to respond to future difficulties. Action involves taking the initiative, planning and pre-emptive measures, and calculating the benefits of an alternative course of action before any action is taken. The term 'proact' can be contrasted with 'react.' In the latter case, an action is taken in response to an act from a particular source, while the former is handled independently of the head.

Autonomy: Autonomy is the ability to make decisions independently. It is the utilization and empowerment of autonomy to plan and operate in one's domain. It is the development of mutual respect. It will likely lead to a greater willingness to assume responsibility, take individual initiative, and improve succession planning. The primary measure of autonomy is the ability to delegate in an organization and reduce the number of references made to senior people to approve planned actions.

Collaboration: Collaboration is working together (people and teams) to resolve issues or achieve a desired outcome. It is the process of providing and asking for assistance from others. It involves resolving issues and bringing team spirit to the workplace. Collaboration results include timely aid, teamwork, experience sharing, better communication, and better resource sharing. Collaboration indicators include productivity reports, increased meetings, staff involvement, joint decisions, improved resource utilization, and higher-quality meetings.

Experimentation: Experimenting is trying something new or finding a unique solution to a problem. It is using and promoting innovative solutions to problems, using feedback to improve, looking at things from a new perspective, and inspiring creativity.

A well-functioning organizational culture is based on the eight fundamental pillars of the OCTAPACE, which must be upheld in any organization to achieve corporate objectives **(Yadav, 2012).** A culture based on these pillars increases the likelihood of high engagement and satisfaction, teamwork, development, and freedom of expression within the organization **(Jayanthi & Bhuvaneshwari, 2014)**. Organizations gain more when the values of OCTAPACE are combined in the following ways: Openness and confrontation, Autonomy and collaboration, Trust

and authenticity, and Proaction and experimentation. If these values are implemented in any organization, they become an integral part of life and are more likely to bring out the best in people at work **(Rao, 2003).**

Azmi and Sharma (2007) conducted a study to compare the organizational cultures of I.T. and Banking companies in India using the OCTAPACE Profile. The study results indicated that I.T. companies had higher average openness, proactivity, and experimentation scores than banking companies.

Ali & Sinha (2019) measured the OCTAPACE values of the employees working at private universities in Bhopal and Indore and found that openness, confrontation, pro-action, and experimentation values are close to the average norm value. Still, authenticity, autonomy, and collaboration are more relative to higher levels. The regression analysis showed that four of the eight dimensions positively and significantly impacted employee engagement and that openness and collaboration were the most critical variables in their interaction.

Ahmad & Mir (2012) analyzed the current HRD practices and processes in 10 top universities in India and found that the existing OCTAPACE culture in Indian universities is of an average standard. **Saxena (2017)** found Trust, Collaboration, and Authenticity as dominant, Autonomy, Confrontation, and Proaction as dormant, and Openness and Experimentation as backup dimensions for the select Indian Professional Educational organizations of Kanpur.

Gurkoo and Mufeed (2007) conducted a comparative study in Jammu & Kashmir Universities with a sample size of 521 employees on the perception of teaching and non-teaching staff on the HRD climate in the universities by using the OCTAPACE profile. According to the findings, the proactivity value is considered unfavorable. Institutions should cultivate an OCTAPACE culture to foster professionalism among personnel and students **(Iyer, 2016).** The organization has to focus more on trust, confrontation, and experimentation and has to avoid proactiveness, collaboration, and autonomy in the organization to increase job satisfaction among academic staff **(Singh, 2020)**

Competing Value Framework by Cameron and Quinn's (2011)

Cameron and Quinn (2011) identified four types of organizational culture in the competing values framework: hierarchy, market, adhocracy, and clan. Organizations that require streamlined and structured work, such as employees, must adhere to policies, regulations, and regulations and adopt a

hierarchical culture. Organizations following market culture want their employees to be result-oriented and goal-oriented—organizations that are dynamic and innovative, where employees are creative and risk-takers, have an adhocracy culture. Clan culture exists in pleasant workplaces where employees work like family members, share confidential information with others, and view managers as their teachers. The OCAI includes some of the most essential aspects of organizational Culture:

1. Dominant Characteristics;
2. Organizational Leadership;
3. Management of employees;
4. Organization glue ;
5. Strategic emphasis ;
6. Criteria of success.

These dimensions are not exhaustive but represent all fundamental assumptions, interaction models, and organizational orientations of the fundamental elements of culture. This tool can also be implemented in two phases – actual culture and preferred culture which may be the best guide for the organization to create a better culture. Participants are asked to assign a total score of 100 to a set of given statements in both phases.

Luke et al. (2021) used the Competing Values Framework (CVF) and observed a positive correlation between the different dimensions of organizational culture and work engagement. Adhocracy and bureaucratic culture are the most prevalent in HEIs. Adhocracy, bureaucracy, and clan cultures showed a moderate link with institutional performance compared to market culture, which showed a strong relationship **(Gadia & Mendoza, 2019).**

Ababneh (2021) found that employee engagement fluctuates from high to low as per different dimensions of organizational culture and also revealed that adhocracy and hierarchy culture positively impacted quality performance.

According to Cameron and Quinn's competing value framework, **Zeb et al. (2021)** found a relationship between innovation and the dimensions of organizational culture, hierarchy, market, adhocracy, and clan. The researcher found that innovation mediates adhocracy and hierarchy culture and performance. Adhocracy culture can enhance innovation, but market culture can influence the organization's overall performance.

Table 1: Instruments of Organizational Culture Used in Higher Education Institutions

Instrument	Denison, 2006	Camerons and Quinn's, 2011	OCTAPACE, Udai Pareek, 2003
No of Items	60	24	40
No of Dimensions	4	6	8
Organizational Culture used instruments used in studies conducted in Higher Education Institutions	Mozaffari et al (2012) Rouniasi et al. (2012) Imam et al (2013) Hosseini (2014) Masouleh & Allahyari (2017) Alijanzadeh et al. (2018) Guskova et al. (2020) PUNINA et al. (2023) Sadry et al. (2022)	Biloslavo & Prevodnik (2012) Kumerasan & Rani (2013) Chidambaranathan & Regha (2016) Alharbi & Abedelrahim (2018) Chik & Arokiasamy, (2019) Dębski (2020) Tyagi (2021) ÖZTÜRK & TETİK (2021) Jamali et al. (2022) Keri et al. (2022)	Gurkoo and Mufeed (2007) Ahmad & Mir (2012) Fukofuka & Tusse (2015) Bayasgalan (2015) Iyer (2016) Saxena (2017) LAPALIKAR& BHANDARI (2017) Mufeed (2018) Ali & Sinha (2019) Bhatia & Bhatia (2019) Singh, (2020)

Conclusion

The level of involvement and commitment toward the organization's values, beliefs, and expectations is essential, as committed employees will provide optimized productivity, performance, and profitability outcomes to any organization. Every

country needs a growing pool of highly educated, research-oriented, and skilled professionals to participate in globalization. Higher education institutions should have excellent results along with excellent research and teaching.

Researchers have identified many critical dimensions of organizational culture and introduced instruments for measuring it accordingly. As listed in Table 1, Denision's Model (DOCS 2006) covers various aspects but has been chiefly used in the business fraternity. The Camerons & Quinn's CVF (OCAI, 2011) is also a widely used instrument for assessing organizational culture and is better suited as it addresses the culture of educational institutions.

However, as they are borrowed from Western countries, they were not tested in India, which can lead to several issues. Udai Pareek's (OCTAPACE, 2003) tool is relevant for measuring organizational Culture in HEIs in India and is used in most empirical research to study organizational culture in various sectors, including HEIs.

Before diving into cultural studies, it is a good idea to think about two questions: Why are we doing it, and what will we use the information we get from it? The answers to these questions range from being interested in something theoretical to helping with organizational issues. In addition to the intent behind any cultural investigation, personal tastes, views on, and knowledge of "culture," as well as access to resources, will play an essential role in deciding which tool to choose from the range of tools available.

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Women in Empowered India; Challenges and Prospects

Dr. Sujata Mainwal
Professor
Department of Sociology
Meerut College, Meerut

Manisha
Research Scholar
Department of Sociology
Meerut College, Meerut

Abstract

The expanding economy greatly benefits from the contributions of women in India. Women make up about half of our population. Over the past ten years, women's literacy has increased at a rate that is 3% higher than that of men. Consequently, the number of illiterate women has decreased from 200.7 million in 1991 to 190 million in 2001. Nonetheless, the gender gap in schooling remains significant at 21.7%.There are several reasons for this, including restricted access to schools and inadequate restroom and drinking water facilities. In addition, as agriculture becomes more and more feminized, girls are burdened with caring for younger siblings, gathering water and fuel for cooking, and maintaining the home, all of which impede their ability to learn and grow. Women's economic independence or self-reliance encourages women's empowerment; nevertheless, chances for women are restricted by factors such as poverty, ill health, and discrimination, gender inequity and other issues, which eventually cause obstacles to women's empowerment. Given that women are still discriminated against on many fronts, women's empowerment is crucial. Several ministries and departments have created and implemented a variety of programs and initiatives to empower women. Attempts have been also made to go beyond empowerment and acknowledge women as agents of sustainable socio-economic growth and transformation. This paper aims to examine contemporary concerns and challenges facing women, as well as strategies and tactics for achieving women's empowerment.

Keywords

Future Directions, Issues, Challenges, and Women Empowerment.

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Introduction

During the Vedic era, women were considered to be on par with men in all aspects of life. Once she reached adulthood and gained awareness of her hobbies, she made her husband's choice. Remarrying as a widow was not restricted. Scholars like Sir Herbert Risley concur with this. The Indian lady of the Vedic era had experienced greater independence than the European woman of today in several ways. The historical Hindu lady in India held a higher social status than her sister in Europe at any given period. Islam improved the position of Muslim women by providing them the right to own property and a share of their husbands' or relatives' estates. It is important to remember that the Prophet of Islam advised women to "observe privacy," and not to be isolated or confined. However women were the first casualties of fanaticism in the Islamic world. Islamist radicals started claiming that a woman belonged at home. Allah made women to bear and raise children, as well as to take care of their spouses' comforts when they got home each day. Similar to this, radical Hindus likewise wish to deny women's equality and restrict their rights. They actively promote Sati practice and justify it both in theory and in practice. Even Shankaracharyas stood up to support the Sati event that happened in Deorala, Rajasthan. Any society's status and place for women are indicators of its level of civilization. Women should be viewed as equal collaborators in the development process. However, due to centuries of oppression and exploitation, Indian women have continued to be victims. They have a sizable labor force, but they have not actively participated in the mainstream of development. They are pushed to the bottom of the heap because they are unappreciated and undervalued. The majority of women in developing nations bear the twin burdens of prejudice and poverty. The paradigm has shifted with globalization and liberalization, favoring technology-dominated industries and leaving traditional sectors like agriculture unviable and unprotected. Regretfully, a significant number of women in India work in this industry. Another thing that keeps women in poverty is the absence of financial facilities, skill training opportunities, or alternative work. Our economy benefits greatly from the contributions of women. Women make up about half of our population, and 42% of them are under the age of 18. We must provide for their safety, well-being, development, empowerment, and involvement if we are to achieve truly inclusive progress.

Women Empowerment in India

The Indian Constitution's Preamble, Fundamental Rights, Fundamental Duties, and Directive Principles all contain references to the idea of gender equality.

In addition to guaranteeing women's equality, the Constitution gives the State the authority to enact laws that promote discrimination against men and women.

Our laws, development strategies, plans, and programs have all targeted women's advancement in various fields within the framework of a democratic society. The emphasis on women's issues was clearly moved from welfare to development starting with the Fifth Five Year Plan, and then from development to empowerment starting with the Eighth Five Year Plan. The recognition of women's empowerment as the primary factor in establishing their position has grown in recent years. In addition, India has ratified a number of international agreements and human rights instruments that guarantee women's equality. The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), which was ratified in 1993, is a crucial one. In 1990, a parliamentary act established the National Commission for Women with the aim of defending the legal rights and privileges of women. The Gender Empowerment Measure (GEM), which focuses on the three variables that reflect women's participation in society—political power or decision-making, education, and health—was developed by UNDP in response to calls for women's empowerment at the UN Population and Development Conference in Cairo in 1994. A 1995 UNDP report on women's empowerment stated that human development is in jeopardy if it is not fostered. 2001 was proclaimed the Year of Women's Empowerment (Swashakti) by the Indian government. In 2001, the National Policy for the Empowerment of Women came into effect.

The Current State of Women's Empowerment in India: Challenges and Barriers

The Indian Constitution has a number of social, economic, and political measures that were based on the principles of women's empowerment advocated by our founding fathers. Indian women are active in a variety of fields, including science and technology, education, athletics, politics, journalism, art and culture, and the service industry. However, women are still mistreated, humiliated, abused, and exploited in Indian society as a result of the deeply ingrained patriarchal mindset. After nearly seven decades of independence, prejudice against women persists in the social, economic, and educational spheres. Many of the obstacles to women's equity and empowerment are deeply rooted in cultural traditions. While some women have become accustomed to being viewed less favorably than men, many women still experience similar pressures. The most pervasive and degrading prejudices against women stem from this skewed viewpoint. Discrimination against female children starts as soon as they are born. In India, it is common practice to kill female infants because boys are preferred over girls. An Indian girl's battle to be seen and heard begins at birth and continues throughout her life. The patriarchal rules of self-

styled caste lords, who stand in for outdated and unfair customs, dominate traditional Indian society. They stunt women's development by placing the weight of customs, culture, and honor on their shoulders. The occurrences of "honor killing" expose the twisted social fabric of a society ruled by men. Numerous obstacles stand in the way of women's empowerment. Below is a quick discussion of them:

1. **Literacy:** Women's employment in business and commerce is hampered by their lack of literacy. Agriculture as well as conventional and contemporary industries. After independence, the percentage of female students rose gradually, with the last ten years seeing the largest growth. Women's literacy rates increased from 8.86 percent in 1951 to 29.75 percent in 2001, when they were at 54.16 percent. The 2011 Census report shows that just 65.46 percent of women are literate. The fact that women's literacy rates in India are substantially lower than the 74.04 national average is almost depressing. Since 1995, the number of women enrolled in higher education has increased. However, these numbers pale in comparison to the enrolment levels for boys. The primary obstacles to women's education in India are living in rural areas, belonging to lower castes, having low economic status, and the traditional view of women's education in general. In rural places, women's education is growing very slowly. Additionally, not everyone has access to education equitably. Education reinforces gender inequality, as evidenced by the 2011 Census's finding that women's literacy rates are just 65.46% compared to men's 82.14%. Women are also shown to have a relatively greater percentage of school dropouts. Undoubtedly, women's greater percentage of illiteracy contributes to their dependence on men and their role as subordinates. The main factor contributing to the exploitation and neglect of women is a lack of knowledge.
2. **Economic problems:** Despite making up just 29% of the labor force, women account for the bulk of the nation's impoverished the attempt to turn the pool of available women into human resources has failed. This has therefore impeded the nation's overall economic growth as well as the economic advancement of women. The first step in achieving equal participation for women in local communities and ending socially oppressive customs through working women's organizations is economic empowerment. In contrast to the global average of 37%, women in India contribute just 17% of the country's GDP, according to a November 2015 analysis by the McKinsey Global Institute. As to the figures provided by the International Labor Organization (ILO, 2017), a mere 23.7% of Indian women who meet the

eligibility requirements are employed, while 75% of men do the same. This percentage falls even lower, to just 16 percent in metropolitan regions. The similar figure for males is 69%. Even among working-age women, there is a significant unemployment rate. Compared to 4% for males, the percentage is 8.7%. India's progress is belied by the decreasing participation of women in the labor force and, consequently, in the economy. It is necessary to investigate the reasons why women's participation is declining.

3. **Unaware of their legal status:** In general, women are unaware of the provisions pertaining to the advancement of their own status. They don't want to use the clauses pertaining to their rights of succession, marriage, or family, even though they are aware of them. Women's ability to exercise their legal rights is frequently hampered by the traditional dominance of male parents, husbands, and other family elders. The way these issues manifest still primarily depends on societal shifts in attitudes.
4. **Gender inequality:** Despite having equal rights with males legally, there is not enough employment for women, and those who do have jobs are not sufficiently safeguarded from exploitation. This is mostly the cause of it. Gender inequality in India is the root cause of the issue.
5. **Lacking Political Ambitions:** Even though there are reservations for women, political involvement is still restricted at the state, national, and panchayat (local governing body) levels. To encourage women to participate fully in all aspects of society, the 108th Constitutional Amendment Bill, often known as the Women's Reservation Bill, was passed. It reserves one-third of these for women. This is undoubtedly a sign of hope for a bill that might contribute to changing the female makeup of state assemblies and the parliament. Though the number of women serving in parliament reached a record high in the 2014 Lok Sabha elections, it remains at 61 (11.23%) out of 543 seats. There were just 59 women members of the Lok Sabha following the 2009 elections. 181 of the 543 seats in Parliament and 1,370 of the 4,109 seats in the State Assembly will be guaranteed under the reserve measure. This is a significant development for Indian politics, since women currently hold fewer than 15% of the seats in the national legislature.
6. **Poverty:** Owing to the extreme poverty experienced by the vast majority of Indians, women from the top and middle classes are the only ones who can afford an education and can participate in social and civic life. Women are exploited as domestic helpers and wives whose salaries are seized by the man of the house because of extreme poverty. The girl child would be free

to pursue her ambitions without fear of domestic abuse, sexual exploitation, lack of education, or unemployment if poverty were not an issue.

7. **Health and safety:** Concerns about women's health and safety are crucial for a nation's welfare and play a significant role in determining how empowered women are in that nation. On the other hand, there are concerning issues with maternal healthcare. Even with the numerous initiatives that the nation's government and NGOs have launched, there is still a significant divide between those who are protected and those who are not. Poverty and illiteracy exacerbate these issues, since local quacks treat women's illnesses with inadequate and even dangerous medicines. Ensuring the health and safety of women is the first step towards their empowerment.
8. **Crime against Women:** In India, more than 24,000 dowry fatalities have been reported in the last three years. In India, between the ages of 15 and 49, 70% of married women report having been raped or beaten. 2014 data from the National Crime Record Bureau states that females under the age of eighteen make up 39.8% of India's rape victims. According to a 2011 Thomson Reuters Foundation survey, India is the fourth most dangerous country in the world for women to live in because women from all social classes, castes, and religions can experience violent acid attacks. In India, women who ask for a divorce or dare to reject a man's marriage proposal are targeted with acid attacks as a sort of retaliation.
9. **Sex ratio:** UNICEF reports that the identification of a fetus's gender by unethical medical experts has developed into a 1,000-crore industry in India. Concerns were voiced by many activists that as many as 8 million female fetuses' had been terminated in the ten years before the 2011 census. Furthermore, India's ranking on the United Nations Gender Inequality Index remains appalling, at 127th out of 146, even with an improving child sex ratio. In India, the sex ratio (females per 1000 males) dropped from 946 in 1951 to a significantly unfavorable 927 in 1991. The sex ratio thereafter improved, reaching 943 in 2011. On the other hand, India's sex ratio is predicted by the World Bank to drop to 931 by 2021.
10. **Child marriage:** Nearly half of all women in India between the ages of 20 and 24 were married off before the legal age of 18, despite the fact that this is against the law.

The Empowerment of Women through Policy Approaches

The evolution of policy approaches to women's empowerment has gone through several stages. Five macroeconomic development strategies based on

modernization, fundamental necessities, and structural adjustment have been outlined by the National Bank for Agricultural and Rural Development.

Welfare approach: According to this strategy, women are the primary focus for development since they are viewed as the workforce. Women benefit from growth, but they do not actively participate in it.

Efficiency approach: This method fundamentally views women as important resources in development rather than as intervention beneficiaries. Women must participate in development if it is to become more efficient. It places women at the center of development and makes the supposition that they will always gain from participation.

Equity approach: The goal of this strategy is to advance women's status, authority, and control to make them essentially more equal to men. According to the perspective that women have a right to equal involve**m**ent, this appears.

Empowerment approach: It originates from organizations for women who want to become more independent to empower themselves. Women fight for the freedom to change and the ability to make their own decisions in life. From this perspective, it appears that women require the right resources to become self-sufficient.

Approach to Gender and Development: By making the best use of women's abilities, it acknowledges the active participation of women in development. This is accomplished by giving the programs' planning and execution the appropriate inputs.

Conclusion

It will take a herculean effort to empower women legally, politically, economically, and educationally. Changing the deeply ingrained culture of disdain for women in Indian society would not be a simple task. It does not, however, imply that it is impossible. Changes happen quickly only during revolutions; reforms take time. This one, in particular, will also require some attention. Although the concept of women's empowerment may seem difficult at first, it is actually rather simple. All that's required is a determined effort directed in the proper direction, ending only when women are freed from all wickedness. The goal of the government's 2001 announcement designating the year as the year of women's empowerment is to give women equal partnership with men and the freedom to fully govern their own actions. The government's efforts remain insufficient, and India's journey toward women's empowerment is a lengthy one. Remember that the entire sky won't reveal its "glitter" until the gloom and darkness of "half of the sky" is released. Social

customs, including child marriage, sati, lifelong widowhood, dowry, and female infanticide, must all be completely abolished. The government is among several individuals and groups striving to improve the social and economic standing of women.

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Intelligence and Its Impact on Society

Aman Kumar
Nirdesh Kumar Singh
Navneet Singh
Department of Physics
K.V. Subharti College of Science
Swami Vivekanand Subharti University
Meerut
Email: amankumar@gmail.com

Mohd. Israel
Ekta Gupta
Arvind Kumar Sharma
Department of Physics
K.V. Subharti College of Science
Swami Vivekanand Subharti University
Meerut

Abstract

The present study aims to investigate the phenomenon under examination in a comprehensive and systematic manner. The This article discusses the utilization of artificial intelligence across many industries and its impacts on society, encompassing both advantageous and disadvantageous aspects. Artificial intelligence (AI) plays a significant role in the healthcare sector by aiding in the management of healthcare services, facilitating early diagnosis, enhancing documentation processes, and enabling robotic surgery. Artificial intelligence (AI) in the realm of education offers sophisticated instructional methodologies to students through the utilization of data mining techniques, intelligent teaching platforms, and personalized learning systems. The positive outcomes of artificial intelligence include enhanced productivity, amplified revenue generation, employment creation, and mitigation of human mistakes. Artificial intelligence (AI) engenders both advantageous and detrimental consequences. The adverse consequences of artificial intelligence encompass workforce downsizing, labor market contractions, concerns regarding privacy protection, and disparities. Hence, it is imperative that the development of artificial intelligence adheres to ethical principles and serves as an asset to society.

Keyword

Artificial Intelligence, Impact, Society.

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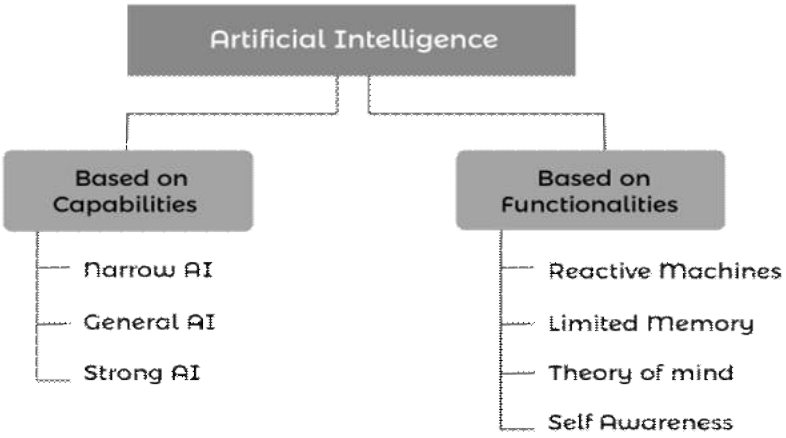
Introduction

Artificial intelligence (AI) refers to the technological field wherein a computer or a computer-controlled robot can execute jobs typically carried out by humans, necessitating human-like intelligence and reasoning. While it is true that not all functions performed by an average person can be replicated by an AI, there are particular tasks in which some AIs have demonstrated the ability to match or even surpass human performance. The prevalence of artificial intelligence (AI) in contemporary society has experienced a notable surge (Benko & Lányi, 2009). Hence, artificial intelligence plays a significant role in various aspects of our lives, encompassing personal assistants, voice recognition, health services, language translations, suggestion systems, navigation, autonomous vehicles, social security, e-commerce, financial services, cyber security, social media, content control, and useful robot applications (Benko & Lányi, 2009). The advent of artificial intelligence technology has emerged as a significant innovation within the contemporary era characterised by rapid technological advancements and widespread use. Artificial intelligence (AI) can be likened to a sophisticated human brain, and its optimal utilization has significantly contributed to societal transformations. This essay elucidates three aspects of the societal impact of artificial intelligence: the diverse uses of artificial intelligence across numerous sectors, as well as its good and bad ramifications on society.



Literature Review

Artificial intelligence (AI) is presently undertaking various jobs that were traditionally executed by humans, including voice recognition, health services, autonomous vehicles, e-commerce, financial services, and content control (Haenlein

& Kaplan, 2019). Artificial intelligence (AI) is progressively emerging as a pervasive technology throughout society, assuming roles that were conventionally fulfilled by human beings. The exploration of potential applications of artificial intelligence (AI) in several areas, such as healthcare, banking, and education, has garnered substantial attention in academic research and literature in recent years (Balciolu, Artar, & ErdiL, 2022). Furthermore, the examination of the societal implications of these applications has also been a prominent focus of scholarly investigation. The application of artificial intelligence (AI) in the healthcare sector has been leveraged to support various aspects of healthcare administration, including disease diagnosis at early stages, efficient management of medical records, and the implementation of robotic surgical procedures (Haenlein and Kaplan, 2019). Based on existing research, it has been suggested that the implementation of artificial intelligence in several healthcare domains, including electronic health record systems and natural language processing, has the potential to improve healthcare services. Notably, these applications may contribute to the reduction of waiting times and the standardization of ambulance transit times (McCarthy t.y.). Furthermore, it should be noted that these programs can conserve resources. In addition, there has been a growing interest in the use of artificial intelligence (AI)-assisted robotic surgery technologies, exemplified by the Da Vinci Surgical System, which has the promise of transforming surgical procedures (Danesh and Ghavidel, 2020). Artificial intelligence (AI) has exerted a substantial impact on the financial sector, specifically within the domains of market analysis, mobile banking, and digital payment mechanisms. The impact of artificial intelligence (AI) on the advancement of financial technology (FinTech), encompassing innovations like mobile payment solutions, money transfers, and digital wallets, has been thoroughly examined and recorded in scholarly literature (Jaki & Marinè, 2019). Within the realm of education, the utilization of artificial intelligence has facilitated the emergence of several novel prospects, such as data mining, intelligent pedagogical platforms, and personalized learning (Chen, Chen, & Lin, 2020). Intelligent instructional systems represent a prominent category of artificial intelligence (AI) applications that find extensive use within the field of education. These systems offer an educational platform that is tailored to the specific proficiency level of each student. The research underscores the potential benefits of artificial intelligence (AI), including enhanced production and revenue, the creation of new job opportunities, and the reduction of human errors. However, it also sheds light on the challenges associated with the integration of AI into society. The study underscores both the potential advantages and disadvantages of artificial intelligence. Some of the primary concerns revolve around the potential job displacements

resulting from the implementation of artificial intelligence (AI), the disruptions it may cause in the labor market, the potential infringement on individuals' privacy rights, and the perpetuation of economic and gender-based inequalities. Research indicates that the development of artificial intelligence technology necessitates adherence to ethical frameworks, with a focus on addressing societal issues. In summary, the existing body of study pertaining to artificial intelligence encompasses a diverse range of applications across multiple domains. Moreover, it extensively examines the potential societal implications of artificial intelligence, encompassing both favorable and unfavorable outcomes.

The existing body of research in this domain indicates that the development and utilization of artificial intelligence technology should be approached with a sense of responsibility, aiming to optimize its benefits while mitigating potential adverse consequences.

Result and Discussion

Artificial intelligence (AI) has found widespread applications across diverse industry sectors, contributing to significant advancements in numerous professional domains. The increasing older population necessitates the presence of healthcare staff in the context of artificial intelligence (AI) implementation within the healthcare industry. It is imperative to acquire adequate resources to effectively recruit and employ healthcare professionals. The utilization of rational technology has become imperative to address the need for healthcare services within the constraints of restricted resources. Artificial intelligence is additionally employed in the domain of general health management. The collection of data related to heart rate can be represented as a sample in the context of the Mental Health and Recovery Services (MHRS) field. Hospital admissions can be facilitated by utilizing various data, such as reducing waiting times in emergency services, standardizing ambulance transportation times, and enabling parents to effectively monitor the immunization status of their infants and children. The application domains of artificial intelligence (AI) in the administration of documentation can be delineated as follows: through the utilization of electronic health record systems, it becomes feasible to systematically arrange, securely store, and effectively recycle the information pertaining to healthcare practitioners. The utilization of Natural Language Processing (NLP) techniques enable medical practitioners and healthcare experts to expedite the transcription process of voice recordings. By leveraging artificial intelligence (AI)-powered applications, reports can be generated in a much-reduced timeframe. Furthermore, it is worth noting that artificial intelligence finds application in various domains, including documentation management. Electronic health record (EHR)

systems facilitate the organization, storage, and reuse of health professionals' information. The application domains of artificial intelligence (AI) in documentation management can be delineated as follows: EHR systems enable the organization, storage, and reuse of health professionals' information. With the use of NLP (Natural Language Processing) tools, doctors and health professionals can take voice recordings and reports can be printed in a much quicker period with artificial intelligence-based applications. Thirdly, the utilization of artificial intelligence (AI) in the realm of early detection and emergency interventions, notably in the context of cancer disorders, holds significant importance. Early detection of diseases is of utmost significance, as it allows for timely diagnosis and intervention before the manifestation of overt symptoms in patients. Several artificial intelligence algorithms are employed for the purpose of early disease prediction. Early diagnosis is crucial for Parkinson's disease. The study employed EEG signals, visual simulations, and PDC data within the field of artificial intelligence to discern between persons who are unwell and require medication, and those who are in good health. The latter refers to the application of artificial intelligence in the field of robotic surgery. Currently, the utilization of this technology has commenced in a limited number of healthcare facilities.

Furthermore, users have access to several e-banking applications, including the Internet, mobile phones, and kiosks. Fintech, short for financial technology, represents the convergence of financial and commercial domains. The advancements introduced by technology. The field of financial technology (fintech) has exerted a significant impact on various technological advancements, including diverse domains such as mobile payment solutions and money transfer activities. The Card Verification Code (CVV) is a technological advancement developed by financial institutions to enhance the security of customer-issued cards. It is an acronym derived from the term Card Validation Value. The code has three numerical digits and is exclusively associated with Mastercard and Visa cards. Numerous smartphone applications, including PayPal, Apple Pay, Google Pay, Samsung Pay, Alipay, Skrill, Google Wallet, and Master Pass, possess the capability to facilitate digital payment transactions. Users could store their card details in the digital wallet provided by these services, facilitating convenient financial transactions within those applications. When examining the current state of artificial intelligence research in the field of education, several applications may be observed. These applications encompass not just knowledge-based artificial intelligence, but also data-driven and logic-based approaches. Furthermore, artificial intelligence is being utilized across a wide range of domains. The applications encompass personalized education or dialogue

education systems, exploratory education, data mining in education, analysis of students' articles, smart agents, chatbots, education for children with special needs, child-robot interaction, artificial intelligence-based assessment systems, and automatic test creation systems. Intelligent instructional systems, which are extensively employed in computer-assisted teaching, represent one of the most prevalent uses of artificial intelligence within the field of education. The platform provides a sequential instructional framework that caters to the individual proficiency of each student, typically focusing on subjects characterized by a numerical framework, such as intelligent instructional systems, mathematics, or physics. The scholar system is widely recognized as the pioneering and most renowned intelligent teaching approach. This system establishes a framework that enables personalized responses to students' answers through the utilization of fundamental artificial intelligence techniques.

Artificial intelligence (AI) confers numerous advantages onto society, foremost among them being the enhancement of production and efficiency through the automation of routine tasks, mitigation of human fallibility, and optimization of resource allocation. One advantage is the potential for producing revenue within the technology industry. The adoption of artificial intelligence technology on a large scale is expected to contribute to the financial growth of organizations that invest in and conduct research in this field. Furthermore, an examination of the labor market reveals the beneficial impacts associated with this phenomenon. The expanding application domains of artificial intelligence have led to the delegation of certain or even entire workloads to machines. While there is a concern regarding potential job displacement, artificial intelligence (AI) holds promise in various areas, including the creation of novel work positions, facilitating innovation, and enhancing human capabilities. Ultimately, artificial intelligence contributes to a heightened level of safety by mitigating errors caused by human intervention. Road safety can be cited as an illustrative instance of this phenomenon. Artificial intelligence plays a significant role in enhancing transport safety using optional solutions that effectively improve road safety. Despite the numerous advantages associated with artificial intelligence (AI), it is important to acknowledge that this technology also poses certain problems and drawbacks. Initially, it is necessary to discuss the occurrence of layoffs and the subsequent disruption they cause within the labor market. In their study, Frey and Osborne (2017) analyzed the potential advancements of emerging information technologies in the immediate future. The researchers concluded that implementing such measures would pose a substantial threat to a considerable portion of the workforce across many professions. It is well acknowledged that individuals

who face the greatest challenges in securing employment are those belonging to the demographic of young individuals with limited educational attainment. It is anticipated that individuals with lower levels of education will possess comparatively limited technical abilities, resulting in increased challenges within the labor market in the future. Inexperienced societies that have recently entered the labor market will have challenges as they endeavor to identify and address potential issues that may arise in the future. Consequently, the influence of artificial intelligence (AI) on the labor market has the potential to impede the generation of income for younger populations and individuals with limited educational attainment, particularly in regions where automation is feasible. Furthermore, the impact of artificial intelligence on privacy is a significant concern. Privacy is a fundamental human right. To uphold the dignity and individuality of individuals, it is imperative to ensure the preservation of their privacy. In the process of developing and deploying artificial intelligence applications, it is imperative to uphold and safeguard the fundamental rights and freedoms of persons, ensuring that their rights are not infringed upon. The utilization of personal information is on the rise due to advancements in artificial intelligence technologies. During a transaction, the ownership of information, transaction data, papers, and other relevant materials lies with the parties involved in carrying out the transaction. The act of safeguarding data from unauthorized access or disclosure by individuals or organizations is commonly referred to as confidentiality. When developing artificial intelligence systems for implementation in social services, it is imperative to prioritize the safeguarding of user privacy and personal information. For instance, the incorporation of security cameras within our household, which will oversee all areas of the residence, will inevitably encroach upon an individual's personal sphere. The preservation of confidentiality about the credentials inputted into artificial intelligence systems is important. The personal information contained in our identity card includes details such as gender identity, country, and identity number. To mitigate privacy violations and the abuse of sensitive information, it is imperative to implement robust data protection programs and enforce stringent restrictions. Artificial intelligence has the potential to perpetuate societal inequality. The manifestation of gender-based inequality is evident within the realm of technology, encompassing the domain of artificial intelligence. The representation of women in this field is lower compared to men. Given that the data now utilized by computers contains components that perpetuate gender discrimination, it follows that the outcomes produced by artificial intelligence applications may inadvertently expose and perpetuate inequities. In addition to the issue of gender-based inequality, it is necessary to discuss the matter of economic disparity. The issue of income

generation within the labor market, which is additionally impacted by artificial intelligence, will also contribute to economic inequality. This is due to the potential challenges in income generation faced by certain segments of the population, while simultaneously augmenting the income of artificial intelligence technology proprietors. Consequently, it is imperative for AI technologies to prioritize the establishment of a future that adheres to core ethical standards, aiming to derive conclusions and promote fairness within the labor market, while upholding concepts of equality and justice on a national scale.

Conclusion

The advancements in artificial intelligence have led to a significant technological revolution.

Furthermore, advancements in technology have proven advantageous to society through the development of diverse applications tailored to various sectors. The utilization of artificial intelligence (AI) has resulted in a multitude of good outcomes, including enhanced productivity and efficiency, amplified revenue generation for enterprises employing AI technology, the emergence of novel job positions, stimulation of creativity, and a decrease in instances of human mistake. However, it is important to address several obstacles that arise, including but not limited to layoffs, interruptions in the labor market, concerns over privacy, and issues pertaining to gender-based and economic inequality. The development of AI technologies necessitates adherence to ethical principles and the consideration of social implications.

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Better Society for "Differently Abled People": Possibilities and Challenges

Daisy
Research Scholar
Chaudhary Charan Singh University, Meerut
Email: daisy29atapex@gmail.com

Abstract

Changing dimensions of our journey as a nation from Amritmohatsav kcal to Amrit kaal challenges, achievements and the road ahead.

This paper explores the idea of a better society for "Differently Abled people": possibilities and challenges by creating a more inclusive society and potential advancements for greater accessibility and their empowerment. From technological innovations to changing societal attitudes, this paper unfolds the multifaceted dimensions toward a better society for everyone.

In the 1970s scenario when a child in a family was born disabled it was called that particular family was disabled because it affected the members of family, their quality of life, use of time, and financial resources. They were considered as defectologists which implies disabled persons are of less intrinsic value also they constitute for world's largest minority, India has a total population of 2.68 cr people registered as disabled. Here, social exclusion is stratified based on class, caste, and gender, differently abled people are excluded from the process of advanced human existence and development but in recent years the focus on the differently abled has gained significant focus.

In today's scenario when development is taking its own pace, and India is heading towards Amritkal which is aimed to improve the lives of the citizens, bridging the development gap between villages, cities and persons too. Govt of India has brought such policies which may lead to transformation for an equitable society. Issues like accessibility, education, self self-empowerment are need to be focused upon for persons with disabilities. Though schemes are benefitting them but still there are many discrepancies and loopholes that are not allowing them to work at their full capacity due to which they face many challenges.

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Challenges and possibilities are two sides of a coin. Though overcoming the obstacles is itself a challenging task but appropriate policies and their proper implementation will eliminate the structural, social, and psychological disparities in society. Efficient use of technology and collaboration between ministries, private and public partnerships, and the inclusive role of NGOs,s can help to tackle the situation and their future more efficiently and successfully.

Keywords

PWD (Person with Disability), Differently abled people, Amritkaal, Amritmahotsav, Sabka Sath Sabka Vikas, Equitable society, empowerment, National Policy, PwD act 1955, govt of India, Accessibility, Hygiene and Sanitation, Psychological Disability, Education, Empathy, Challenges and Opportunities, Discrimination, Awareness, Rights, UDHR, Constitution, Rehabilitation, Skilling and Vocational Training, Policies, Smart Card, Fund Utilisation.

This paper explores the idea of **a Better society for "Differently Abled people": possibilities and challenges** by creating a more inclusive society and potential advancements for greater accessibility and their empowerment. From technological innovations to changing societal attitudes, this paper unfolds the multifaceted dimensions toward a better society for everyone.

Objective

Focusing on key challenges and issues faced by Persons with Disabilities.

Identify strategic opportunities to improve and expand the participation of Persons with Disabilities.

PWD's

In the 1970s scenario when a child in a family was born disabled it was called that particular family was disabled because it affected the members of family, their quality of life, use of time, and financial resources. They were considered as defectologists which implies disabled persons are of less intrinsic value also they constitute for world's largest minority. In India, social exclusion is stratified based on class, caste, and gender, differently abled people are excluded from the process of advanced human existence and development but in recent years the focus on differently abled has gained significant importance but still a long way to go.

Introduction

Even after the Independence of 75 years the situation of persons with disabilities is not considerable. The majority are engaged in minimal living standards, and in poverty only a few of them contribute to the country's GDP. Their social and financial status is still not good. They live sympathetic and miserable life compromising their self-respect and dignity and being deprived of their rights. We need to understand that these people too, do have some basic rights which need to be adhered to and protected so that they can also live a respectful life.

Problems of PWD's :

In today's scenario when development is taking its own pace, and India is heading towards "Amritkaal" the term given by PM Narendra Modi on completing 75 years of Independence which is aimed to improve the lives of the citizens, bridging the development gap between villages and cities and persons too. Govt of India has brought such policies which may prove exceptionally workable in coming years. Various Schemes are being announced for persons with disabilities. Though these are benefitting them but still there are many discrepancies and loopholes that are not allowing them to work at their full capacity due to which they face many challenges like,

Changing or rephrasing the name will not work for them. They face challenges daily.

"Where there is a will, there is a way, but what if the way is made up of stairs instead of a ramp"! This saying absolutely fits Manoj with clutches, who has to struggle daily to attend his Ph.D. classes on the 2nd floor, which is also in a renowned state university in Uttar Pradesh. Similarly, Ramu has to again tussle up and down to get a document signed at the magistrate building in Orissa. These are not only the stories of Manoj and Ramu, but of 70% differently-abled people out of a total of 3 crore people in the total population according to the Office of Chief Commissioner for Person India, where the situation of women is even worse. To address such variations, the government introduced Person with Disability Act of 1955, which honed its way through the National Policy for Persons with Disabilities of 2016.. However, persons with disabilities are being provided access to universities, technical institutions, and other institutions of higher learning to pursue higher and professional courses. The Government of India is providing scholarships to students with disabilities to pursue studies at post-school levels but the point of accessibility is not taken into account on a serious note till now and as a result the reality is different in every aspect and despite the existence of this policy, the reality on the ground shows that there is still a long way to go in achieving a truly inclusive and accessible society for persons with disabilities.

Here I would like to draw the attention towards the 1. Area of accessibility: It's been 17 years since the policy was framed but we still PWD have to struggle daily. Everywhere they encounter the hurdle in accessing public places from schools, and colleges to hospitals, stations, and magistrate offices as they lack ramps or elevators, making it impossible for individuals with impairments to enter, public transport be it metro, bus, train or even local auto and have to stand in queues for hours. Sometimes they cannot convince other people that they are genuine ones

who deserve extra assistance. They have to tell everyone about their problem publically even if they do not want to disclose and by doing so again and again, everywhere they feel dejected, emotionally weakened and frustrated. They have to put extra effort into seeking basic rights in these places. The irony is their struggle is for basic necessities and important places is such huge that we cannot think of them going to other places that are made for fun and relaxing. Those who fall in the high-income group somehow get support but the majority lacks proper backing and support which generates a gap.

2. Sanitation and Hygiene: According to National policy for PwD 2016 govt has framed schemes and provisions which sound very lucerative. Lets take an example, whenever we go to public buildings, despite being a dedicated toilet for wheelchaired, people cannot use it because the sanitation is so poor that it is better not to use it rather than use it even in an emergency. It's a scenario of AIIMS Delhi which has recently made a new hi-tech building. The problem of Sanitation and hygiene is also an unseen arena.

The other issue which needs to be addressed is 3. Education with Vocational training: The common scenario is seen children with disabilities are not given preference in school, they are mocked for their condition which makes their morale down. Though dedicated schools, and NGOs are functioning but still they are not enough. Even if secondary-level education is gained, the tussle for higher education is quite pathetic. They do not get desired subjects and end up taking random streams which lead them nowhere.

The problem is not only about institutions, the challenge is too for the way they must be taught. The quest for getting job is another hurdle as no one shows any interest in hiring them especially corporate firms. They are found ineligible mostly for every job. Even though our Constitution says there is equal opportunity to work, still it is not followed.

Now the issue : 4. Limited Tools and technology: available to them, however with the advent of smartphones they have got a powerful tool but still in the long run we have not been able to fulfil their need. For example, even the basic "Braille" is not provided in all schools and colleges in the country.. Even though the Right to education is a Fundamental right these people are still deprived of it in a way that does not have proper facilities which are specific. Lets say, that even if they manage to acquire a particular degree they still struggle for job.

5. Psychological Disability: Disability is not only what can be seen , disability is such which cannot be seen. A differently-abled person doesn't mean he

has a deformity in limbs only, the mental disability is equally challenging. This category of people is most vulnerable and susceptible to mishappening and misfortune as they demand extra care and facilities.

They need protection and are dependent on others even for their everyday routine work. This category includes people having Parkinson's disease, Alzheimer's, etc

6. Discrimination and Inhumane Treatment: Person with disabilities are discriminated against in various places, they are not equally treated and deprived of their rights. Such discrimination and inequality at different places such as government offices, job opportunities, and government schemes and so on make their lives more problematic and sorrowful. If they are been given equal opportunity, they may make their lives better. But in India the disabled persons are kept away from the all sections due to the discrimination and inequality. For example, if they visit any public place like a Bank or hospital, they are asked to wait and called again and again unnecessarily causing frustration and anger which sometimes leads to down Morale, sometimes they are even charged money for their work to be done. Such inhumane treatment makes them feel agitated, make them feel helpless. They are misguided and ignored which leads to low confidence. Everyone is known by others due to their identity in the world. The identity gives the man respect and a sense of pride to move in the society. But the disabled persons have to struggle to create their identity. The loss of identity makes their identity as only their disability which seems to be so miserable. In today's world of globalization and technology, they have to suffer from a lot at every now and then. When they become disabled either by birth or accident, their attempt at life seems to be very pitiable and struggling. Their sufferings and sorrows can never be felt and understood by the normal people who never faced such conditions. They crave for identity. There are very few disabled persons who are well educated struggling against the circumstances even if they don't get the desired employment due to their disability. They are neglected and shown only sympathy. Disabled persons are ignorant about the government laws and schemes and they are often misguided so that they do not avail their Rights and this leads to corruption and improper utilization of funds.

What Can Be Done

Challenges and possibilities are two sides of a coin. Though overcoming the challenges is itself a challenging task but precise policies and their proper implementation will eliminate the structural, social, and psychological differences in society. Efficient use of technology and cooperation between ministries, private

and public partnerships, inclusive role of NGOs,s can help to tackle the situation and their future more efficiently and successfully.

To empower the disabled persons, there is an extreme need for remedies for the empowerment of their rights. If their rights are empowered, their problems will end to some extent. Prof. Stephen Hawking stated, 'Disability need not be an obstacle to success. We have a moral duty to remove the barriers to participation, and to invest sufficient funding and expertise to unlock the vast potential of people with disabilities. Governments throughout the world can no longer overlook the hundreds of millions of people with disabilities who are denied access to health, rehabilitation, support, education and employment, and never get the chance to shine. (https://thewire.in/health/persons-with-disabilities-challenges-india)

If we talk at the International level, India is a signatory of the United Nations Convention on Rights of Persons with Disabilities (UNCRPO) but India has not ratified ILO Convention, 159, which concerns Vocational Rehabilitation and Employment for Disabled Persons Convention, this needs to be ratified as it promotes equality of treatment between disables and non-disabled workers as it makes mandatory to provide vocational rehabilitation and employment services for them. But still many efforts are lacking in the development and empowerment of them. A genuine will to uplift them and make them part of the mainstream is lacking.

There is an urge to decode the problems and provide them familiar environment and we can start with the:

Firstly we need to recognize them and then their need. The first step towards this direction would be, updating the UAID database like ADHAAR indicating a column of pwd connecting it with a card("SMART CARD") with a dedicated colour theme can be issued and this may be available by applying online so it can be showed or swiped anywhere (without personal detailing), and this card should be recognized all over India. It should be used especially for hassle-free travel, like getting seats on public transport, not to mention that the surroundings need to be disabled-friendly by constructing ramps and elevators everywhere so next time whenever these people will go out they will go will equal confidence.

After recognizing all the differently abled persons, dedicated schemes are to be made. The policies that are already running need proper implementation but policies that are not up to mark or have shortcomings need to be revised or improvised according to the exact demand.

The second issue can be addressed with proper management of network of sanitation working authorities. Dedicated departments for the sanitation of Public buildings and washrooms need to be made so that sanitation can be maintained.

Surprised and uninformed visits of Higher authorities can also help keep these places cleaner.

Education is such a powerful weapon that can eliminate all sorrows of the life of a human. The foremost step is to make these people educated by any means and going to any extent. Education must reach to even person at the last mile. Running education programs and skilling programs will encourage all these people to do things out of their capabilities. They would not be considered a burden anymore. For specific disability a specific education program is needed. For Instance, Vision disabled people need their books to be written in braille language and audio versions to be made available everywhere, similarly people with hearing and speech disability need special sign language teachers and instructors. Locomotor disabled need proper infrastructure like lifts, elevators, and ramps, so that their accessibility is not hampered.

Empowering them by providing skills and training so that they can bear their own finances. There is a very good example of a Café in Delhi. The unique thing about this café is that all the staff working here are deaf and mute. Such kinds of things need to be get encouraged by normal people and even by the government by providing firms with special aids who assist to disabled.

Similarly recently a video went viral on YouTube in which a girl having Prakinson's disease was operating a burger stall. She was solely making the burgers and giving them to her customers. She was helped by her father.

Sheetal Devi who became the India's and the world's first female armless archer has set another tremendous example that they can become a good athlete too. Recently, she received the Arjuna Award from the President.

Sports colleges must be opened for those who would dedicatedly work on enhancing their skills. Nothing is impossible.

"*These instances show us the true meaning of Differently abled and not disabled*". Also they set example that if they are provided some assistance, not discrimination they too can lead a respectable life by becoming an asset to a country and not a burden.

However, this can only become possible if they are not discriminated against on any ground and even if they are, those people must be punished as there are provisions of punishment. The National Policy of Persons with Disabilities 2016 provides a total of 17 chapters out of which the most effective chapter is 16 which are entitled to offenses and penalties. In this chapter, section 92 is very prominent because the provision of punishment for offences of atrocities is given which is

follow- · intentionally insults or intimidates with intent to humiliate a person with disability in any place within public view; · assaults or uses force to any person with disability with intent to dishonour him or outrage the modesty of a woman with disability; · having the actual charge or control over a person with disability voluntarily or knowingly denies food or fluids to him or her; · being in a position to dominate the will of a child or woman with disability and uses that position to exploit her sexually; · voluntarily injures, damages or interferes with the use of any limb or sense or any supporting device of a person with disability; · performs, conducts or directs any medical procedure to be performed on a woman with disability which leads to or is likely to lead to termination of pregnancy without her express consent except in cases where medical procedure for termination of pregnancy is done in severe cases of disability and with the opinion of a registered medical practitioner and also with the consent of the guardian of the woman with disability, shall be punishable with imprisonment for a term which shall not be less than six months but which may extend to five years and with fine. (Sec.92, Rights of PWD Act 2016)

Fund Utilisation : According to TISS (Tata Institute of Social Sciences)showed, institutions like NHFDC that provide financial support for entrepreneurial activities to Pwd could not even use half of the funds. So, a commitment is needed and a robust mechanism for implementation.

Conclusion

In this way, the above-mentioned explanation of the various problems of differently-abled persons is discussed with ample references. The problems of disabled persons have always been serious concerns and hurdles in the ways of their careers, progress and happy lives. Moreover normal people in society do need to feel that being empathetic is necessary and not being only sympathetic. They too need love and recognition in terms of humans. Upbringing starts from home itself so we need to make ourselves more broad-minded. We need to create an inclusive society by protecting their all rights like the right to live, right to education, health, work, marriage, privacy, etc.

The role of awareness is also crucial, we need to educate people and make them aware through mass education using advertisements and social media apps like Instagram and Snapchat, Twitter which are famous among youth, so that they can become empathetic and sensitive towards them and learn how to deal with people with disabilities, so that they do not feel dejected from the mainstream of society.

We must try to create an inclusive environment so the purpose of Sabka Sath Sabka Vikas Sabka Vishwas cannot be defeated and this can only be achieved with proper implementation of policies and utilization of funds, educating and sensitizing people.

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Technological Leapfrog: from Amrit Mahotsav to the Digital Age

Ms. Ananya Dixit
Student
M.A. Economics
IIS (Deemed to be University), Jaipur, Rajasthan

Abstract

This article explores India's extraordinary technological journey from the Amrit Mahotsav, marking 75 years of independence, to the present digital age. Using a data-driven approach, the narrative delves into key milestones, starting from the post-independence era, where the focus was on foundational nation-building, to the inflection point of the Information Technology (IT) revolution, the Mobile Revolution, and the transformative Digital India initiative. The data points highlight the exponential growth in the IT sector, the democratization of information through mobile technology, and the impact of initiatives like Aadhar and Digital India on governance and financial inclusion. The article also examines the rise of India's start-up ecosystem, its global impact, and the country's strategic investments in emerging technologies. As India steps into the Amrit Kaal, the data underscores the nation's resilience, adaptability, and potential for continued technological advancement, shaping a future where technology fosters inclusivity and propels India onto the global stage as a technological powerhouse.

Keywords

Inclusive growth, Digital Transformation, Emerging Technologies, Sustainable Development, Digital Literacy.

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Ms. Ananya Dixit

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Introduction

Seventy-five years ago, as the echoes of freedom resonated across the Indian subcontinent, a nation embarked on a journey of self-discovery and resilience. The Amrit Mahotsav, commemorating 75 years of independence, stands as a testament to India's unwavering spirit. In this milestone celebration, from the nascent years post-independence to the present digital age, this article delves deep into the data-backed journey, highlighting the remarkable leapfrog that has propelled India onto the global technological stage. It is fitting to examine the incredible technological metamorphosis that has propelled India from the dawn of independence to the vibrant digital age we inhabit today.

I. Pioneering Independence to Silent Technological Whispers:

A. The Post-Independence Landscape:

In the aftermath of independence, India faced the colossal challenge of nation-building (with a GDP per capita of just $91 in 1950). The nascent nation grappled with economic stagnation, a predominantly agrarian economy, and an urgent need for infrastructure development. Technological advancements were limited, and the focus was on laying the groundwork for a self-reliant India.

B. Early Technological Endeavours:

The first few decades post-independence witnessed modest technological advancements. Industries like agriculture and manufacturing saw incremental improvements, and the Green Revolution of the 1960s marked a pivotal moment in enhancing food production (i.e. boosted agricultural productivity, contributing to an annual growth rate of 2.9% in the agriculture sector). However, the technological footprint was still faint compared to the rapid strides made by other nations.

II. The Inflection Point: Information Technology Revolution

A. Dawn of the IT Era:

The 1990s heralded a seismic shift in India's technological landscape with the Information Technology (IT) revolution. The IT boom (in the 1990s) marked a watershed moment, propelling India's GDP growth from 1.1% in 1991 to an impressive 7.5% by 1996.

Globalization opened doors for Indian IT professionals, leading to the establishment of the country as a global outsourcing hub. The export revenue from the IT industry soared from $100 million in 1990 to a staggering $147 billion in 2020.

The Y2K boom acted as a catalyst, propelling India onto the international stage as a formidable player in the technology domain.

B. Outsourcing Phenomenon:

The outsourcing phenomenon not only bolstered India's economy but also fuelled the growth of the IT sector. Cities like Bangalore and Hyderabad transformed into bustling tech hubs, attracting talent from across the nation. India became synonymous with software development and IT services as the share of India in the global outsourcing market reached approximately 56% by 2020 (i.e. reflecting the country's dominance in the IT services sector); signaling a paradigm shift in the country's economic trajectory.

III. Mobile Revolution: Connecting a Billion Dreams

A. Rise of Mobile Technology:

The dawn of the new millennium brought with it the Mobile Revolution, a phenomenon that would redefine connectivity in India. The widespread adoption of mobile phones witnessed an exponential increase in mobile phone users, reaching over 1.2 billion by 2020; coupled with affordable data plans and increased smartphone penetration resulting in an average monthly data consumption of 13.5 GB per user in 2021, transforming communication and accessibility. Remote areas that were once isolated from the digital realm now found themselves connected to a network of possibilities.

B. Democratization of Information:

Mobile phones became more than communication devices; they became gateways to information. The rural-urban digital divide began to blur as even the remotest corners of the country gained access to educational resources, healthcare information, and government services. The digital wave was now reaching every nook and cranny of the nation leading to a substantial reduction in the rural-urban digital divide, with rural internet users accounting for 45% of the total user base in 2022.

IV. Digital India Initiative: Transformative Governance

A. Catalyst for Change:

In 2015, the government launched the Digital India initiative, a visionary plan to transform the nation into a digitally empowered society and as a result witnessed a surge in digital transactions, with the total number reaching 40 billion in 2021, a significant jump from 17 billion in 2019. The initiative encompassed various facets, including e-governance, digital infrastructure development, and the push for digital literacy. The goal was to bridge socio-economic gaps and ensure that the benefits of technology reached every citizen.

B. Aadhar, E-Governance, and Financial Inclusion:

Key components of the Digital India initiative included the Aadhar identification system (i.e. a cornerstone of Digital India), which became the linchpin

for various services, that enrolled over 1.3 billion citizens, facilitating streamlined and secure digital interactions. E-governance initiatives streamlined administrative processes, reducing bureaucracy and corruption. Financial inclusion efforts like the Pradhan Mantri Jan Dhan Yojana ensured that even the financially marginalized could participate in the formal economy which led to the opening of over 430 million bank accounts for the unbanked population by 2022.

V. Start-ups and Innovation: A New Era Dawns

A. Entrepreneurial Spirit:

As the digital wave gained momentum, a parallel surge was witnessed in India's start-up ecosystem. Entrepreneurs armed with innovative ideas ventured into various domains, from e-commerce to healthcare. The government's support through initiatives like Startup India fostered a culture of innovation, transforming India into a breeding ground for cutting-edge solutions. This ecosystem flourished, with over 50,000 start-ups operating in India by 2023, covering diverse sectors from fintech to health tech.

B. Global Impact:

Indian start-ups began making waves globally, challenging established norms and contributing to the global tech narrative. The success stories of companies like Flipkart, Ola, and Zomato exemplified India's prowess in innovation and entrepreneurship. Indian start-ups attracted significant global investments, with cumulative funding crossing $100 billion in 2023, reflecting international confidence in India's innovative capabilities. The world started to view India not just as an outsourcing destination but as a hotbed of creativity and technological ingenuity.

VI. Artificial Intelligence and Beyond: Shaping the Future

A. Emerging Technologies:

As we step into the digital age, the spotlight is now on emerging technologies like Artificial Intelligence (AI), blockchain, and the Internet of Things (IoT). India is increasingly investing in research and development in these fields, as an investment in Artificial Intelligence (AI) exceeded $8 billion in 2022, signaling its intent to be at the forefront of shaping the future of technology and positioning India as a key player in shaping the future.

B. Challenges and Opportunities:

However, with great technological strides come significant challenges. The digital divide, cybersecurity threats, and the ethical implications of advanced technologies demand careful consideration. The nation is at a crossroads, facing the dual challenge of reaping the benefits of technological advancements while mitigating the risks.

Despite these challenges, the information security market in India witnessed a compound annual growth rate (CAGR) of 22% from 2018 to 2022, underlining the increasing focus on cybersecurity.

VII. The Amrit Kaal: A Glimpse into the Future

A. Unfinished Symphony:

As India enters the Amrit Kaal, the symphony of technological progress continues to play. Challenges persist, but so do opportunities. The journey from the Amrit Mahotsav to the present has been one of resilience, adaptation, and growth. The Amrit Kaal holds the promise of a future where technology becomes an even more integral part of the nation's identity. In other words, the digital literacy rate has surged to 75%, laying the groundwork for a future where technology becomes an integral part of everyday life.

B. Fostering Inclusivity:

The digital age, while transformative, has also accentuated existing disparities. Bridging the digital divide and ensuring that the benefits of technology reach the marginalized sections of society is a challenge that needs urgent attention. The Amrit Kaal beckons us to build a future where the fruits of technology are inclusive and accessible to all.

Initiatives addressing inclusivity challenges, such as the Skill India program, have led to an increase in employability, with over 2 million individuals upskilled annually since 2016.

Conclusion

The technological leapfrog from the Amrit Mahotsav to the digital age is a saga of determination, adaptability, and innovation. The journey is not merely anecdotal; it is a narrative woven with data and facts. India has moved from the periphery to the center stage of the global technological narrative. As we stand at the cusp of the Amrit Kaal, the journey is far from over. The challenges are real, but so is the potential for transformative change. The digital age is not just a phase in India's history; it is a continuum, a story that unfolds with each innovation, each breakthrough, and each stride towards a future where technology becomes both, the bridge that connects a billion dreams and also the beacon illuminating the path toward progress, inclusivity, and a thriving digital India.

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Synergies of Artificial Intelligence and Mathematics: A Study

Jaivindra Tomar
V.V. P.G. College, Shamli, U.P.
Email: arvindtomarmaths@gmail.com

Soshal
Shaheed Mangal Pandey Govt. Girls P.G. College
Meerut, U.P.
Email: sainisoshal25@gmail.com

Abstract

Since mathematics is the basis of the models, algorithms, and procedures that let machines process and interpret enormous volumes of data, mathematics plays a crucial role in the creation of artificial intelligence. Consequently, a thorough grasp of the mathematical ideas underlying AI is crucial for professionals wishing to comprehend, develop, and utilize the technology. AI and mathematics are related and enhance one another. The advancement of algorithm development and the solution of challenging issues have been made possible by the incorporation of machine learning into mathematics. In this paper, we study various articles to provide a summary of the relationship between AI and Mathematics.

Keywords

Artificial intelligence, Mathematics, Machine learning.

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Jaivindra Tomar, Soshal

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Introduction

While being separate disciplines, mathematics and artificial intelligence (AI) have many characteristics. AI is based on mathematics, which is also used to create models, evaluate data, and create algorithms. Artificial intelligence (AI) is a branch of computer science that focuses on building intelligent computers that are capable of carrying out tasks that normally require human intellect, like speech recognition, visual perception, decision-making, and language translation.

Artificial intelligence (AI) has a broad range of applications, from self-driving cars to virtual personal assistants, and it has the potential to transform many sectors. To create intelligent software and systems, artificial intelligence (AI) requires analyzing cognitive processes and patterns seen in the human brain.Applications of artificial intelligence (AI) in education are growing in popularity and have received a lot of attention lately. AI represents a breakthrough in original and creative thinking across a range of domains, including the teaching of mathematics. The current analysis shows that diverse AI research has been conducted in varied contexts. Utilizing AI can improve our capacity to live in a world where technology is becoming more and more advanced. The advancement of computer technology serves as the foundation for AI's ongoing growth and innovation. With the use of AI, students can improve their cognitive and mathematical learning abilities.

Mathematics serves as the foundation for AI algorithms and models, allowing machines to process, analyze, and understand massive volumes of data. Developing machine learning algorithms requires an understanding of concepts from statistics, probability theory, calculus, and linear algebra. These algorithms recognize patterns, forecast outcomes, and categorize data using mathematical equations and functions.

How Mathematics is Used in AI

Of course! AI requires mathematics, which is utilized in many different contexts to create algorithms, improve models, and conduct data analysis. Some of the areas of mathematics are given below:

1. **Linear algebra** is one area where mathematics is utilized in artificial intelligence. Mathematicians who study linear equations and their vector space representations are known as linear algebraists. AI uses it to understand relationships between variables and display data. For example, principal component analysis (PCA), a statistical method for reducing the dimensionality of huge datasets, uses linear algebra.
2. **Calculus** is another example; it's utilized to optimize machine learning models. Calculus is used to determine a function's minimum and maximum values, which is helpful in Calculus is used in methods like gradient descent and

backpropagation to reduce mistakes and modify the parameters of machine learning models. Artificial intelligence (AI) systems can learn from data and keep getting better at what they do thanks to certain mathematical principles.

3. **Probability theory and statistics** are essential for tasks like computer vision, natural language processing, and decision-making. The mathematical foundation for calculating uncertainty, analyzing data, and formulating probabilistic predictions is provided by probability distributions, Bayesian inference, and hypothesis testing.
4. Artificial intelligence uses **optimization techniques** including convex optimization, integer programming, and linear programming to find the best answers to challenging issues. AI is capable of optimizing responses according to standards like efficiency, relevancy, or customer satisfaction.
5. Understanding **algebra** is essential to math in general. You'll need to understand exponents, radicals, factorials, summation, and scientific notations in addition to basic mathematical operations like addition, subtraction, multiplication, and division.
6. **Information theory** is an important field that has made significant contributions to AI. Entropy also called Shannon Entropy is used to measure the uncertainty in an experiment. Cross-entropy and Kullback-Leibler Divergence compare two probability distributions and tell us how similar they are. Viterbi Algorithm is widely used in Natural Language Processing (NLP) and Speech. Encoder-Decoder used in Machine Translation RNNs and other models.

Artificial Intelligence in Mathematics

Artificial intelligence (AI) has several applications in mathematics, including the discovery of counterexamples to accepted theories, calculation speedups, symbolic solution generation, and the identification of mathematical object structure. AI can also be used at the forefront of mathematical research, helping to discover theorems and conjectures. This builds on previous work that used supervised learning to identify patterns by emphasizing the ability of mathematicians to comprehend the functions they have learned and extract practical mathematical knowledge.

1. **Partial Differential Equations:** Equations using partial differentials are the second major class of mathematical problem settings, to which techniques from artificial intelligence are successfully applied. The superiority of such techniques in high-dimensional regimes is demonstrated by both theoretical and numerical data, although their first benefits were not evident. The study

of partial differential equations adopted these new methods much more slowly because it was not immediately clear what the benefits of artificial intelligence techniques would be for this particular field. Since a partial differential equation is a rigorous mathematical model, it appears unnecessary to use learning-type techniques. However, there has also been a paradigm shift in this field recently due to the discovery that deep neural networks can overcome the curse of dimensionality in high-dimensional contexts.

2. **Mathematical modeling** is the activity devoted to the study of the simulation of physical phenomena by computational processes. The mathematical modeling activities presented include model generation, interpretation of numerical results, and development and control of numerical algorithms.

The field of mathematical modeling may be impacted by a variety of AI concepts and methods. Specifically, knowledge-based environments and systems can offer representations and related techniques for solving problems that can be applied to encapsulate domain-specific strategies and domain knowledge for a range of ill-structured challenges in result interpretation and model building. Computational mechanics codes can be made cleaner, more readable, and more flexible by using high-level mechanisms for implementing numerical models and solutions that can be found in advanced AI programming languages and techniques. For challenges like shape description and transformation and constraint-based model representation, a range of algorithms for heuristic search, planning, and geometric reasoning can offer efficient and rigorous procedures.

Artificial Intelligence and Mathematics Education

AI also has the power to completely transform mathematics education by offering individualized learning opportunities, raising student interest levels, and strengthening students' ability to solve problems. Teachers may design dynamic, adaptable learning environments that meet each student's unique needs and learning preferences by utilizing AI. Here are some benefits of incorporating AI into mathematics education:

1. **Personalized Education Programs**

Offering individualized learning opportunities is one of the main benefits of incorporating AI into mathematics education. One-size-fits-all teaching methods are common in traditional classroom settings, when teachers move at a prescribed speed, leaving some pupils behind and boring others. AI-powered systems use machine learning methods to solve this problem. These systems use massive data analysis to evaluate users' strengths and weaknesses, pinpoint knowledge gaps, and

offer personalized exercises and information to meet individual needs. For instance, the AI system can provide extra practice problems and focused explanations to a student who is having trouble with algebra, while providing more difficult materials to a student who picks things up quickly.

2. Enhanced Involvement of Students

The use of AI technologies in mathematics instruction can greatly increase student engagement. Applications for virtual reality (VR) and augmented reality (AR), for example, offer aesthetically captivating depictions of abstract mathematical ideas. Pupils can perceive complex functions in a dynamic virtual realm, move items to comprehend spatial relationships, and investigate three-dimensional geometric structures. Mathematics becomes more concrete and easier to understand with this practical experience. To inspire students, AI-powered learning platforms can also include gamification features like leaderboards, badges, and prizes. Artificial intelligence (AI) algorithms are used by platforms like as Prodigy and Mathletics to create interactive, game-like experiences that make mathematics fun and interesting.

3. Enhanced Ability to Solve Problems

AI can be extremely helpful in helping kids improve their problem-solving abilities, as problem-solving and mathematics are intrinsically intertwined. AI-driven tutoring programs, including MATHia and ALEKS from Carnegie Learning, offer personalized instruction and support. These systems use adaptive algorithms to analyze student responses, spot misconceptions, and provide focused feedback and pointers to enhance problem-solving abilities. Numerous AI-generated problem sets covering a range of application scenarios and difficulty levels are available for students to practice with. By giving students immediate feedback and detailed instructions, the AI system improves their understanding of the problem-solving process. AI gives students the tools they need to become competent problem solvers and independent learners by fusing real-time feedback with iterative practice.

The Potential for Mathematics-driven AI

The following are some potential uses and advantages of combining mathematics and AI in fields like robotics, finance, and healthcare:

Healthcare: mathematicians help to develop AI-powered medical imaging methods, disease diagnosis models, and personalized treatment optimization algorithms, which improve patient outcomes and streamline healthcare delivery.

Finance: mathematicians use mathematical models and AI techniques to improve financial decision-making and market efficiency in areas like algorithmic trading, fraud detection, risk assessment, and portfolio optimization.

Robotics: The development of algorithms for robot perception, motion planning, and control, which allow robots to operate in challenging situations, carry out exact tasks, and effectively cooperate with people, is mostly the responsibility of mathematicians.

Natural Language Processing (NLP): Natural language processing is one area of artificial intelligence (AI) where mathematical foundations are essential. Sentiment analysis, language translation, and text production are important uses.

Education: AI powered by mathematics are instructional technologies that help students learn mathematics. They provide individualized instruction, work through arithmetic issues, and engage in interactive dialogue to clarify mathematical ideas. It modifies their teaching strategies to meet the demands of each unique learner by using algorithms founded in mathematical principles.

Customer Service: When it comes to customer service, AI with mathematical models installed can comprehend client inquiries, direct them to the relevant departments, and even anticipate their needs by looking at past data. Enhancements to user experiences are the result of this optimization of consumer interactions.

Difficulties and Ethical Issues

Even though AI has a lot of potential for improving math instruction, there are several obstacles and moral issues that need to be resolved. To begin with, it is imperative to guarantee the caliber and precision of content produced by AI. To avoid inaccurate information and learning objectives that are deceptive, educators must confirm and validate the accuracy of the exercises and solutions produced by AI. The use of AI in education also raises security and privacy concerns about data. Ensuring that AI systems follow stringent privacy standards and protect students' personal information is critical. Some of these issues are given below:

1. **Data Quality and Quantity:** Data is a key component of AI training and decision-making. Inaccurate forecasts and prejudiced answers may result from small or biased datasets. Having diverse and high-quality data is essential to enhancing AI effectiveness.
2. **Interpretability:** Because deep learning models—such as neural networks—are frequently regarded as "black boxes," it might be difficult to comprehend how chatbots determine particular outcomes. To solve this problem, efforts are being made to create interpretable AI models.
3. **Ethics and Bias:** AI may unintentionally reinforce prejudices found in their training sets, producing unfair or biased results. It is a continuous concern to ensure fairness and moral behavior, which calls for rigorous mathematical modeling and supervision.

4. **Scalability:** Developing AI using complex mathematical models can be costly and need a large amount of processing power. One of the challenges in implementing at scale is still scalability.

Conclusion

AI and mathematics are two closely related topics that can benefit greatly from one another. The advancement of algorithm development and the solution of challenging issues have been made possible by the incorporation of machine learning into mathematics. There is a bright future for mathematics and artificial intelligence, and we may anticipate more fascinating advancements in the years to come. AI makes it easier and faster for pupils to find the answers. With this cutting-edge intelligence program, kids can readily access all of the lesson's content. Since today's students are more likely to study and discover new information on their own than ever before, this potent AI tool can encourage students to explore more without waiting for a teacher. AI will never, however, "take over" the responsibility of education in any manner. Moreover, a number of obstacles must be overcome before these technologies may be used for administration, student support, teaching, and learning.

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Comparative Study of Awareness Impact of Yoga on Overall Health and Wellbeing of Male and Female Population of Meerut District

Dr. Kanhaiya Kumar Singh
Associate Professor
Department of Physical Education
IIMT University, Meerut

Ms. Priti
Research Scholar
Department of Physical Education
IIMT University, Meerut

Abstract

This study was administered to compare the effectiveness of yogic awareness between the urban and rural male populations of the Meerut district. Sample men from rural and urban areas were randomly selected for the response, where 371 men responded due to the various limitations of the study. A self-made questionnaire on the Effectiveness of Yogic awareness on Overall Health and well-being was prepared and administered in rural and urban areas of Meerut. Welch's t-test was applied to analyze the data and the results indicate that there is a significant between the means of male and female. Hence null hypothesis was rejected and the alternative hypothesis was accepted. Conclusion: There is a difference between the awareness impact of yoga on the overall health and wellness of males and females during the COVID-19 pandemic.

Keywords

Male, Female, Yogic Practices, Awareness, Overall Health and Wellness, Covid-19.

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Introduction

The new coronavirus, known as COVID-19, has been a global health problem since December 2019 and has a significant fatality rate (Guan W, Ni Z et al., 2020). After being discovered for the first time in Wuhan, China, in December 2019, COVID-19 quickly spread throughout the world, causing respiratory illnesses in some cases (Huang C, Wang Y, Li X, and others, 2020) and high rates of morbidity and mortality (Graham Carlos et al., 2020). The severe respiratory disease coronavirus 2, or SARS-CoV2, is the virus that causes this extremely contagious illness. According to a genomic study, it is linked to other severe respiratory disorders (Lu R, Zhao X, Li J et al., 2020). On March 11, 2020 (Virtual Press Conference, 2020), three months later, the World Health Organization proclaimed the COVID-19 pandemic. As of March 2020, the World Health Organization had classified COVID-19 as a "worldwide pandemic" (Kanties et al., 2020), with over a million cases documented in 90 different nations. With over 160 million infections and 3.3 million deaths globally since the outbreak started on May 13, 2021.

Hypothesis

H_0: There will be no significant difference between the awareness impact of yoga on the overall health and wellness of males and females during the COVID-19 pandemic.

H_1: There will be a significant difference between the awareness impact of yoga on the overall health and wellness of males and females during the COVID-19 pandemic.

Methodology: A self-made questionnaire was used to collect data from the sample, which was selected randomly. Where a limited number of females participated. A total of 500 participants filled out the questionnaire physically after the necessary instructions. Data were collected through a scoring table of the questionnaire and tabulated in an Excel sheet.

Data Analysis

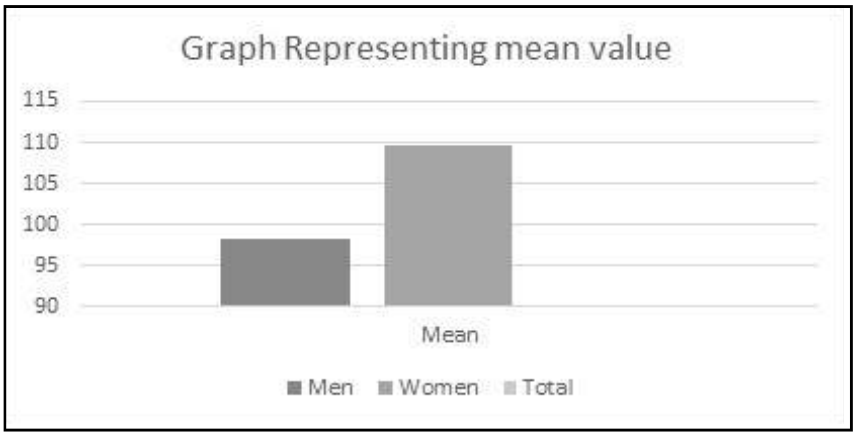
Welch's t-test was applied to analyze the data. Welch's t-test also known as the unequal variances t-test is used when you want to test whether the means of two populations are equal. This test is generally applied when there is a difference between the variations of two populations and also when their sample sizes are unequal.

Table No. – 1.1 Showing Descriptive Statistics of all the Four Groups under the Study.

Groups	Count	Total Score	Mean	Std. Deviation
Men	371	36462.21	98.280	13.01
Women	129	14140.35	109.61	16.10
Total	500			

Data Interpretation

1. **H_0 hypothesis:** Since p-value < á, H_0 is rejected. The average of **Group-1's** population is considered to be **not equal to** the average of **Group-2's** population. In other words, the difference between the sample average of **Group 1** and **Group 2** is big enough to be statistically significant.
2. **P-value:** The p-value equals **1.259e-11**, (p(xd"T) = 6.296e-12). It means that the chance of a type I error (rejecting a correct H_0) is small: 1.259e-11 (1.3e-9%). The smaller the p-value the more it supports H_1.
3. **The statistics:** The test statistic T equals **-7.2155**, which is not in the 95% region of acceptance: [-1.9726: 1.9726]. x_1-x_2=-11.33 is not in the 95% region of acceptance: [-3.0974: 3.0974]. The standard deviation of the difference, S' equals 1.57, is used to calculate the statistic.



1.1 Graphical Representation of the Data

Conclusion

Under the limitation of the study. There is a significant difference found between the awareness impact of yoga on the overall health and well-being of the male and female population of Meerut district in Uttar Pradesh.

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Transformative Technological Initiatives for Amrit Kaal: A Review of Skill India Digita, India Stack, and the National Logistics Policy

Prof. Smita Garg
Professor & Acting Principal
Digambar P.G. College, Dibai, U.P.

Abstract

This paper undertakes a comprehensive examination of transformative technological initiatives to realize the vision of Amrit Kaal - a vision in the pursuit of fostering a dynamic and inclusive economy. These technologies include the Skill India Digital initiatives, The India Fintech Stack, and the various technology initiatives under the National Logistics Policy. Under the visionary leadership of Prime Minister Narendra Modi, Amrit Kaal envisions an empowered and inclusive economy achieved through the strategic integration of good governance and Digital technologies. A focal point of this vision, the Skill India Digital platform, stands as a groundbreaking initiative aimed at providing accessible digital skills training and fostering employment opportunities. In parallel, the India Stack, a pioneering digital infrastructure, has reshaped financial inclusion by providing secure digital identity and streamlined access to financial services. Integrating into the broader National Logistics Policy, the Gati Shakti program seeks to optimize the logistics sector through the strategic implementation of digital technologies. This paper employs an academic lens to dissect the intricate details of these initiatives, shedding light on their individual and collective impact on India's economic and technological landscape. Through a meticulous analysis of these transformative technological initiatives, this paper aims to contribute to the understanding of their individual and collective impact on India's economic landscape, shedding light on the opportunities and challenges presented by the intersection of technology and governance.

The paper concludes that the total of these parallel technology initiatives collectively contributes to Total factor productivity growth. As India continues to invest in these initiatives, the cumulative impact on TFP is expected to be significant, driving sustained economic growth and development.

Keywords

Amrit Kaal, Skill India, Digital Initiatives, National Logistic Policy.

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Introduction

The Skill India Digital platform stands as a testament to the transformative power of digital infrastructure in revolutionizing the skilling landscape. Through its remote learning approach and a comprehensive array of services, it not only empowers individuals from diverse backgrounds but also aligns with the broader goal of creating a knowledge-based economy. We examine its impact on employment opportunities, industry linkages, digital skills training, remote learning, and the issuance of digitally verifiable credentials.

The digital technologies envisaged in the transformation of Amrit Kaal include a focus on digital talent development with a focus on new-age courses like coding, AI, robotics, mechatronics, IOT, 3D printing, and drones etc., (Hammer, 2021) via the establishment of 30 Skill India International centers and a unified Skill India digital platform is also proposed to enhance skilling development of widespread digital infrastructure and innovation and enhancing electronics manufacturing.

The Skill India Digital platform envisions revolutionizing the skilling landscape in India by providing accessible and affordable digital skills training. It aims to bridge the gap between job seekers and employers by offering industry-relevant knowledge and practical skills, thus ensuring that individuals are equipped with the latest knowledge and skills required by employers. The platform's remote learning approach eliminates geographical limitations, allowing individuals from rural areas or smaller towns to gain valuable digital skills. (Gupta, 2022). It also offers flexibility, enabling learners to progress at their own pace and convenience, furthermore, the platform aims to aggregate skill initiatives of all government stakeholders, build linkages of skilling with counseling, career guidance, job openings, credit, and social security, thus creating a comprehensive digital platform for skill development. (ISR_Report_2023.pdf (do3n1uzkew47z.cloudfront.net). Skill India Digital (SID) Portal has been launched as a one-stop platform that integrates skilling, education, employment, and entrepreneurship ecosystems to provide a life-long array of services targeting a wide range of stakeholders including Learners, Sector Skill Councils, Knowledge Providers, Content Partners, Training Partners, Skill Centers, Trainers, Assessors, Assessment Agencies, Awarding Bodies and Financial Institutions. (https://www.skillindiadigital.gov.in/home). The platform recognizes that only some can access traditional educational institutions or afford expensive training, and therefore provides a solution by leveraging technology to bring learning directly to individuals. (K., 2017)

The opportunities created through the Skill India Digital platform include:

Employment Opportunities: The platform serves as a one-stop solution for all skilling, upskilling, and employment opportunities, aiming to bridge the gap between job seekers and employers. (https://blog.mygov.in/creating-a-digital-ecosystem-for-skilling-and-livelihood/)

Industry Linkages: It provides a comprehensive digital infrastructure for the skilling ecosystem, integrating with various government portals and industry initiatives to offer enhanced accessibility and streamlined verification processes. (Kadaba, 2023)

Digital Skills Training: The platform offers multiple courses across sectors aimed at skilling, upskilling, and reskilling citizens for professional advancement and career development. (Gupta P., 2023)

Remote Learning: Its remote learning approach eliminates geographical limitations, allowing individuals from rural areas or smaller towns to gain valuable digital skills, thus enhancing their employability.

Digital Credentials: The platform provides digitally verifiable credentials, ensuring the authenticity of skill certifications and promoting convergence by integrating diverse government initiatives. (Singh A., 2023)

Overall, the Skill India Digital platform has been designed to revolutionize the skilling landscape in India, providing a wide range of employment and livelihood opportunities through its digital infrastructure and industry linkages.

The India Fintech Stack

Parallelly, the India Stack, a pioneering digital infrastructure, has redefined access to financial services in the country. Comprising unique layers such as Presence-less, Paperless, Cashless, and Consent, the India Stack facilitates secure digital identity, document verification, digital payments, and private data access. The profound impact of the India Stack on financial inclusion is evident in its ability to increase access to credit, micro-credit, and direct benefit transfers, fostering economic development and reducing corruption.

The India Stack is a digital infrastructure that includes a set of open application programming interfaces (APIs) and digital public goods built by the Indian government. It is designed to provide a comprehensive and secure digital identity, payment, and data-sharing framework, which has revolutionized access to financial services in India. The India Stack is different from equivalent architectures globally in its ability to support not just open banking but open finance as well, with synergies across banking, wealth management, insurance, and other products. (Yan

Carrière-Swallow, 2021) It has also enabled rapid innovation in the financial services sector and has been a key driver of economic development in India. The expansion of digital payments, facilitated by the stack, is an important driver of economic development in India and has helped stabilize incomes in rural areas. (Dermish, 2021) The India Stack is revolutionizing access to finance and is widening access to financial services in an economy where retail transactions are heavily cash-based. (Jain, 2020)

The India Stack is comprised of four layers that perform "basic" functions and operate independently (Derryl D'Silva, 2019):

Presence-less Layer: Provides a unique identification key for individuals through the Aadhaar program.

Paperless Layer: Enables the issuance and verification of digitally signed documents.

Cashless Layer: Facilitates digital payments and settlements.

Consent Layer: Manages the secure and private access to an individual's personal data.

It is the largest open API in the world. The India Stack's unique features, such as the Aadhaar digital ID, open networks, and data-sharing framework, set it apart from equivalent architectures globally and have made it a model for other emerging markets and developing economies to learn from.

The impact of India's stack on financial inclusion can be supported by multiple data points. As recently as 2017, the financial inclusion index compiled by Khera and others (2021a) showed that India's financial inclusion in payments, both traditional and fintech-based, is lower than that of other economies, leaving ample scope for improvement. However, more recent disaggregated data available until 2021 from the IMF's Financial Access showed that India's financial inclusion has improved significantly. This is also visible in day-to-day life in increased usage of digital wallets and mobile money which have contributed to the expansion of financial access. (Maji S. K., 2023). Financial inclusion has a positive significant impact on the GDP. (Pradhan R. P., 2021), (Dahiya, 2020). The World Bank has also praised India's stack for its transformative impact on the country's financial inclusion and delivery, which can lead to productivity gains and support economic growth. The IMF has also noted that financial access allows firms to invest and households to smooth their consumption and build capital, fostering the creation of businesses and helping to improve people's livelihoods, which has positive macroeconomic effects.

The Unique Identification Authority of India (UIDAI) has enabled lower-cost servicing of very low-balance bank accounts. Facilitation of the e-KYC process has significantly reduced the cost of conducting e-KYC from $12 to 6 cents, which laid the foundation for the opening of more than 450 million new zero-balance bank accounts under the Pradhan Mantri Jan Dhan Yojana (PMJDY). These bank accounts in turn enabled direct benefit transfer and reduced corruption in government services access for the poor. As of now, the cumulative total of Direct Benefit Transfer stands at [1] 33,87,770 crore. (https://dbtbharat.gov.in/). The DBT and other governance reforms have led to the removal of duplicate, fake, and non-existent beneficiaries, resulting in substantial savings. For instance, the Ministry of Rural Development has estimated a 10% savings on wages due to the deletion of duplicate, fake, or non-existent beneficiaries under the Mahatma Gandhi National Rural Employment Guarantee Scheme. Similar savings have been estimated in other schemes as well. (https://dbtbharat.gov.in/static-page-content/spagecont?id=18).

The adoption of UIDAI and India Stack has significantly increased access to credit and micro-credit in rural India. The rich data set provided by India Stack enables lenders to assess creditworthiness more accurately, making it significantly easier for borrowers to access loans. The Account Aggregator architecture has the potential to transform the lending landscape for the 92% of small businesses by alleviating the challenges faced by lenders in underwriting small amounts of unorthodox loan packages. The Open Credit Enablement Network (OCEN) built on the AA Framework principles, digitizes the lending process end-to-end. Using India Stack, rural fintech companies are creating digital platforms allowing farmers, merchants, and citizens in rural areas to access financial products and services, including loans, insurance, and investment products easily.

The National Logistics Policy

Growth of human capital through the Digital Skill India Initiatives and the financial inclusion through the India stack is complemented by The National Logistics Policy, which is a comprehensive policy that strives to reduce the time, cost, and wastage in the movement of goods. The policy aims to optimize the logistics sector by leveraging digital technologies such as Geographic Information Systems (GIS), Remote Sensing, Artificial Intelligence (AI), Mobile Applications and Satellite Imagery. These technologies, integrated into the Gati Shakti program, are poised to create a seamless multi-modal transport network, optimize logistics operations, and spur economic growth.

The National Logistics Policy (NLP) of India is a comprehensive effort aimed at addressing the excessive cost and inefficiency in the country's logistics sector. It provides a roadmap for enhancing the transportation of goods and services, developing infrastructure, reducing logistics expenses, and increasing the effectiveness of supply chains. The policy aims to reduce logistics costs, streamline the transportation of goods, and create a more efficient supply chain, to make Indian products more competitive in the global market. The NLP was approved by the Union Cabinet on July 22, 2020, and was subsequently released for implementation. It aims to lower the cost of logistics from the existing 13-14% (Pradhan, 2013) and lead it to par with global standards, thereby increasing the competitiveness of Indian products both in the domestic and international markets.

The policy aims to create a robust digital infrastructure to support seamless multi-modal connectivity and efficient data sharing among various stakeholders in the logistics ecosystem - across various sectors, including transportation, warehousing, and supply chain management, to improve efficiency and reduce costs. The policy aims to create a data-driven decision support mechanism that will help in identifying bottlenecks and gaps in the systems and promote standardization of physical assets and benchmarking of service quality standards to ensure consistency and reliability in the logistics sector. It also focuses on the need for skilled manpower and capacity building and focuses on improving the quality of logistics services by implementing a services improvement framework that will help in identifying areas for improvement and implementing necessary changes. Budget 2023 saw the capital investment outlay rise to ₹ 10 lakh crore, which is a 33% increase from the previous year. While the capex budget may not be enough to create an immediate impact, here again the use of Open APIs can foster greater private-public and inter-agency collaboration for extracting the maximum productivity from a limited budget.

The Unified Logistics Interface Platform (ULIP) is a digital platform to connect various ministries and establish a single point of contact in the logistics sector, to enhance efficiency and reduce time constraints, improve transparency, and provide visibility for optimal usage of various modes of transport. ULIP comprises a three-tier structure, including a governance layer for data mergers with government ministries, a logistics layer for tracking cargo movement, and a services layer for identifying cost-effective logistics modes. The platform enables cargo movement to be tracked in real-time on a single platform, identifies cost-effective logistics modes, and reduces truck empty movement. ULIP standardizes data and processes across different logistics systems, making it easier for companies to track and manage their logistics operations.

In addition to the Unified Logistics Interface Platform (ULIP), the Gati Shakti program will adopt various digital technologies to drive its objectives. (Some of these technologies include:

1. Geographic Information System (GIS): GIS is a central component of the Gati Shakti program, providing spatial planning tools and leveraging imagery from the Indian Space Research Organisation (ISRO)
2. Remote Sensing and Image Processing: These technologies help in monitoring and analyzing the progress of infrastructure projects and identifying potential issues.
3. Artificial Intelligence (AI): AI will be used to optimize routes and reduce travel time for goods and services, as well as to prioritize projects through cross-sectoral interactions.
4. Mobile Applications: Mobile applications will be developed to facilitate seamless communication and collaboration among various stakeholders involved in the Gati Shakti program.
5. Direct-to-Consumer (D2C) Brands: The emergence of D2C brands is another sector where agile supply chain and tech-based logistics will play a significant role in bridging the gap between supply and demand.
6. Satellite Imagery: Satellite imagery will be used for monitoring and ensuring timely clearances, as well as in project monitoring.

These digital technologies will be integrated into the Gati Shakti program to create a seamless multi-modal transport network, optimize logistics operations, and drive economic growth in India.

While the paper provides a comprehensive analysis of several transformative technology initiatives in India, there are additional technological endeavors that, if examined in depth, could further enrich the understanding of India's evolving digital landscape. The following technology initiatives are notable in their impact and could be considered for inclusion in future analyses.

Smart Cities Mission

In-depth analysis could explore how these smart cities leverage digital technologies for efficient resource management, sustainable infrastructure, and improved quality of life. (Pradhan R. P., 2021)

Aatmanirbhar Bharat (Self-Reliant India) Initiatives

Aatmanirbhar Bharat encompasses various initiatives promoting self-reliance, including the push for indigenous manufacturing, research, and development. A detailed examination could assess how these initiatives,

contribute to decoupling of the Indian economy from global shocks and eventually lay the groundwork for moving up the value chain in manufactured and engineering goods exports. (Mukherjee, 2022).

Digital Health Initiatives

With the increasing importance of healthcare, various digital health initiatives, such as the National Digital Health Mission (NDHM), can be analyzed to understand their impact on healthcare accessibility and overall public health. (Sharma, 2023), (Bajpai, 2020)

E-Governance Initiatives

Beyond India Stack, there are ongoing e-governance initiatives at various levels of government, seeking to enhance service delivery and transparency. A detailed analysis could delve into the successes and challenges of these initiatives, exploring their implications for citizen engagement, administrative efficiency, and digital inclusivity.

Incorporating these technology initiatives into future analyses would broaden the scope of understanding the technological landscape in India, providing a more holistic view of the ongoing digital transformation and its implications for economic and societal development.

Conclusions

In conclusion, the multifaceted analysis presented in this paper illuminates the transformative potential embedded within the technological initiatives of Amrit Kaal, Skill India Digital, India Stack, and the National Logistics Policy. The Skill India Digital platform emerges as a beacon of empowerment, democratizing access to digital skills and reshaping the employment landscape. Concurrently, the India Stack's influence on financial inclusion underscores its role in fostering economic development and reducing systemic inefficiencies. The Gati Shakti program, integrated with cutting-edge digital technologies, is poised to revolutionize the logistics sector, thereby enhancing supply chain efficiency and bolstering India's global competitiveness. Collectively, these initiatives embody the nation's commitment to harnessing technology for inclusive growth and sustainable development. As we traverse the intricate interplay of policy, technology, and governance, this analysis contributes to a nuanced understanding of the challenges and opportunities inherent in India's technological trajectory, underscoring the imperative for continued research and strategic policy considerations in navigating the evolving landscape of the digital era.

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Emerging Trends and Digitization in the Education System

Charu Bansal
Research Scholar
Department of Economics
SMPGG PG College
Madhavpuram, Meerut

Prof. Bharti Dixit
Department of Economics
SMPGG PG College
Madhavpuram, Meerut

Abstract

Education plays a key role in nation-building as it decides the direction for the society to develop. Education is the driver for achieving different societal milestones. Advancement and development are the need of the day and both cannot be achieved without education. For this reason, education has caught the limelight and turned out to be of paramount significance. Education, provides a conducive environment required to ensure all round development of an individual. In the current context of the education environment, digitization is a powerful tool to bring about modernization.

Digitization refers to the introduction of new technological tools to be used as resources while imparting education. In the 21st century when the world is testing technology like 6G we are using decades-old techniques of imparting education. In developing countries where there is a lack of resources,the educational system is being run in a very old-fashioned way. In this research paper an attempt is being made to discuss the reforms being made towards digitization of education and further emerging trends and their system.

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Indian Education System in Ancient Times

Recognizing the need and importance of education in the development of Indian society, systematic system of education was developed in India in historical times. In ancient times, there was a tradition of sending the child to Gurukul to acquire the knowledge of different fields like Chemistry, Politics, Biology, Astronomy etc. Not only Indians but also a large number of foreigners took education from institutions like Taxila, Nalandaetc. However, reforms and changes were witnessed in the then-existing educational system, with the rise of Buddhism. Buddhism differed from the Vedic education system as the Buddhist system of education was known for equality among all castes. Not only Brahmins were the teachers but others also and education was available for all. The Buddhist education system brought about positive changes in the methodology of education as it was more people-centered.

During British rule, the Christian missionaries started their work in the field of education, though they focused primarily on conversion and the spread of religious teachings. The Charter Act was introduced in 1813 in which a sum of [1] 1,00,000 was sanctioned to be utilized for the education of Indians. Under colonial rule, education was provided only for clerk production who would act as a connecting link between the British government and the Indian masses. The sole objective of the system was to keep the British rule strong and to exploit human and natural resources to the maximum possible extent.

Starting of Digital Education

Digital education refers to teaching learning through electronic devices using soft content. Through this system of education, students can learn without being physically present in any school or college. Digital education can be categorized into two types. The first type constitutes the one in which teacher and learner are connected on real real-time basis as through video conference. In the second type real-time connection is not present between the teacher and the learners as in TV and radio. The attempt for widespread of education through digital means was first made in 1937 through a radio program named school broadcasting project to be done with the school. This program was then limited to Mumbai, Delhi, Madras and Calcutta. However, the program could not be successful owing to the disparities in timetable in syllabus across the states. In 1956, a UNESCO-assisted program was initiated on All India radio as a “Community development project” to spread awareness of agriculture-related work. The program ran based on listening cum discussion cum action and was named a “Radio forum project”. This radio program was operated in 144 villages in Maharashtra and was the first to achieve success.

Other such successful programs are- the "University Broadcast Project" of 1965, "Farm And Home Broadcast Project" Of 1966, "IGNOU AIR Broadcast" of 1992, "Gyan Vani" of 2001 etc. (R.V Vyas et al, 2002) . The year 1961, marked the starting of education through television. This program was named a Secondary school education project. The aim behind the launch of this program was to teach English Hindi physics and chemistry to the students of class 11th. In 1966,"Delhi Agriculture Television" was started to provide information related to agriculture to the farmers in Delhi. The program proved to be beneficial in terms of educational action towards green revolution in India. In the field of digitization in education, development was witnessed with the launch of the INSAT (Indian National Satellite) program. The main focus of this program was on rural and backward areas. Through this project various educational programs were launched, thusbenefitting thousands of students. In 2000, with the combined efforts of the Ministry of Information and Broadcasting, Ministry of Human Resource, IGNOU and Prasar Bharati, a television channel "Gyan Darshan" was started which was dedicated exclusively to education. Initially it was broadcasted for only 2 hours but in due course of the time limit was extended to a whole day.

In 2017, a group of 22 channels named "Swayam Prabha" was broadcast to provide enriched educational content for the students of higher secondary and higher education. Later on, the number was increased to 34. Swayam Prabha is a 24*7 and free-to-AIR group of channels. Fresh content is provided for 4 hours and gets repeated 4 to 5 times a day so that the students can watch at their own convenience. (R.V. Vyas et al, 2002)

Digital Education during the COVID-19 Pandemic

Outbreak of the COVID-19 pandemic brought about a revolution in the educational system and the COVID-19 pandemic affected our lives badly. Developing nations like India were badly hit in terms of education. All schools and colleges were closed from 25 March 2020 due to the lockdown which had devastating outcomes for students especially for primary classes. 2.40 crore enrolled students faced loss of learning during lockdown. To mitigate this loss, guidelines for online classes were issued by the Ministry of Human Resource and Development. As per the guidelines, students were classified into three categories based on the availability of the Internet and devices. The first category comprised of the students who possess smartphones and the Internet. The second category includes those who possess a smartphone but do not possess the Internet. In the third category, some students can study through television or radio only due to non possession of online resources. For these different categories, comprehensive guidance was provided by the ministry

to ensure a hassle-free teaching-learning process. In government schools online classes were provided through the "DIKSHA" platform (an initiative of NCERT). Various other platforms like Zoom, Webex, Google Meet etc. were used by private schools, colleges and other educational institutions. YouTube videos and channels gained popularity wherein the educationist delivered educational content either live or in recorded form.

Despite all these efforts made by government and educational institutions, a study conducted in January 2021 by, Azim Premji University on more than 16,000 children of classes second to sixth from 5 states revealed that over the past year around 92% of children lost at least one specific language ability. 82% of children lost at least one mathematical ability. Poverty, low internet penetration and bandwidth are the major obstacles to online education in India. The Parliamentary Standing Committee report conveys, "about 70% of the country does not have access to Internet connectivity and available quality of connectivity is poor" (Manas Gohain, 2021)

More study and research are required to be done to provide better methodology, interaction and design in the online system of education.

For this research paper a survey was conducted using Google Forms. 120 educationists including Principals, Professors, teachers, research scholars and students were requested to lock their responses through the concerned form. In the survey, a total of 5 different questions (4 closed-ended and 1 open-ended) were asked.

The first question was, which of the following (given options) can be improved through digitization in education? In response to this question 62% of respondents replied that the full education system i.e. teaching practices ,teaching process and learning outcomes can be improved through digitization, while 19% are of the opinion that only teaching learning qualities i.e. learning outcomes can be improved. 12% think that digitization will improve only teaching learning behavior and 7% believe that the teaching process can be improved through digitization (Figure-1). Second question: How does digitization contribute to improving the education system? In this 37% of the respondents believe that through digitization students get an opportunity to learn at their place from a teacher outside their city, state and even country and also they think that it provides unlimited study material that can be accessed by the learner from anywhere 34% of the respondents think that digitization provides a better way to learn. 29% of respondents think that it provides better facilities and students can learn from wherever they want (Figure-2). The third question: When did you start to use more of digital sources of learning? To this question 73% of respondents replied that they comparatively started to explore and use more digital sources of learning after COVID Pandemic and 27% confirmed that they were in much use of digital sources

of learning even before COVID-19 and thus there is no change in their usage. The fourth question enquires about whether traditional or digital systems can help in imparting education in a better way? For this 54% of respondents were found to be in favor of the digital system while 39% of respondents believe that the traditional system is better and cannot be substituted by any other system. 7% of respondents were found unable to confirm anything. The fifth question, which is an open-ended question, asks about the drawbacks of digitization in education. In response to the question, almost everyone answered differently. Some of the main responses recorded are- the possibility of increasing depression, inadequate teaching methods, no proper way of ensuring ethical values and discipline in students, loss of phonetics, no development of teacher-student relationship, bad effect on the health of students and negative effect on their personality.

Conclusion

The above analysis conveys that in countries like India, where no basic educational system exists and none can be established out of improper population ratio, meaningful changes are inevitable in the educational system.

In India, the online mode of education is still in the early stages of its development. Therefore, clarity of the problems faced and expectations of teachers and learners can act as a guide to designing structured and more effective strategies for online classes. It will help to spread education even in the remote areas of the nation.

Ques 1: Which of the following can be improved through digitization in education?

a) Teaching process
b) Teaching practice
c) Learning outcomes
d) Whole education system

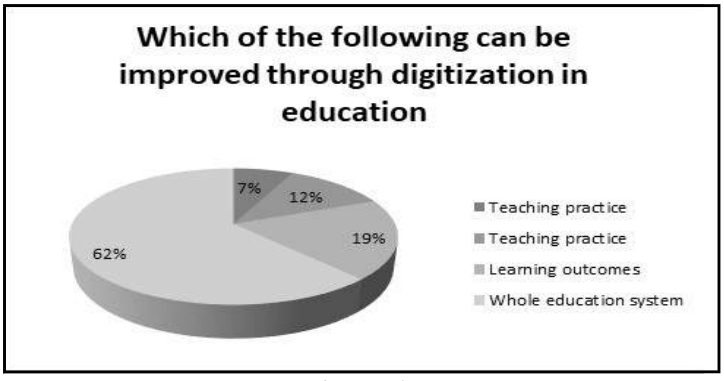

Figure 1

Ques 2: How does digitization contribute to improving the education system?

a) Digitization provides better facility
b) Better way to learn
c) Opportunity to learn at own place from a teacher from outside and provides better resources and materials

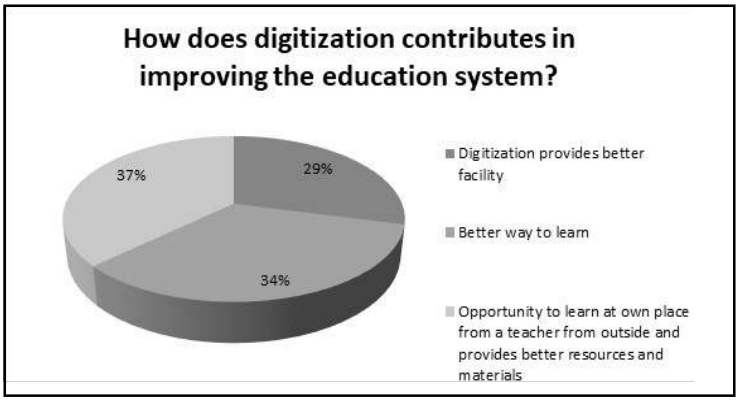

Figure 2

Ques 3: When did you start to use more of digital sources of learning?

a) Before COVID-19
b) After COVID-19

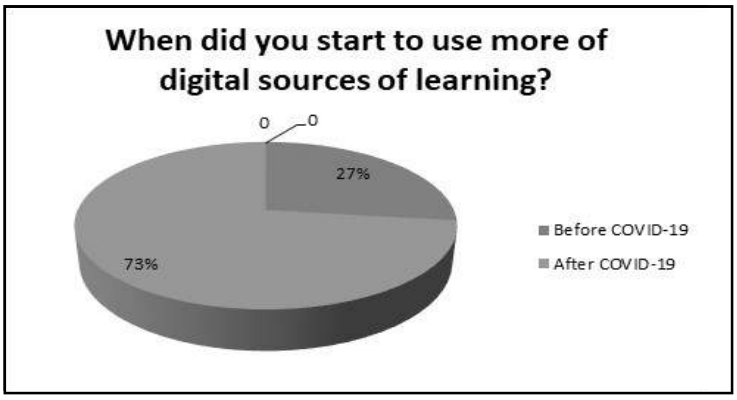

Figure 3

Ques 4: Which system can help more in imparting education in a better way?

a) Traditional system
b) Digital system
c) Can't say

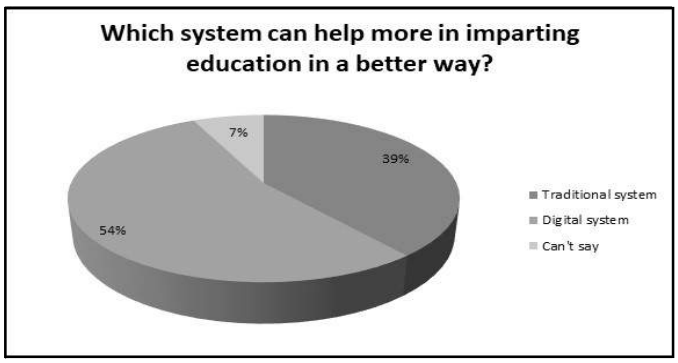

Figure 4

Ques 5: What are the drawbacks of digitization?

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The Role of The Indian Education System in Reducing Institutional Stress

Ashok Kumar Sharma
Research Scholar
D.J.P.G. College, Baraut, Baghpat
Email: aksharma6766@gmail.com

Abstract

The country has a population of 140 million people and India's GDP is still around 6.95%, compared to just 2% when it gained independence from Britain. We are expanding, but at a very steady pace. What's the reason? Is it due to a lack of entrepreneurial skills, the government, fear of taking risks, or the younger generation? The education system of a country is an important factor that will be discussed today. This is a great thing, but there are steps we can take to accelerate our country's growth. Stress is the wear and tear our bodies and minds experience as they try to adapt to a constantly changing environment. First of all, stress occurs when your resources cannot cope with the pressure. Stress isn't a terrible thing, but it depends on how you deal with it. Most of the stress we experience occurs independently. It is determined by how we view life. Whether it is an event that excites or threatens us, motivates or demotivates us, or makes us happy or sad is largely a function of our self-perception. In today's world of rapid industrialization and urbanization, institutional stress is an inevitable part of life. It is a psychosomatic disorder that affects a person's efficiency, productivity, well-being and quality of work. Stress among teachers represents a special type of institutional stress. In today's demanding world, teaching is considered a difficult profession that can have a negative impact on the teacher's health, which in turn can affect children and the classroom environment. In India, each class usually has 50 to 60 students. This can also make teachers feel stressed. Given the need to ensure that each child's needs are met, meeting the needs of 60 students simultaneously can be a challenging task for teachers. Therefore, the Indian education system today plays an important role in reducing institutional stress.

Keywords

Indian education system, institutional stress.

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Introduction

Teaching is not an easy but it is a complex process that involves the teacher's ability to deal with students, their efficiency in school-related work, gathering interest in knowledge and their ability to develop cordial relationships with their colleagues. The entire process of teaching, learning and transaction depends on the ability of a teacher, who turns the manifest potentialities of a child into actuality, to be accepted with no hesitation. The teaching and learning process cannot be undertaken in a vacuum but it is a positively directed action, for which teachers are to be endowed with teaching competency. The teacher is the key person and the success of the educational system wholly depends upon the quality and capability of the teachers who are indispensable in the society. Stress is one of the body's natural responses to something threatening or scary. This is something we experience all the time. Many aspects of college life can be stressful, including adjusting to a new living environment, meeting academic demands, forming friendships, and studying for and taking exams. Stress isn't necessarily harmful. Mild forms of stress can motivate and energize you. A slight increase in your stress levels can make you more alert and motivated at work. However, if stress levels are too high, a variety of difficulties can arise.

Literature Review

Tugu Vintsam Julie (2014) conducted a study on mini-stress among female civil service managers in the education department. In the presented research study, working women and non-employed women were taken. This study was conducted on 100 women. As a result of the study, the amount of stress among working women was found to be more than that of non-working women. This was a result of institutional tensions.

Mishra Rishikesh (2019) studied the impact of occupational stress on the teaching effectiveness of teachers of government and private secondary schools in the Hanumangarh district. The presented study has been done based on teachers' gender, school type and locality.

Divya S.(2020) conducted a study on the education system in India.

Tilak Pranahi (2021) conducted a study of the educational system in India and the role of leading educational societies in the Mumbai region in educational administration.

Objectives of the Study

- To study the Indian education system.
- To study Institutional stress.

- To study the role of the Indian education system in reducing institutional stress.

Methodology

Secondary data has been used in the study. The study material has been collected from various research journals, the internet, books, Shodh Ganga, etc.

Indian Education System

The education system in India is divided into two parts.

Pre-Independence Education System: Initially, the education system was informal. A child who received knowledge about the profession from his father. The development of the Indian education system before independence can be divided into the following categories:

Vedic period- Education was entirely under the control of one person, the Guru. That is why it is also called the Gurukul system. The language of instruction in the Vedic system was Sanskrit.

Buddhist period- The Buddhist period was the Pali period. In this system, education was influenced by religion. The purpose of education was to instill religious and moral values and general development. Students learned languages, mathematics, moral science, and physical education.

Islamic period- The curriculum also included general knowledge, languages, arts, various skills, mathematics, law, social sciences and literature.

British Period- After the fall of Muslims, the British came to India and established the East India Company. The history of modern education in India began when the East India Company took responsibility for education in India under the Charter Act of 1813. In 1835, Lord Macaulay submitted a Memorandum on Education to the Viceroy proposing a system of education for the youth of India. Sir William Bentick announced the British government's new education policy on March 7, 1935, promoting the development of English as a language and culture. In 1853, the British government appointed a committee to investigate the education system in India. Mr. Wood was chairman of the committee. Mr. Wood focused on various aspects including the purpose of education, the learning process, the learning environment, the establishment of universities, the establishment of educational institutions, the aid grant system, and women's education. The first three universities of Calcutta were established in 1857. Bombay and Madras were founded. In 1857, the East India Company's rule in India ended and power was transferred to the British Crown. After the transfer of executive power, it was deemed necessary to assess the educational development of the country. It was reported that the free

support system did not work properly. On February 3, 1882, Lord Ripon appointed a Commission on Indian Education, headed by Sir William Hunter. This was known as the Hunter Commission of 1882. The Hunter Commission also played an important role in the formation of India. The committee mainly recommended six chapters for consideration. a) policy (b) legislation and administration (c) promotion of indigenous schools (d) school administration (e) teacher training (f) finance. The Indian Universities Act of 1904 determined the direction of development of universities in various parts of India. Before independence, three education boards were established in 1882, 1902 and 1917 to supervise education in India.

Post-Independence Education System: After independence in 1948, the fourth Education Commission chaired by Dr. Radha Krishanan, called the University Education Commission, was constituted to review the development of higher education in the country. During the Vedic period, there was a drastic change in the current methods of teaching and learning. However, the importance of education remains the same in both scenarios. The University Grants Commission, established in 1956, was a milestone in higher education. In 1964, the Kothari Committee reviewed all stages of education from primary to secondary. The main recommendation of the Kothari Committee was to standardize the education system under the 10+2+3 plan across India. The committee also focused on women's education. The Kothari Committee report contains a total of 23 recommendations on various aspects. One of the important recommendations was the formation of a National policy on education which was formed by the Central Government in 1968. Kothari Commission plays an important role in education for the rapid and all-round development of education in India after independence. National policy on education was adopted by the Parliament in May 1986 and was accepted after a modification in 1992. It has salient features like the essence and role of education, national system of education, education for equality, re-organization of education at different stages, technical and management education, teaching, learning, library use, allocation of resources etc. On July 29, 2020, The Ministry of Education of India approved The National Education Policy 2020 (NEP 2020). This National Education Policy 2020 replaces the previous National Education Policy 1986. This new policy aims to review and modernize all aspects of the education structure, including regulation and governance. This will help create a new system that achieves the ambitious goals of 21st-century education. The main change is the '10+2' education model, which is replaced by the '5+3+3+4' model, with higher education institutions divided into three types: research universities, universities of education and colleges. The goal of the NEP

is to transform all universities into comprehensive institutions and increase student enrollment.

Institutional Stress

Institutional stress refers to stress that arises due to various reasons in the workplace. This stress is painful and harmful to our mind, brain and body. Due to this stress, you will not feel like working at the workplace. Only then will teachers be able to teach students properly. When the environment of educational institutions will be good. They will not have the means to create institutional tension. Otherwise these teachers will continue to feel uncomfortable due to institutional stress. **Beer and Beer** reported that there is a surprising increase in stress within the teaching profession, which is affecting the work of teachers. **According to CORS**, while defining occupational stress, it was said that occupational stress is a situation where employees are psychologically and psychophysically hindered in mutual coordination.

Factors Affecting Institutional Stress

The Indian Education System in Reducing Institutional Stress

The Indian education system plays an important role in removing the stress among teachers regarding salary, management disputes, curriculum, study load, examinations and many others. Along with the teachers, the Indian education system is also solving the problems faced by the students like syllabus burden, study load, high fees etc. The modern Indian education system is also providing employment opportunities.

Conclusion

The Indian education system is the oldest and largest education system in the entire world. The Indian education system has a good impact on all aspects of education. The Indian education system has eliminated the institutional tension between teachers and students. Therefore, the Indian education system is ideal and progressive.

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Artificial Intelligence in Indian Education: Navigating Challenges and Embracing Opportunities

Umesh Bansal
Assistant Professor
Department of English
NAS College, Meerut
Email: ukb200@gmail.com

Abstract

This research paper explores the varied role of Artificial Intelligence in the teaching-learning process in the Indian context, focusing on its potential as an empowering tool in the hands of both teachers as well as students. AI can alleviate administrative and repetitive burden for teachers, allowing them to focus on face-to-face interactions with students. It can be used by a teacher in a variety of ways including personalised learning pathways, curriculum delivery, managing classroom dynamics and assessment design. Policymakers can gain data-driven decision-making capabilities. Students can also benefit from this new technology by experiencing a more individualised and interactive learning. Besides, there is a need for a comprehensive approach to address social and ethical aspects associated with AI. Controversies surrounding AI are discussed and optimum ways for the integration of AI into education are suggested. Instead of viewing it as a threat, the paper advocates for its responsible use and recognises it as a collaborative teaching and learning tool. AI can thus be used as a transformative catalyst to facilitate pedagogy and learning in India.

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Everyone nowadays is in awe of the human-like creative and intellectual abilities of AI chatbots to produce essays, art, poetry, translation, coding, painting, and so on. Generative AI (GAI), Virtual reality (VR) and augmented reality (AR) have become the latest buzzwords. Simultaneously, concerns have been raised about ethical issues such as the possibility of plagiarism with the help of this new technology. What we should realise is that AI in education is akin to the invention of the printing press, holding a revolutionary potential, enhancing the teaching and learning experience which cannot be done away with. Several studies have demonstrated that the use of AI in education has huge potential as it can provide personalised help to students with impressive levels of accuracy, while improving students' test scores and reducing their anxiety (Verma).

India, being one the largest education systems in the world, cannot afford to miss the AI revolution happening across the world in diverse sectors and should work at full steam in order to incorporate AI in the pedagogical and learning process, evolving new paradigms to address its own specific challenges. The Indian education system is marred by the "..inadequate infrastructure, and a poorly qualified and demotivated teacher force." Besides, "Teachers see their role as completing the syllabus, ensuring textbook contents are memorised by students" (Kasinathan 27). Moreover, the student to teacher ratio is so high that the teacher is unable to give attention to the individual student and help him. "One size fits all" is the approach followed in the delivery of content and assessment.

Quite recently, however, the Indian education system is undergoing unprecedented and transformative changes after the introduction of the New Education Policy (NEP 2020). A greater focus on digitisation and democratisation as also making education engaging has been envisaged under it. It aims to undertake "Concerted curricular and pedagogical initiatives, including the introduction of contemporary subjects, such as Artificial Intelligence, Design Thinking, Holistic Health, Organic Living, etc. at relevant stages" (Ministry of Human Resource 15). NEP 2020 addresses disparate needs of students as they have diverse backgrounds and learning styles. This can be achieved with AI which offers personalised learning solutions.

Recognising the importance of AI in the modern world, The Niti Ayog in its 2018 discussion paper "National Strategy for Artificial Intelligence: #AIforAll" acknowledged technology, especially AI to be a game changer: "India, being the fastest growing economy with the second largest population in the world, has a significant stake in the AI revolution" (Niti Ayog 5). However, AI in education in India is currently in a nascent stage. ICT classrooms are still a distant possibility in

the majority of schools. One major bottleneck that the adoption of AI faces in Indian education is the low penetration of the Internet in India. Another issue is the unwillingness of the stakeholders to adopt new technology. The NITI Aayog observes that "adoption of new technologies is still lacking, however, (this is) often attributed to unwillingness of teachers and students to adopt technology" (Niti Ayog 35).

In the same vein, Oxfam India's "India Inequality Report 2022: Digital Divide" laments the dismal state of digital Divide in India and low levels of digital literacy. It observes that "70 percent of the population has poor or no connectivity to digital services." Even more concerning is the fact that "only a little over 15 per cent of rural households had access to internet services in 2017-18, which grew to 31 per cent by 2022" (Oxfam India 19). However, with cheaper devices and increasing accessibility to 5G, the future is not bleak. NEP 2020 also seeks to change this situation by increasing the number of smart classrooms, that too with AI (Damodaran).

Challenges notwithstanding, AI is being integrated into education in India. It is noteworthy that the Central Board of Secondary Education (CBSE) and other education boards have introduced AI as a subject in school curriculum. Similarly, AICTE approved engineering colleges have begun to introduce BTech in AI and related fields such as data science. Several states such as Andhra Pradesh and Madhya Pradesh are also incorporating AI in education. In Uttar Pradesh, "the Nipun Assessment Test (NAT) is leveraging AI to assess the skills of 1.6 crore students across grades 1 to 8" (Gupta). Rather than replacing teachers, AI is supposed to aid them in delivering an improved educational experience. The combination of the teacher's experience and the AI technology will change the way education has been conceptualized for centuries.

It is imperative to keep in mind the challenges associated with the Indian education system. For example, there has been a huge shortage of teachers in India. Consequently, the class strength has kept increasing besides the burden of all sorts of administrative work, such as marking attendance. In this scenario, AI can assist teachers in non-teaching work, leaving them free to focus on teaching work. This is borne out by research which suggests that "existing technology can help teachers reallocate 20 to 40 percent of their time to activities that support student learning" (Bryant).

For gaining insights into the implementation of AI in education, platforms offered by several organisations such as UNESCO, EdTech Hub, AI4K12, and the AI in Education podcast, are some of the resources. These platforms discuss valuable information about the challenges and possibilities along with guidance and tools for teaching and policymaking.

AI can be used by teachers to generate content such as lesson plans, diagrams, question banks, assignments, notes, etc. However, accuracy of such AI generated content would need to be vetted by the teacher before it can be used. Curriculum can be customised according to the needs of the individual or a group of individuals. Classes can be made more stimulating and engaging with the help of AI simulation and gamification. AI will also facilitate easier access to education and will also enable life-long learning. Tests can also be created by considering the skill gap for the individual. Even invigilation of examinations can be assigned to AI remote proctoring. Bias and irregularity often tend to creep into assessment and evaluation done by a human examiner whereas that done by AI is instant and objective, improving the efficacy.

Teachers under training can also be benefited by making AI act as a practice student. The AI models are getting efficient by leaps and bounds and can pose as a student of a certain educational level, mimicking confusion and posing follow-up inquiries. These can make real-time comments and recommendations and can suggest questions to teachers for giving to the class.

Advanced types of AI tools can read the expressions of students in a class using facial recognition techniques and can diagnose whether they are struggling to understand a concept. Another advantage of AI for educators is the post-lesson feedback provided by it. AI can gather data on the total time spent by the individual student for speaking or may be used for identifying the topics which were challenging for the students.

Increasing adoption of AI in education is also an alarm bell for substandard teaching since AI has upped the ante. Insights in this regard can be gained from Stanford University's AI+Education Summit where the participants discussed the implications of the application of AI in education. Ways in which AI can be utilised in education were explored, including real-time feedback and post-lesson summaries, through which adaptive learning and student simulation can be enhanced. In his opening remarks in the summit, Daniel Schwartz said, "Technology offers the prospect of universal access to increase fundamentally new ways of teaching," and emphasised that "a lot of AI is also going to automate really bad ways of teaching. So [we need to] think about it as a way of creating new types of teaching" (Chen).

Personalised and adaptive pathways greatly assist the students in their education. AI can recognise the personal learning style of each student and can tailor teaching-learning approaches accordingly. Such an approach is more engaging and the learning process can take place without the apprehension of criticism. With the help of AI, students have more say in their education. It can help students in

selecting the curriculum, resources and learning approaches suited to their own individual needs, preferences and skill levels. Interactive learning environment can foster critical skills in students while engaging them in a sustained manner. Communication skills and problem solving skills can easily be learnt with the help of AI as it can detect and correct grammatical errors, providing instant feedback. Disabled students can also utilise AI to access improved education. For example, AI can hear and make notes for the deaf and can read text for the blind.

Policymakers can utilise AI to make data-driven decisions and evaluate the efficacy of their educational policies. Machine learning and natural language processing (NLP) can assist policymakers in addressing trends and predict future demands. AI can also be used to recognise and address biases in education. Using such AI technologies policymakers can augment fair and inclusive policies.

AI certainly has the potential to transform pedagogy and learning. However, the adoption of AI in education by itself does not ensure better outcomes (Selwyn). It may make the student rely on it unnecessarily for seeking solutions and preparing assignments, thus hampering the learning of critical thinking skills and creativity. AI chatbots may also sometimes produce wrong but confidently sounding answers. The user must take its output with a pinch of salt. It is advisable that the use of AI be restricted when it comes to the learning of very basic skills and knowledge. Such issues of ethical and social significance impacting security, accessibility and accountability have been discussed in UNESCO's "Guidance for Generative AI in education and research" (UNESCO). Originality and critical skills are not sought to be replaced and the role of the teacher still remains crucial as a facilitator and guide. It is important to understand that a comprehensive approach involving educators, academics and students is a must to benefit from this technology while minimising its adverse effects. So adopting and adhering to the best practices is crucial.

Plagiarism with the help of AI is one of the chief concerns of academicians. It is presumed that students using AI for submitting their assignments are cheating. However, such concerns arise mainly due to the traditional thinking which considers knowledge as property and claiming the labour put in by someone else, in this case a machine, to be one's own. JT Torres and Claude E. P. Mayo rue the mindset that we have about teacher being the "sage on the stage" and purveyor and controller of knowledge. The Student has mostly been treated as a passive entity with his mind as a receptacle to be filled in by the authority figure. Modern technology, especially AI, is all set to transform this into a student-centric approach (Torres and Mayo).

The use of AI in a responsible way has the potential of enhancing the educational experience. It also democratises the educational system. Interaction and

creative engagement is to be valued over the concept of knowledge ownership. Using AI in learning need not mean supporting plagiarism. It is to be adopted as a collaborative instrument to promote and improve the learning experience, retaining academic integrity.

Professor Steven Lubar's use of AI in teaching has sparked controversy about the ethical issues of AI generated content since the Brown University's academic code stresses the importance of independent work by students, raising concerns about AI - assisted writing. Professor Lubar states, "In my Methods in Public Humanities (PHUM2020) course, I am, with some trepidation, encouraging students to use ChatGPT and similar tools. These new tools will be useful to them in their work after Brown, and we should help them learn to use them wisely" (Morton-Aiken).

The current apprehensions regarding the adoption and integration of AI in education echo past debates about the use of books, calculators, and computers in teaching and learning. Instead of viewing AI as a threat, it would be much more fruitful to recognise it as a collaborative learning tool, while addressing the ethical concerns. In this way, learning experience be enhanced without compromising academic integrity.

Throwing the baby out with the bathwater is certainly not desirable. A judicious and balanced approach is the need of the hour. The Cornell University Committee Report suggests : "To address the risks of GAI while maximizing its benefit, we propose a flexible framework in which instructors can choose to prohibit, to allow with attribution, or to encourage GAI use. We discuss this framework, taking into consideration academic integrity, accessibility, and privacy concerns" (CU Committee Report: Generative Artificial).

Another issue is that AI may have imbibed the biases of its trainers. This may result in the indoctrination of the young minds into a certain hegemonic perspective. In the Indian context, the problem becomes severer as the Indian society is structured on the basis of the identities of caste, language, religion, region and so on. Therefore, ample caution needs to be exercised while using AI tools.

Data privacy is another ethical concern which must be adequately addressed. Providing personal information to the AI platforms is not advisable as it may be misused. The data collected from teachers and students must be in safe hands and its ownership rights should be clearly defined.

A holistic approach is the need of the hour. Challenges before the integration of AI in education include cultural and ideological bias, plagiarism, generation of

seemingly coherent but false information and data privacy. However, there are potential benefits such as adaptive pathways, life-long learning, cost-effectiveness, having access to an inordinate amount of data and improved learner engagement.

Conclusion

Education is undergoing inevitable transformative changes around the world after the advent of AI which cannot simply be wished away. AI can be embraced as a catalyst for educational betterment in India as well. A balanced and inclusive approach is advisable as AI inevitably continues to change the face of the educational landscape. There is a need to recognise AI as a collaborative learning tool, navigating challenges using an ethical approach. Only such an innovative and inclusive approach can address the needs of a rapidly evolving world. AI can be used by educators in the development of new pedagogies, ecosystems and platforms. Collaboration can be boosted, curriculum delivery can be improved, and feedback can be improved. India in particular as a developing economy has the potential to reap the benefits offered by AI.

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Peace Education for Sustainable Tomorrow: Need of the Hour

Dr. Amar Jyoti
Assistant Professor
Department of Teacher Education
K.M. Government Girls P.G. College
Badalpur, Gautambuddha Nagar, U.P.

Tagore rightly said "Where the mind is without fear and the head is held high, into that kingdom of freedom my father let my country awake". Peace is the state of being one with life itself. It is more than just sitting still or remaining silent. It is just having a sense of security, serenity and peace. We often think that peace is an international problem, far away from our everyday lives. But what we don't realize is that the prosperity of a nation is only possible when its each & every citizen is peace-loving. Therefore, it follows that a nation can only be peaceful and prosperous if its people live in peace. We all desire peace of mind! There are many problems in the world today, including hunger, poverty and illiteracy, Discrimination against women, lack of healthcare, etc. As a developing country, India is not exempt from these problems. The current challenges of poverty, illiteracy, and unemployment in our country are leading to a state of placelessness in the family, society, and the country as a whole. The Government and various NGOs are attempting to address these issues, but they are having difficulty in achieving their goals. Now a days educating pupils for achieving Peace is a very important issue all over the world for sustainable development and successful democracy. So, Peace education for sustainable tomorrow has become the need of the hour.

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Dr. Amar Jyoti

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Peace education is a vital issue in today's world for the promotion of sustainable development and the development of successful democracy. It is said that "All Education is for Peace". Peace Education is essential for the enhancing peacein the country and globally. It is difficult to define a universal definition of peace education. Peace is more than a society without weapons, or a state without war; it is an environment where all people can experience the highest level of internal calmness. Peace Education is not only rooted in building peace with one self, but it also interconnects and interrelates with every issue of life" (Bull, 2000, p 17). There are six essential components of peace education:

1. Educating for human rights and responsibilities,
2. Educating for personal peace,
3. Educating for environmental care,
4. Educating for inter-cultural solidarity,
5. Educating for living with justice and compassion,
6. Educating for dismantling a cultural of war (Toh, 2004).

This educational strategy, which is referred to as "Peace Education," will address all current issues pertaining to both positive and negative peace in society. Peace Education is characterized as training for changing the perspectives towards a culture of Peace and peacefulness. It relies on students being given the tools they need to dismantle a culture of violence and create a peaceful self and world, as well as developing a critical understanding of the underlying causes of conflicts and violence; happens across all modes (formal, non-formal) and levels, depending on participatory, innovative, and basic teaching methods (Groff and Smoker, 1996).

These obviously repeat the significance of peace is instruction and demonstrate that educating a society plagued by distrust, discrimination, hatred, and violence with a focus on peace could be an effective plan or strategy. Even so, the fact that almost all Indian schools are free of violence and crime is remarkable. What we really want is schooling for Peace early on to support Peace, for example, training must be miles from just teaching and this ought to have its establishments just in "experience and practice". This clearly follows the vision of Maria Montessori that the one's life to be of incredible significance for the advancement of tendency towards Peace and equity.

- (NCERT-2006) recommends an arrangement for Peace training at various phases of school. The arrangement is as per the following -
- The **elementary school years** could be focus on character formation, moral development and the advancement of the interactive abilities. It could be

then move continuously for the establishment of Peace, particularly to develop an understanding of value foundation in. at this stage there is a necessity of promoting skills for peaceful conflict resolution.

- In the **upper primary years**, an understanding could be developed in students to enable them to know the culture of peace from the perspective of Indian history, philosophy and culture.
- After that, education for Peace might aimed for citizenship education. This could be shift to peace as a lifestyle movement. • fostering an attitude of respect for diversity and difference must be the primary focus here. Additionally, students must be made aware of the various obstacles to unity.

"The Young mind should be saturated with the idea that it has been born in a human world which is in harmony with the world around it" (Rabindranath Tagore). The approach to education for peace is based on the following fundamental assumptions:

(a) Schools can serve as peace nurseries;
(b) Teachers can serve as social healers;
(c) Education for peace can be formulated education as a whole;
(d) The skills and orientation of peace enhance lifelong excellence;
(e) Justice is an essential component of peace.
d) Acquiring the skills necessary aimed to understand the issues regarding the global perspective on peace.

Skills to be Developed for Peace Education

Students will foster the abilities and attitude essential to be proactive and effective Peace makers. These can be defined under the heading of –

1. **Personal Skills:** Collaboration, adaptability, accountability and respect.
2. **Thinking Abilities:** Persuasive Reasoning, creativity, logical thinking, critical analysis, Reasoning Reflection.
3. **Skills for communication:** Negotiation, active listening, presentation, and nonverbal communication skills.

Peace Development Across the Curriculum

The formal Curriculum

Cross-curricular planning and inter-disciplinary planning will highlight the issues raised regarding peace programs.

The Informal curriculum

Extra- curricular or co-curricular existence of school, guidance & counselling Program and peaceful consideration projects can likewise be given.

The Hidden Curriculum

Intrinsic school - wide objectives of improved communication skill, incorporation, acknowledgment will empower the formation of an overall environment of resilience and regard can be can be enhanced and identified as precepts of peace education.

The Integrated Curriculum

The normal school subjects which foster qualities and abilities with respect to Peace and all aspects of Peace comprise Peace education.

Skills

- ***Communication***
- ***Active listening and reflection***
- ***Co-operation***
- ***empathy***
- ***critical thinking and problem***
- ***solving***
- ***responsible citizenship***
- ***leadership vision***

The following curriculum planning illustrate the knowledge, skill, attitudes regarding peace education are as follows, which are drawn from the basic of the learning objectives in the learning units.

Attitude

- ***Ecological awareness***
- ***self-respect and tolerance***
- ***respect for human dignity***
- ***caring and empathy***
- ***inter cultural understanding***
- ***social responsibility***
- ***resolution***
- ***world mindedness***

Knowledge

- ***Self-awareness***
- ***conflict and war***
- ***Environment & Ecology***
- ***nuclear and other weapons***
- ***globalization***

- ***poverty***
- ***international economy***

Action Plan for Implimenting Peace Education in Institutions

Based on the above ideals and strategies to manage the mind, the following strategy is suggested:

(i) Vision: Make students aware of the higher, through daily study and reflection so that they can map out their life accordingly.

- 'Learning: The Treasure Within' – UNESCO
- 'The Kingdom of God is within you' – The Bible
- 'An-al-haqq' or 'I am the truth' – A Sufi saint (The inner spirit is of utmost importance in building of Islamic personality, ma' rifah, realization of truth)

(ii) Mission: Inspire, convince and establish students in the mission to realize the vision.

- 'Atmano – Moksartham – jagad – hitaye - cha', striving to manifest our peace and perfection by working for the good of society
- 'Seek you first the kingdom of God and his righteousness and everything else will be added unto you'; 'Be you Perfect' – The Bible
- The inner spirit is of utmost importance in building of Islamic personality, ma' rifah, realization of truth.

(iii) Methodologies: The process to control our mind, awaken Viveka and acquire the ability to choose the long-term good over the immediate pleasures, is strengthened through the 4-fold daily and regular self-development practice of Prayers; Meditation; Fulfilment of all duties and quality in work, done as worship for the good of society.

(iv) Action Plan: Students are with us in school for more than a decade during which we must teach them how to harmonize their thoughts – motives – choices - short and long-term goals with the ultimate Goal of life. We must establish them in the habit of drawing - up their daily and weekly Time - table, supported by monthly plans, 3- and 6-month goals, and backed by their long-term goals and constantly review these and harmonize them with the universal values and our common and ultimate goal of perfection, peace and joy.

Role of Institutions in Enhancing Peace

Child-centred peace education must be taught in schools. Instead of indoor study, it should be focus on practical application. While classroom study is certainly important but actions and activities only have a long-term impact. ***"Our action must be a coordinated work of our hand, head, and heart (ie peace),"*** Gandhi ji stated.

In our classrooms, we should teach our youth principles of peace rather than principles of war. Only a curriculum and education system that emphasize peace can assist nations in bridging the gap instead of creating it and playing a role in international understanding and peace.

We find topic on Peace training in school educational plan. For instance, ever, Ashoka's apology on the consequence of Kalinga War,

- Acknowledgment of Buddhism to practice and engendering message of peacefulness.
- Preparing his own children to carry out the mission of peace and disseminate Lord Buddha's nonviolent teachings.

(I) For realizing the internal Peace, dramatization with active participation of students will help the teacher in both Realizing the objectives of role-playing in the maintenance of peace.

(ii) We can make list of Video players, Movies T.V., and Record players for achieving the goal of Preparing channels of communication to promote peace around the world.

Role of Educators in Enhancing Peace

In Peace Education the job of the educator is a higher priority than indoor studies. They must be aware that teachers hold a sacred position and serve as role models for society. Teachers can be peace builders because they are themselves examples of social healing and approach their responsibilities from an expanded perspective of peace. Teachers can be peace builders because they are themselves examples of social healing. Building a peaceful and warless world is a twin program. The first is the undertaking to rethink our instructive necessities, exercise a functional program, infuse the perspective into all our activities and aspects of life. The second is non – violently resisting the veil that war is and its preparation indirect or direct. It is for learning the art of Satyagraha, which combines constructive work and resistance to evil as its two primary assets. It is an arrangement to construct another progress of a new civilization of non-violence (Devi Prasad, Peace instruction or training for Peace Gandhi Peace establishment, 1984).

Hence, Prof. Betty, (Director-Peace education program at Teachers Training College at Columbia University) explored ***"No single profession has greater responsibility and opportunity to enhance the opportunity for the achievement of a culture of peace than that of the teacher."***

- As an educator your capacity to recognize the value of Peace in their various forms as mentioned above is important.

- Implant Peace concepts, attitude, values and principles appropriate and relevant to the lessons
- Acquire positive feelings to make the lesson realistic, interesting and impressive.
- Humanistic and peaceful viewpoint to present the lesson.
- Guidance of self-development.
- Assist youngsters with building a peaceful vision
- Make students internally creative and develop their imaginations.
- Awaken students' spirituality, wisdom, and intuition that lie deep within

Epilogue

It is the responsibility of every individual and society to educate the young generation for peace; Hence, the university system, the school system as well as the family all need to work for it and do collaborative efforts together to achieve this.

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Comparative Study of Crime in 2020: Special Reference of NCRB Report

Dr. Manju Rani
Assistant Professor
Department of Teacher Education
SMPGG PG College, Meerut

NCRB, means National Crime Recording Bureau is the national agency, which publishes and presents the report of recorded crime data from various sources under different categories, in the end of year. This report is published in the year 2021 by presenting the data of recorded crime in 2020 and this paper is only presenting the NCRB data in graphical overview.

Keywords

NCRB, cognizable crime, public tranquility, kidnapping, abduction, and disputes.

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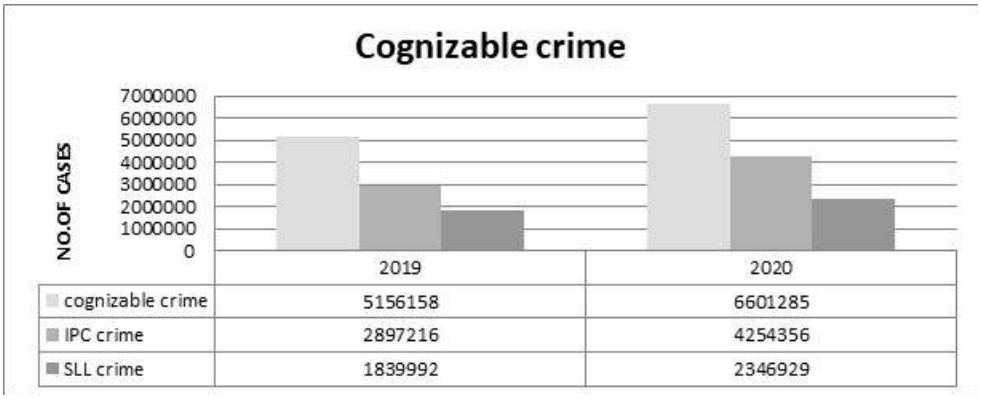
Introduction

India is a big nation by the area, sources and population so it is quite possible that all types of crimes are happen. Every nation constitutes many agencies and organizations to conduct and arrange all events and data. NCRB is also an agency of national level, whose work is to publish and present the report of recorded crime data from various sources under different categories, in the end of the year. NCRB, means National Crime Recording Bureau. In the end of the year, NCRB prepares a report upon the recorded cases and publish it in the next year so this report is published in the year 2021 by presenting the data of recorded crime in 2020 and this paper is only presenting the NCRB data in graphical overview.

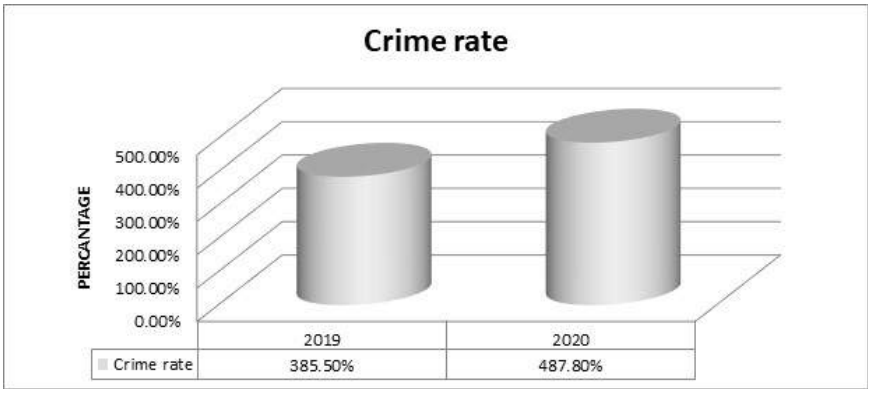
Crime Against Various Categories

NCRB published crime data in various categories in its annual report of 2020. These categories are below with crime data-



	2019	2020
cognizable crime	5156158	6601285
IPC crime	2897216	4254356
SLL crime	1839992	2346929

Fig. 1.1



	2019	2020
Crime rate	385.50%	487.80%

Fig. 1.2

According to NCRB report 2021, in 2019 there were total 5,156,158 cases of cognizable crime including [1]IPC and SLL[2] crime while in 2020 there were 6,601,285 cases of cognizable crime reported including IPC and SLL. In 2019 SLL crime was 35.6% and IPC crime was 56.2% of total cognizable crime while in 2020 SLL and IPC crime were 35.6% and 64.4% so it can be noticed that crime under IPC is increased with 8.2% in 2020**(fig.1.1)**. In **fig.1.2**, it is shown that crime rate in 2019 was 385.5%, while it became 487.8% in 2020, increased by 102.3%. Total number of cognizable crime, increased by the number of 1,445,127 cases, in that ratio IPC crime increased by 1,357,140 cases, similarly SLL crime increased by 506,937 cases in 2020

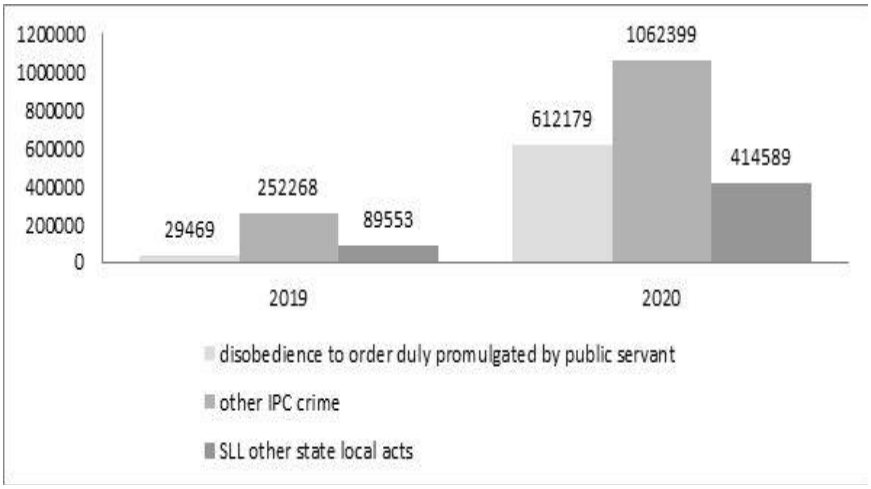


Fig. 1.3

In 2019, 29,469 number of cases were recorded under disobedience to order duly promulgated [3]by public servant, while this number is increased by 612,179 with the difference of 582,710(95.2%).Number of 252,268 cases under other IPC crime were recorded in 2019 and in 2020, this number is increased to 10,62,399 with the difference of 810,131(76.3%). Similarly the number of crime cases under SLL and other local acts were recorded as 89,553 in 2019 and increased to 414,589 with the difference of 325,036(78.4%) in 2020(**Fig. 1.3**).

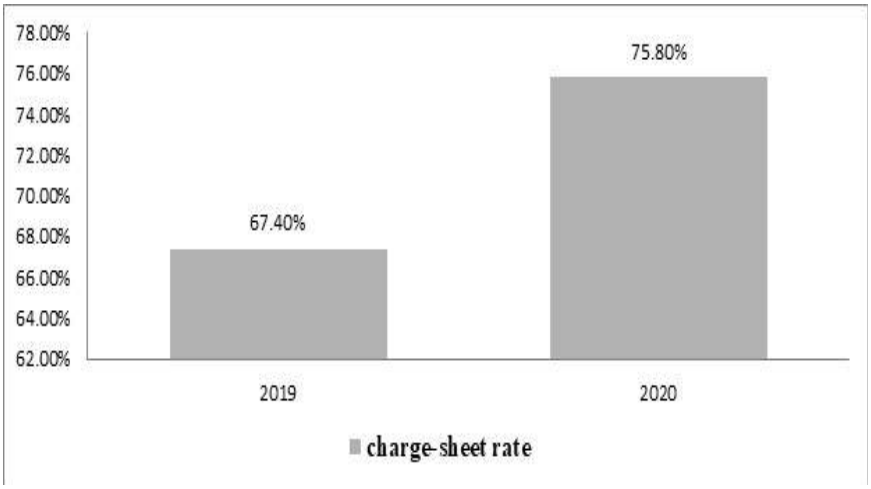


Fig.1.4

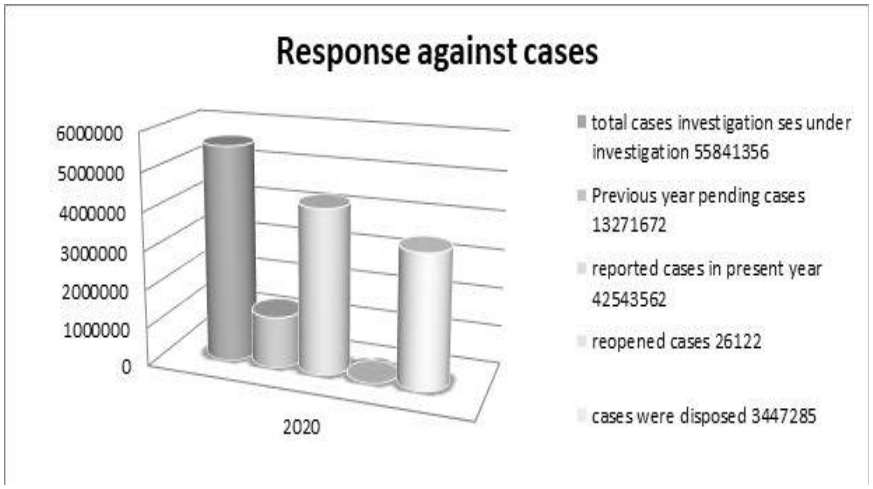


Fig. 1.5

In 2019, charge sheets for 67.4% recognizable crime were filled, while it is increased to 75.8% in 2020(**fig.1.4**). In 2020,total cases were reported as 425,435,62 and previously pending cases were 132,716,72 with 26,122 reopened cases so the total number of cases investigated is 558,41,356 in which 344,72,85 cases were disposed (**fig.1.5**)

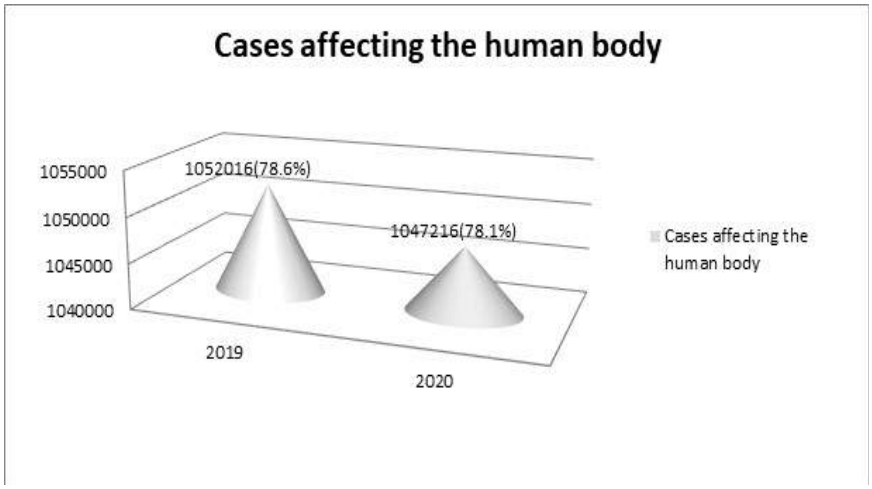


Fig. 1.6

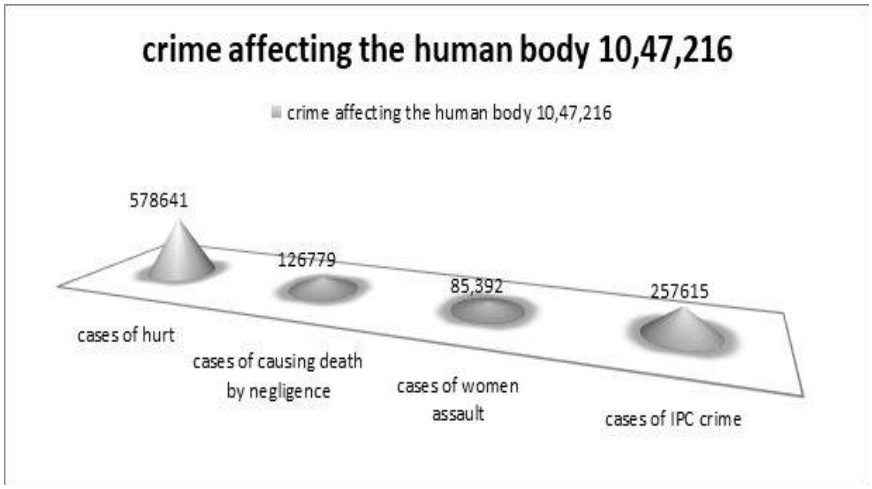


Fig. 1.7

By the **Fig.1.6,** it is noticed that in 2020, 1047216 cases of affecting human body with 78.1% were reported in against of 1052016 cases in 2019 having percentage of 78.6%. In 2020, 1047216 cases contain 578641cases of hurt, 126779 cases of causing death by negligence, 85392 cases of women assault, and 257615 cases of IPC crime **(Fig.1.7).** It means that above mentioned cases were recorded under above various categories of human body affecting cases.

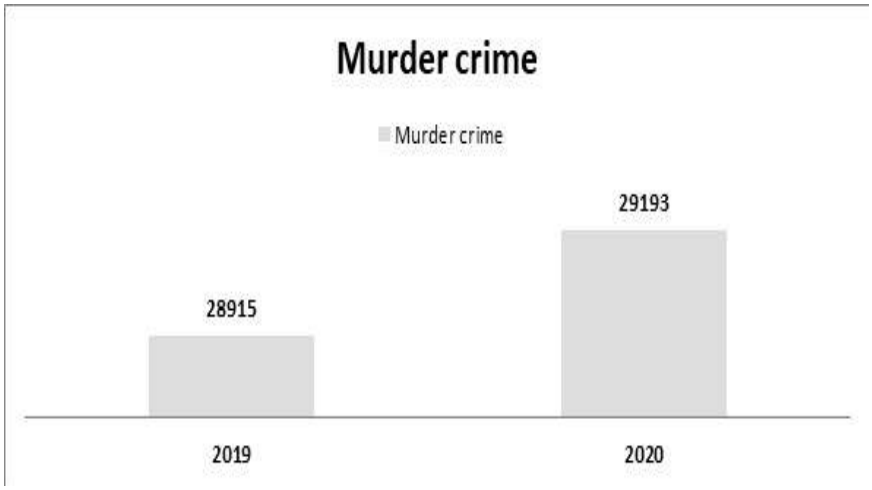


Fig. 1.8

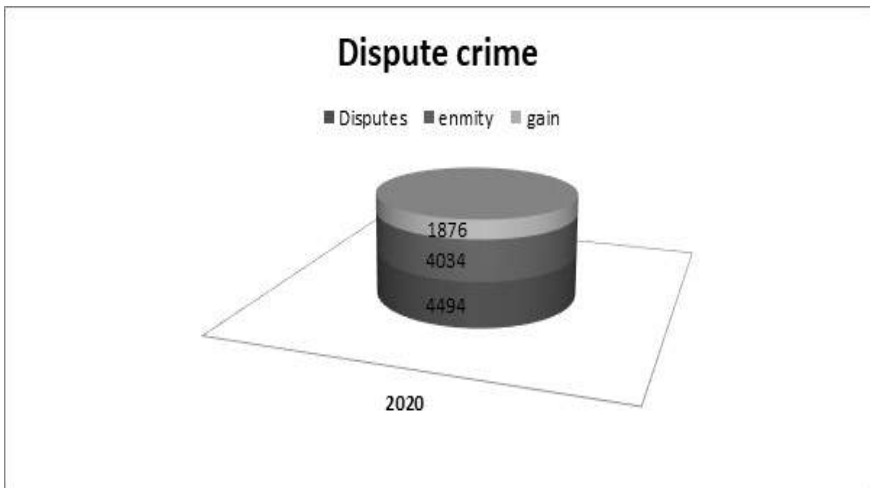


Fig. 1.9

In 2019 the total numbers of 28915 cases under murder crime were reported while in 2020 this number is increased to 29193 **(Fig.1.9)**. These numbers of cases are related to only crime of murder. In 2020, 1876 cases were recorded under crime of gain, 4034 cases were reported under enmity crime and 4494 cases were reported under crime of disputes **(Fig. 1.10).**

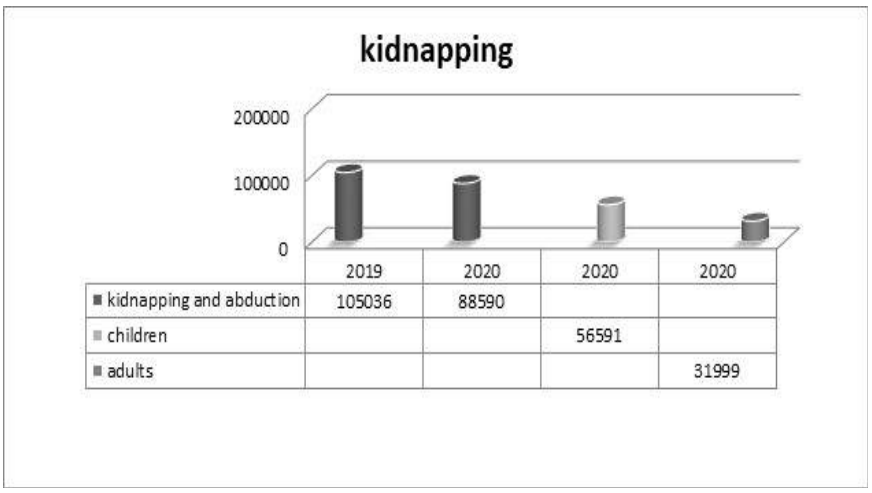


Fig. 1.10

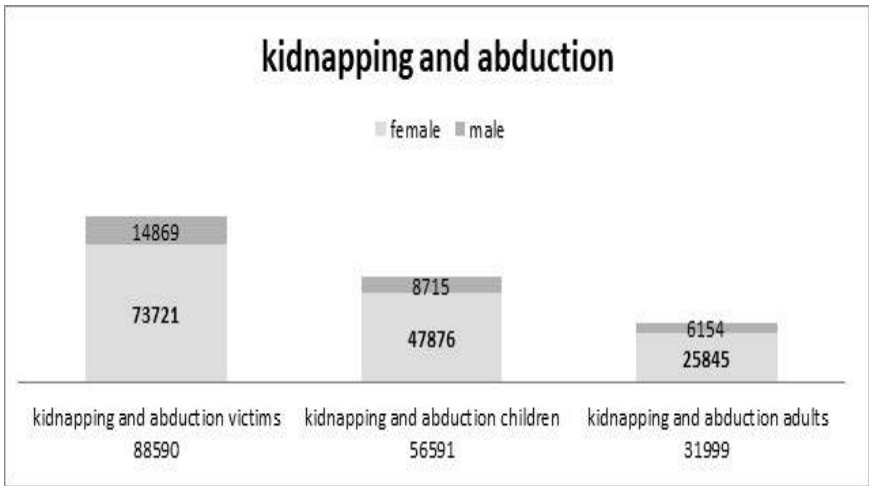


Fig.1.11

As per record, in 2019, there were 105,036 cases were recorded under kidnapping and abduction crime while in 2020, this number is decreased to 88,590 cases, a downfall of 15.66% cases **(Fig. 1.11)**. In 88,590 cases of kidnapping and abduction, 56,591 cases were performed with children and 31,999 cases were performed with adults. Simultaneously 73,721 cases were performed with male and in 14,869 cases, female were abducted. In 56,591 cases of kidnapping of children, 47,876 cases were performed with male and 8715 were of female children while in adults 25845 cases were of male abduction and 6154 cases were of female abduction **(Fig. 1.12).**

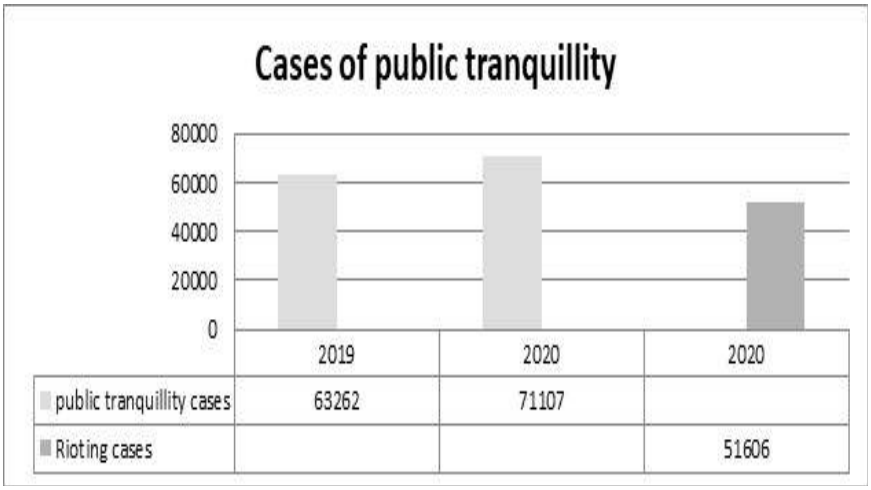


Fig. 1.12

As per NCRB report, there 63,262 cases were recorded in 2019 under dissolving public tranquility while this number increased to 71,107 cases in 2020 although 51,506 cases of rioting were also recorded other than this. Public tranquility cases were hike 11.03% in 2020 compare to 2019**(Fig.1.13).**

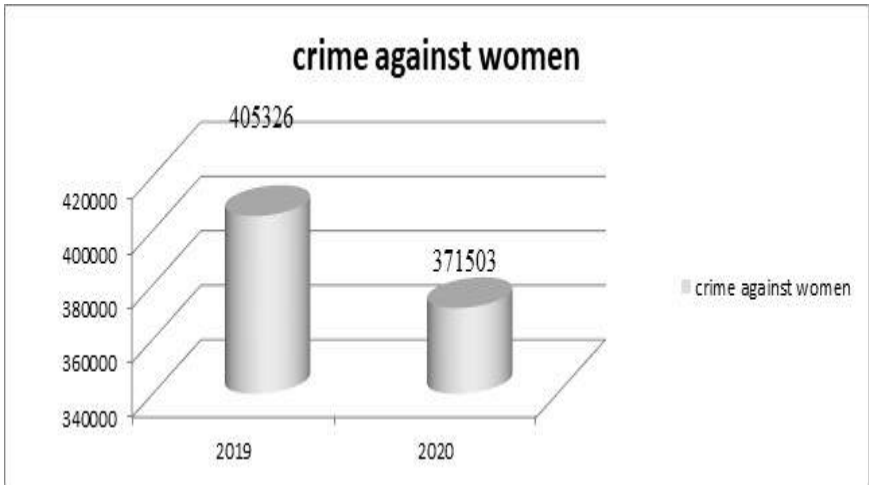


Fig. 1.13

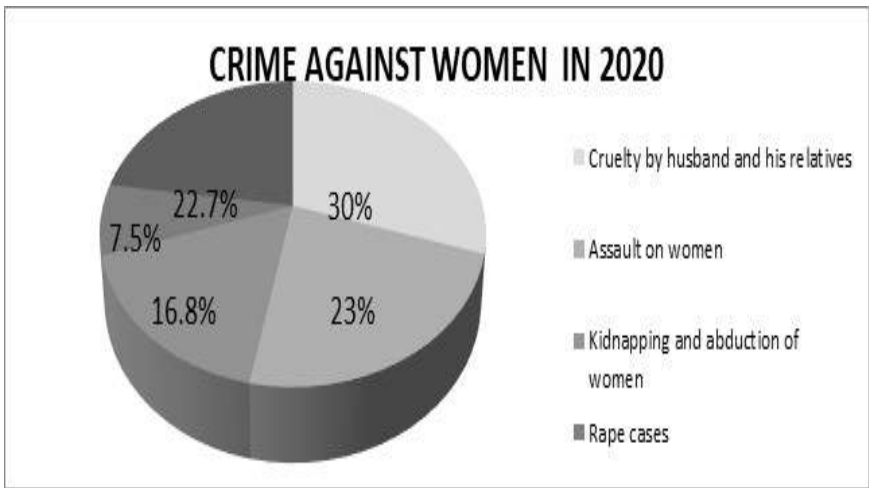


Fig. 1.14

In 2020, there were 37,1503 cases recorded under category of crime against women in compare to 40,5326 cases in 2019 with the fall of 11.03% **(Fig.1.15).** NCRB categorized these cases in various categories as cruelty by husband and his relatives, assault on women, kidnapping and abduction, rape and other crimes, which were performed against women with the given percentage as **Fig.1.16**.

Fig. 1.15

Finally NCRB also presented a data of recovering cases in 2020. This data is presented in very short in present paper as shown in **Fig.1.16**. The chart shows that in 2020, total recovered cases were 91739, where 22872 cases were related to male and 68867 cases were related to female. Again in all these recovered cases, 91468 cases were of live persons while 281 cases were of dead persons.

Interpretation and Result

As per NCRB report 2020, crime raised in various categories in 2020 compare to 2019. Although in 2020, there was a complete lockdown from 25 March to 31 May 2020 because of covid-19 pandemic and later than it was partial lockdown. This lockdown decreased the open crime cases but unemployment, poverty, terror, starvation etc are the reasons which increased indirect crime (as per NCRB report). Indirect crime means violence against children and women, kidnapping and abduction, land disputes, money laundering, theft, robbery, fraud etc while murder crime were suppressed in a little amount. Although NCRB does not clear the reasons behind these crimes in report but lockdown and terror of covid-19 have affect them all, direct or indirect. A big number of cases were recorded under pandemic act 2020 against of those people, who were found involve in spreading of covid-19 disease. India is a big nation by its population, so crime happens in many ways and no one can stop this to 0%. Although this data is only of recorded crime while may be possible that crime cases were more than many times as recorded. NCRB is only publishing agency of recorded crime data in various category in the end of year.

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3. https://ncrb.gov.in/sites/default/files/CII%202020%20Volume%202.pdf
4. https://ncrb.gov.in/sites/default/files/CII%202020%20Volume%201.pdf

Footnotes

1. IPC- Indian penal code,
2. SLL- Special and local laws
3. Promulgated- promoted

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The Role of Science and Technology in Viksit Bharat: Building a New Paradigm for India's Growth

Rajeev Kumar
Department of Physics
S.M.P. Govt. Girls P.G. College, Meerut

Dr. Raj Kumar Singh
Department of History
S.M.P. Govt. Girls P.G. College, Meerut

Abstract

Visit Bharat, the vision of a developed India by 2047, hinges on a transformative role for science and technology (S&T). This paper explores the critical areas where S&T can act as a catalyst for progress, addressing challenges and unlocking opportunities across various sectors. It examines the current S&T landscape in India, identifies strengths and weaknesses, and proposes a roadmap for fostering a robust and inclusive innovation ecosystem. By analyzing successful case studies and international best practices, the paper outlines key strategies for promoting research, development, and deployment of cutting-edge technologies, emphasizing affordability, accessibility, and sustainability. Finally, it underscores the importance of building human capital, fostering public-private partnerships, and strengthening the overall S&T governance framework to realize the full potential of S&T in shaping Viksit Bharat.

Keywords

Science and Technology (S&T), Catalyst, Cutting-edge Technologies, Promoting Research.

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Introduction

The ambitious vision of Viksit Bharat, a prosperous and inclusive India by 2047, demands a paradigm shift in its approach to science and technology (S&T). S&T is no longer just an enabler of progress; it is the cornerstone upon which a new India will be built. This paper delves into the crucial role S&T will play in achieving this vision, outlining strategies and pathways for harnessing its power to address critical challenges and propel India towards sustainable development. Visit Bharat, or Developed India, embodies the vision of a nation that excels in all spheres of human endeavor, leveraging the power of science and technology to propel its growth and development. The integration of scientific principles and technological innovations serves as the cornerstone of progress, driving economic prosperity, societal well-being, and national competitiveness.

Advancements in Healthcare

Science and technology have revolutionized healthcare delivery in Viksit Bharat, facilitating improved diagnosis, treatment, and prevention of diseases. Innovations such as telemedicine, artificial intelligence (AI) in medical diagnostics, and precision medicine have enhanced healthcare accessibility and affordability, particularly in rural and remote areas. Additionally, biotechnological research and development have spurred the discovery of novel therapies and vaccines, contributing to enhanced public health outcomes and longevity.

Agricultural Innovation

Agriculture forms the backbone of Visit Bharat's economy, and scientific interventions have revolutionized the agricultural landscape. Through precision agriculture, genetic engineering, and sustainable farming practices, farmers have witnessed increased productivity, reduced resource utilization, and enhanced crop resilience to climate change. Furthermore, technology-enabled market linkages and supply chain management systems have empowered farmers with access to markets and fair pricing mechanisms, driving rural prosperity and food security. S&T can revolutionize agriculture through precision farming, climate-resilient crop varieties, and efficient water management.

Educational Transformation

Science and technology have redefined the educational landscape in Viksit Bharat, fostering innovation, creativity, and critical thinking among the youth. Digital learning platforms, interactive multimedia tools, and online educational resources have democratized access to quality education, bridging the urban-rural divide and promoting lifelong learning opportunities. Moreover, advancements in educational

technology, such as virtual reality (VR) and augmented reality (AR), have enriched pedagogical practices and personalized learning experiences, nurturing a skilled workforce equipped for the knowledge economy. Technology-aided learning, personalized education platforms, and skilling programs can empower the workforce for the future.

Infrastructure Development

The integration of science and technology has catalyzed infrastructural development in Viksit Bharat, laying the foundation for sustainable urbanization and connectivity. Smart city initiatives, intelligent transportation systems, and renewable energy technologies have optimized resource utilization, reduced environmental footprint, and enhanced livability standards. Additionally, advancements in construction materials, engineering designs, and infrastructure management systems have ensured resilience against natural disasters and climate-induced challenges, fostering inclusive and resilient urban growth. Smart cities, sustainable transportation systems, and disaster management solutions require robust S&T applications.

Policy Implications and Challenges

Realizing the full potential of science and technology requires coherent policy frameworks, investment in research and development, and fostering a culture of innovation and entrepreneurship. Visit Bharat must prioritize investment in science education, promote interdisciplinary research collaborations, and strengthen intellectual property rights protection to incentivize innovation and technology diffusion. Moreover, addressing digital divides, ethical considerations, and cybersecurity threats is imperative to harness the benefits of science and technology while mitigating associated risks.

Case Studies and International Best Practices

South Korea's focus on R&D and ICT has transformed its economy:

South Korea's economic journey from post-war devastation to a global powerhouse is often attributed to its unwavering focus on research and development (R&D) and information and communication technology (ICT). This strategic emphasis has yielded impressive results, transforming the nation's economic landscape. Prioritizing R&D, South Korea consistently invests heavily, boasting one of the highest R&D expenditures as a percentage of GDP globally. This commitment fosters innovation across various sectors, from semiconductors and electronics to biotechnology and green technologies. By nurturing homegrown talent and attracting foreign expertise, the country has established itself as a hub for cutting-

edge research and development. Furthermore, South Korea's embrace of ICT has been nothing short of phenomenal. Early investments in infrastructure, coupled with government initiatives and public-private partnerships, have led to widespread internet access and digital literacy. This tech-savvy population readily adopts new technologies, propelling the growth of e-commerce, online services, and mobile technologies. Today, South Korea boasts some of the fastest internet speeds globally and is a leader in areas like artificial intelligence and smart cities.

The "Start-Up Nation": Cultivating Innovation in Israel:

Israel's nickname, "Start-Up Nation," aptly reflects its thriving entrepreneurial ecosystem. This phenomenon stems from a unique confluence of factors fostered by the government and ingrained in the national psyche. Firstly, mandatory military service instills valuable skills in young Israelis, from leadership and teamwork to adaptability and problem-solving. This creates a pool of talent primed for taking risks and building innovative ventures. Additionally, the government actively supports entrepreneurship through tax breaks, grants, and incubator programs. This infrastructure provides vital resources and guidance, nurturing start-ups from ideation to market entry. Furthermore, Israel boasts a deeply ingrained cultural emphasis on innovation and intellectual curiosity. This drive, coupled with a diverse population and exposure to global challenges, fuels a continuous flow of creative solutions. Additionally, the small size of the country fosters close collaboration and networking within the entrepreneurial community, facilitating knowledge sharing and resource pooling.

China's Clean Energy Dominance: A Powerhouse Fueled by Investment:

China has emerged as an undisputed leader in clean energy technologies, fueled by strategic and substantial investments. This commitment has transformed its domestic energy landscape and propelled it to the forefront of global advancements. The driving force behind this success lies in China's aggressive investment strategy. From 2015 to 2021, China poured more into clean energy than any other nation, exceeding $1.7 trillion. This financial muscle has enabled them to dominate key sectors like solar and wind power, both in production and deployment. China now manufactures over 70% of the world's solar panels and boasts wind capacity surpassing any other country. These investments haven't just fueled domestic change; they've had a global impact. By driving down production costs and expanding access to clean technologies, China has democratized renewable energy, making it more affordable and accessible for developing nations worldwide. This leadership has also spurred healthy competition, accelerating innovation and propelling the

clean energy transition on a global scale. However, it's important to acknowledge the complexities surrounding China's clean energy dominance. Concerns regarding intellectual property, environmental sustainability within its borders, and potential market distortions need to be addressed for China to maintain its leadership position as a truly responsible and sustainable clean energy powerhouse.

Strategies for Fostering a Robust S&T Ecosystem

- Increased Public and Private Investment.
- Focus on Innovation and Frugal Engineering: Developing affordable and accessible solutions tailored to India's needs.
- Building Human Capital: Investing in STEM education, skilling programs, and attracting global talent.
- Strengthening Public-Private Partnerships: Collaborative platforms for joint research, development, and technology transfer.
- Effective Governance and Policy Framework: Streamlining regulations, promoting intellectual property protection, and fostering an enabling environment for innovation.

Conclusion

In conclusion, the role of science and technology in Viksit Bharat is paramount to its journey towards inclusive, sustainable, and equitable development. By leveraging scientific advancements and technological innovations across various sectors, Viksit Bharat can unlock new opportunities, address complex challenges, and emerge as a global leader in the knowledge economy. As India embraces the Fourth Industrial Revolution, fostering a conducive ecosystem for innovation, collaboration, and skill development will be pivotal in realizing the vision of Viksit Bharat. Realizing the vision of Viksit Bharat hinges on leveraging the transformative power of S&T. By addressing existing challenges, adopting strategic interventions, and learning from global best practices, India can create a robust and inclusive S&T ecosystem. This ecosystem will not only drive economic growth but also address social challenges, improve living standards, and propel India towards becoming a truly developed nation by 2047.

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The Role of Higher Education Institutes in Achieving the Gole of Developing

Dr. Raj Kumar Singh
Department of History
S.M.P. Govt. Girls P.G. College, Meerut

Rajeev Kumar
Department of Physics
S.M.P. Govt. Girls P.G. College, Meerut

Dr. Amit Kumar
Department of Mathematics
S.M.P. Govt. Girls P.G. College, Meerut

Dr. Sharad Pawar
Department of Mathematics
S.M.P. Govt. Girls P.G. College, Meerut

Ranjan Kumar
Department of Drawing and Painting
S.M.P. Govt. Girls P.G. College, Meerut

Abstract

India, a nation known for its rich cultural heritage and diverse demographics, has set forth ambitious goals for its development trajectory. In this pursuit, higher education institutes emerge as pivotal agents, shaping the intellectual, social, and economic landscape of the country. This paper explores the multifaceted role of higher education institutes in India's development agenda. Through a comprehensive review of literature, policy analysis, and case studies, it elucidates the challenges, opportunities, and strategies for leveraging higher education to propel India towards sustainable development. The findings underscore the imperative for collaborative efforts among stakeholders to foster innovation, inclusivity, and excellence in higher education, thereby catalyzing India's journey toward prosperity and global leadership. As India strives towards the ambitious vision of Viksit Bharat ("Developed India") by 2047, higher education institutions (HEIs) stand at a crucial juncture, poised to play a transformative role in this national endeavor. HEIs serve as talent factories, equipping individuals with industry-relevant skills and fostering innovation through research and entrepreneurship. This drives economic growth, technological advancement, and job creation, particularly in knowledge-based sectors. HEIs act as pillars of social empowerment by promoting inclusivity, critical thinking, and lifelong learning. They contribute to closing the gender gap, improving healthcare access, and upholding human rights, leading to a more equitable and just society. HEIs nurture responsible citizens who actively participate in democratic processes. They foster critical analysis, encourage informed choices, and promote transparency, strengthening democratic institutions and governance.

Keywords

Higher education, India, development, innovation, sustainability, Viksit Bharat, Economic Growth, Social Empowerment, Political Participation, Environmental Sustainability, Cultural Preservation.

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Introduction

India's aspirations for development and progress hinge significantly on the quality and effectiveness of its higher education system. Higher education institutes (HEIs) serve as incubators of talent, innovation, and knowledge dissemination, contributing to economic growth, social equity, and cultural enrichment. As India embarks on its journey towards becoming a global powerhouse, the role of HEIs becomes increasingly indispensable. This paper endeavors to examine the pivotal role of HEIs in realizing India's developmental objectives, identifying key challenges, and proposing actionable strategies for fostering excellence and inclusivity. India stands at a pivotal juncture in its development journey. As the world's largest democracy strives to become a global economic leader, the role of its higher education institutes (HEIs) becomes more critical than ever. This paper delves into the profound impact HEIs can exert in propelling India toward its developmental goals, exploring their multifaceted contributions across various domains. Briefly outline India's aspirations for development, highlighting key goals like poverty alleviation, infrastructure advancement, and technological self-reliance. Underscore the crucial role of education in achieving these goals, emphasizing the transformative power of knowledge and skilled human capital. Acknowledge the existing challenges faced by the Indian HE system, such as limited access, outdated infrastructure, and skill mismatches. Emphasize the need for comprehensive reforms and strategic investments to unlock the full potential of HEIs. Briefly mention key initiatives like the National Education Policy 2020 and their significance in addressing these challenges. Conclude by reiterating the critical role of HEIs in shaping India's future. Emphasize the need for collaborative efforts between government, institutions, and industry stakeholders to build a robust and future-oriented HE system. Briefly mention the research questions or focus areas the paper will explore in detail. Conclude by reiterating the critical role of HEIs in shaping India's future. Emphasize the need for collaborative efforts between government, institutions, and industry stakeholders to build a robust and future-oriented HE system. Briefly mention the research questions or focus areas the paper will explore in detail.

Historical Context

The evolution of higher education in India reflects a blend of indigenous traditions and colonial legacies. Institutions such as Nalanda and Takshashila flourished as centers of learning, attracting scholars from across the ancient world. However, the colonial era introduced Western educational paradigms, shaping the

structure and governance of modern universities. Post-independence, India's higher education system witnessed rapid expansion, driven by a commitment to democratize access and promote social mobility. Despite commendable progress, persistent challenges such as inadequate infrastructure, quality assurance, and employability persist, necessitating concerted interventions. India's quest for development is deeply intertwined with its evolving higher education landscape. Examining this historical context helps illuminate the crucial role HEIs have played and continue to play in shaping the nation's trajectory. The colonial era saw the establishment of universities like Calcutta, Bombay, and Madras, primarily focused on producing clerks and administrators for the British Raj. However, these institutions also ignited a fire of nationalism, fostering critical thinking and discourse among future leaders like Gandhi and Nehru. Independent India inherited a limited HE system, prompting immediate expansion to meet the needs of a burgeoning nation. The Five-Year Plans prioritized technical and scientific education, establishing IITs and IIMs that became national symbols of academic excellence. HEIs played a pivotal role in developing key sectors like agriculture, engineering, and medicine, contributing to India's self-sufficiency. However, concerns arose regarding access, equity, and relevance to emerging economic realities.

The Imperatives of Development

Development in contemporary India encompasses a spectrum of dimensions, including economic prosperity, social equity, environmental sustainability, and technological advancement. HEIs serve as crucibles for nurturing human capital, fostering critical thinking, and cultivating leadership qualities essential for addressing complex developmental challenges. Moreover, HEIs play a pivotal role in research and innovation, driving technological breakthroughs, and promoting entrepreneurship. Collaborations between academia, industry, and government entities are imperative to harness the full potential of higher education in catalyzing socio-economic transformation. India's quest for development is deeply intertwined with its evolving higher education landscape. Examining this historical context helps illuminate the crucial role HEIs have played and continue to play in shaping the nation's trajectory. The colonial era saw the establishment of universities like Calcutta, Bombay, and Madras, primarily focused on producing clerks and administrators for the British Raj. However, these institutions also ignited a fire of nationalism, fostering critical thinking and discourse among future leaders like Gandhi and Nehru. Independent India inherited a limited HE system, prompting immediate expansion to meet the needs of a burgeoning nation. The late 20th century saw economic liberalization and a growing IT sector, demanding skilled graduates

and adaptable knowledge workers. HEIs faced the challenge of bridging the skill gap and fostering innovation in a rapidly changing global landscape. Private institutions emerged, diversifying the landscape but highlighting issues of affordability and quality control. The current century presents new challenges: demographic shifts, environmental concerns, and rapid technological advancements. HEIs are called upon to equip students with critical thinking, problem-solving skills, and adaptability to thrive in this complex world. Inclusivity and access remain crucial, requiring innovative approaches to reach marginalized communities and promote social mobility. The focus has shifted towards sustainable development, demanding research and education that address climate change, resource management, and social justice.

Challenges and Opportunities

The landscape of higher education in India is marked by a myriad of challenges, ranging from infrastructural deficits to curriculum reform and faculty development. Limited access to quality education, especially in rural and marginalized communities, exacerbates socio-economic disparities and impedes inclusive growth. Moreover, bureaucratic red tape, outdated pedagogical practices, and inadequate funding hinder the competitiveness and relevance of Indian HEIs on the global stage. However, amidst these challenges lie abundant opportunities for innovation, collaboration, and institutional reform. Initiatives such as the National Education Policy (NEP) 2020 herald a paradigm shift towards holistic, interdisciplinary education, emphasizing skill development, experiential learning, and research-driven inquiry. As India charts its ambitious development course, its higher education ecosystem faces both formidable challenges and exciting opportunities. This paper delves into this complex landscape, analyzing the roadblocks that hinder progress and the avenues that can propel HEIs toward achieving India's developmental goals. Despite strides in enrollment, a significant population, particularly from rural areas and marginalized communities, still lack access to quality higher education, perpetuating socio-economic inequalities. The curriculum often lags behind industry needs, leading to skill gaps and graduate unemployment, posing a burden on individuals and the economy. Inadequate funding hampers research, innovation, and infrastructural development, hindering HEIs' ability to compete globally and attract talent. Variations in quality across institutions and a lack of robust accreditation systems raise concerns about the overall standard of education delivered. Bureaucratic structures and rigid regulations can stifle innovation and adaptability, hindering HEIs' ability to respond to the dynamic needs of the development landscape. India's young population

presents a demographic dividend, urging HEIs to expand access and equip them with relevant skills to harness this potential. Technological advancements like online learning, AI-powered tools, and blended learning methods offer possibilities for expanding reach, personalizing learning, and bridging geographical divides. Partnerships with industries can bridge the skill gap, foster research aligned with market needs, and create internship and placement opportunities. Increased international collaborations and exchange programs can broaden student perspectives, attract global talent, and enhance research capabilities. Focus on Innovation and Entrepreneurship: Nurturing a culture of innovation and entrepreneurship within HEIs can generate job opportunities, drive economic growth, and address societal challenges.

Strategies for Transformation

Realizing the full potential of HEIs in India's development trajectory necessitates a multipronged approach encompassing policy reforms, capacity-building initiatives, and stakeholder engagement. Firstly, there is a need to invest in infrastructural development, including state-of-the-art laboratories, libraries, and digital resources, to enhance the teaching-learning experience. Secondly, fostering interdisciplinary research and industry-academia linkages can stimulate innovation, address societal challenges, and foster technology transfer. Thirdly, promoting faculty development programs, incentivizing research, and fostering a culture of academic autonomy and accountability are essential for nurturing talent and fostering excellence. Higher Education Institutes (HEIs) evolve into dynamic engines of progress, contributing significantly to the nation's aspirations. Skills-based learning: Move beyond rote memorization and equip graduates with industry-relevant skills through practical training, internships, and project-based learning. Interdisciplinary approach: Foster collaboration across disciplines to address complex challenges and prepare students for a rapidly evolving job market. Lifelong learning: Integrate continuous learning opportunities into curricula, preparing graduates to adapt to changing demands throughout their careers. Sustainability focus: Embed sustainability principles into all disciplines, nurturing responsible citizens and equipping them to address environmental challenges. Skills-based learning: Move beyond rote memorization and equip graduates with industry-relevant skills through practical training, internships, and project-based learning. Interdisciplinary approach: Foster collaboration across disciplines to address complex challenges and prepare students for a rapidly evolving job market Lifelong learning: Integrate continuous learning opportunities into curricula, preparing graduates to adapt to changing demands throughout their careers.

Sustainability Focus

Embed sustainability principles into all disciplines, nurturing responsible citizens and equipping them to address environmental challenges. Encourage research collaborations: Promote partnerships between HEIs, industries, and international institutions to drive innovation and address real-world problems. Invest in research infrastructure: Upgrade labs, libraries, and technology to support cutting-edge research and create an environment conducive to discovery. Cultivate a culture of innovation: Encourage faculty and students to engage in entrepreneurial ventures, spin-offs, and technology startups. Promote open access: Foster open access to research findings and scholarly publications to disseminate knowledge and accelerate progress. Adoption of digital tools: Utilize online learning platforms, blended learning models, and AI-powered tools to personalize learning and enhance accessibility. Data analytics and decision-making: Utilize data to inform curriculum development, resource allocation, and student support services. Virtual laboratories and simulations: Employ virtual reality and simulations for practical training and experiential learning opportunities. Strengthening digital infrastructure: Invest in reliable internet connectivity, e-libraries, and digital learning resources across all campuses.

Case Studies and Best Practices

Several HEIs in India exemplify best practices in promoting inclusive, innovation-driven education. Institutions such as the Indian Institutes of Technology (IITs), Indian Institutes of Management (IIMs), and Indian Institutes of Science Education and Research (IISERs) have established a reputation for academic excellence, research output, and industry collaboration. Moreover, initiatives such as the Atal Innovation Mission, Rashtriya Uchchatar Shiksha Abhiyan (RUSA), and Uchchatar Avishkar Yojana (UAY) aim to foster entrepreneurship, creativity, and problem-solving skills among students, thereby nurturing a culture of innovation and enterprise.

Illuminating the Path: Case Studies and Best Practices for HEIs in Developing India. To delve deeper into the practical application of strategies highlighted in this research, let's explore captivating case studies and effective best practices implemented by various Higher Education Institutes (HEIs) in India. By analyzing these concrete examples, we can illuminate the pathway towards a transformed and impactful HE system.

1. **Fostering Skill Development**

Tata Institute of Social Sciences (TISS): Offers unique "Action Research Projects" where students tackle real-world community challenges, developing practical skills alongside theoretical knowledge.

- Gujarat Technological University (GTU): Established industry-integrated engineering programs with mandatory internships, ensuring graduates possess industry-relevant skills upon graduation.

2. Driving Innovation and Research:

- Indian Institute of Technology Bombay (IIT-B): Launched the "Society for Innovation and Entrepreneurship (SINE)" fostering a vibrant startup ecosystem and nurturing student entrepreneurs.
- Amity University: Established "Amity Innovation Incubator" supporting faculty and student research projects with funding, mentorship, and infrastructure.

3. Expanding Access and Inclusivity:

- Nalanda Open University: Employs open and distance learning (ODL) methods, providing affordable and accessible higher education to underserved communities.
- Jamia Millia Islamia University: Offers targeted scholarships and financial aid programs specifically for students from marginalized communities.

4. Building Effective Partnerships:

- Anna University: Collaborates with leading corporates like Infosys and TCS, co-developing curriculum and offering joint research projects, ensuring industry alignment.
- Manipal University Jaipur: Partners with international universities for faculty exchange programs and joint research initiatives, broadening student perspectives and enhancing research capabilities.

5. Leveraging Technology for Transformation:

- Indira Gandhi National Open University (IGNOU): Employs a robust online learning platform with interactive content and virtual classrooms, reaching geographically dispersed students.
- Amity University Online: Integrates AI-powered tools like adaptive learning platforms and personalized feedback mechanisms, creating a dynamic and responsive learning experience.

Key Takeaways from Best Practices:

- Industry collaboration: Active partnerships bridge the skill gap and ensure research aligns with market needs.
- Technology adoption: Utilizing tech enhances access, personalizes learning, and promotes innovation.

- Focus on inclusivity: Targeted programs and scholarships ensure equitable access to quality education.
- Entrepreneurial ecosystem: Nurturing innovation cultivates job creation and drives economic growth.
- Research focus: Prioritizing relevant research addresses national challenges and fosters global collaborations.

Conclusion

In conclusion, the role of higher education institutes in shaping India's developmental trajectory cannot be overstated. HEIs serve as crucibles for nurturing talent, fostering innovation, and promoting inclusive growth. However, realizing the transformative potential of higher education requires concerted efforts from policymakers, academia, industry, and civil society. By investing in infrastructure, fostering interdisciplinary research, and promoting inclusive access, India can harness the demographic dividend and emerge as a global knowledge hub. As India charts its course towards sustainable development, higher education institutes stand poised to be the vanguard of change, steering the nation towards prosperity, equity, and global leadership.

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Forgotten Flames of Bravery: Unsung Heroes of India's Struggle for Freedom

Dr. Parul Malik
Assistant Professor
Department of Teacher Education
S.M.P. Govt. Girls (PG) College, Meerut

Abstract

Every Individual in India knows about a country's struggle story for freedom. India was ruled by several European powers from time to time, i.e., Portuguese, Dutch, English, Danish and France. The most recent rulers were the British rulers, and they ruled for a long time. Indian freedom fighters had a dream of removing British rule. The Indian freedom fighters were the brave-hearted souls who did not think twice about sacrificing themselves and liberating us from the British rule. It is because of these brave souls that we are living happily and peacefully in an independent nation, so as a responsible citizen it is our duty to discuss these freedom fighters who fought our future. There were possibly thousands of unsung Heroes of the freedom movement in India. Thus, India's independence would not have been possible without sacrifices and struggles made by freedom fighters. Aside From Subhash Chandra Bose, Mahatma Gandhi, Bhagat Singh. Rani Laxmi Bai, many hidden gems have given their lives to make our nation free from the British Raj.

Keywords

Freedom movement, Freedom fighters, Empowerment, India's heroes, Sacrifices.

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Introduction

The term 'Freedom fighter' refers to all those great heroes who made immense contributions to achieve independence from the Britishers. The freedom and independence that we enjoy today are the fruit of the struggle and suffering of India's freedom fighters. India's freedom is not acquired and begged, but it is the consequences of freedom fighters struggle and sacrifices.Thousand of them even sacrificed their lives to free India from the clutches of the brutal British Raj. The freedom Heroes did not only played an important role in independence, but also maintained a legacy of courage, and unlimited love for the Nation. They still motivate every citizen of India even in the dead to defend and maintain our Priceless Liberty . Freedom fighters made sacrifices that one cannot even think of doing for their loved ones. We can't explain their pain, hardships, tolerance and sacrifices in words. The Nation will always be indebted to them for their sacrifice. We are celebrating Independence Day because of these brave-hearted freedom fighters. We can't deny their role in independence No matter how small a role they played, they are very much important today as they were in those days. Moreover, they rebelled against the British Raj to stand up for the country's unity, integrity and freedom. India Furthermore, most of the freedom fighters even went toward safeguarding the freedom of their people. It did not matter that they had no training; they did it for the pure intention of making their country free. Most of the freedom fighters sacrificed their lives in the war for independence. Most importantly, freedom fighters inspired and motivated others to fight injustice. They are the pillars behind the freedom movement. They made people aware of their rights and their power. It is all because of the freedom fighters that we prospered into a free country free from any kind of colonizers or injustice. We know some famous freedom fighters like Sardar Patel, Mangal Pandey, Nana Shahab and . Rani Laxmi Bai. But thousands of variant unsung freedom fighters who gave their everything disappeared from the books of history. But today, you will know about some of these heroes and understand their significant contributions.

Peer Ali Khan (1812-1857)

Peer Ali Khan was an Indian rebel who fought against the British Rule. He was born in Azamabad district of Bihar in 1820. Ali Khan participated in the Great Revolt of 1857. He was a bookseller by profession and acquired proficiency in Arabic, Urdu and Persian languages. Peer Ali Khan persuaded Moulvi Mohamadi, a British officer, to help him procure weapons, with which he organized an attack on the British Army Camp. Angered by this incident of Peer Ali, British officers arrested him with other members. The trial of this case of Peer Alik was recorded in

history as the 'Patna Conspiracy Case'. Peer Ali Khan and some of his followers were hanged to death by William Taylor, the then Patna Commissioner. During the trial Moulana Peer Ali Khan was tortured to extract information but he didn't speak even a single word from his mouth

Kotwal Dhan Singh Gurjar (1814-1857)

When we discuss the **unsung freedom fighters of India**, Dhan Singh Gurjar's name should always be mentioned. He was the head of the police station in Meerut during the first war of independence. When the revolt broke out and the sepoys were jailed, the locals marched in fury toward the police station. Dhan Singh, along with his fellow policemen, joined the movement and freed the soldiers. Dhan Singh was considered the chief accused in these activities and was given a death sentence. The British, fuelled by vengeance, also attacked Dhan Singh's village and murdered hundreds of people. His statue now stands in the same police station where he served as a Kotwal almost two centuries ago.

Gangu Mehtar (1859)

The kindhearted and brave boy Gangu Baba was born in Bithoor village of Kanpur, Uttar Pradesh in a Dalit family. When the British marched on Bithoor, on 19 July 1857, fired cannons and tried to capture Nana Saheb's fort. In this fight, Gangu Babu bravely fought against the British army He was a revolutionary who joined Nana Saheb Peshwa's army to help him and is said to have killed around 150 Britishers troops. This incident made Britishers angry and finally they issued a circular to arrest Gangu dead or alive. After Gangu was arrested by the Britishers he was tied to a horse and dragged up to Kanpur, where he was hanged with rope in Chunniganj.

Bhikaiji Cama (1861-1936)

Bhikaji was a prominent figure in the Indian struggle for freedom from the British Raj. She is also known as the ' Mother of the Indian Revolution' and founded the Paris Indian Society. Bhikaji Cama spoke about the devastating effects of British Colonialism in Germany. She became the first person to hoist the Indian flag on foreign soil at Stuttgart in Germany. She also fought for Gender discrimination and Gender equality. And to support orphanage girls, she donated most of her assets. Being an Indian ambassador, she traveled to Germany in 1907, hoisting the India.

Matangini Hazra (1870-1942)

One of the prominent female freedom fighters of India, she rallied thousands of women to take over a police station at the age of 73, during which she was shot and succumbed to her injuries in the process. She was an extraordinary Indian unsung

freedom fighter and participated in the Independence Movement of India. Much is not known about Matangini Hazra's life. She was affectionately known as Gandhi Buri as she was greatly influenced by the ideals of Mahatma Gandhi. She selflessly dedicated her entire life to the country's welfare and freedom. She was shot dead by the British Indian Force in front of the Tamluk Police station in September 1942. As she was repeatedly shot by police forces she kept chanting Vande Mataram and continued to hold the flag until her last breath

She was active in the independence movements throughout her life and sacrificed herself while doing the same. Age didn't stop her from marching fearlessly in front of armed policemen.

Birsa Munda (1875-1900)

Birsa Munda is one of the famous names for the people living in Bihar and Jharkhand. He was born on Thursday, so his name Birsa was kept after it. He died at the very young age of 25 years, but his remarkable achievements make our nation feel proud. He was a leader of tribal people who lived in modern states Bihar and Jharkhand and headed the millenarian movement to inspire these people to stand against British rulers in the late 19th century.

Khudiram Bose (1889-1908)

There Are numerous freedom fighters or revolutionaries who sacrificed their lives and put their all for the sake of freedom and unity of India. Khudiram Bose was only 18 years old when he was given a death sentence for his attempt to assassinate a British Judge Magistrate Kingsford. At the time of his death, he was holding Bhagavad Gita. He was the youngest martyr in the history of the struggle for the Indian Independence Movement.

Kartar Singh Sarabha (1896-1915)

Unknown to many, Kartar Singh Sarabha is another very influential freedom fighter in India. He was the youngest revolutionary who sacrificed his life at the age of 19.. His story influenced many revolutionaries, including Bhagat Singh. Kartar Singh was only 17 years old when he joined the Ghadar Party, which was formed in Oregon, USA by Punjabi expatriates to overthrow the British from India. He was the editor of a weekly newspaper Gadar in San Francisco.He returned to India to organize soldiers against the British. He was captured before any revolt was executed for conspiring against the British Raj. He laid down his life in the service of the nation.

Ram Prasad Bismil (1897-1927)

You may have heard his famous poem, 'Sarfaroshi ki tammana, Ab hamare dil me hai', but you may not necessarily know the revolutionary who wrote it, Ram

Prasad Bismil. Fluent in both Hindi and Urdu, Bismil was a great poet who used his writing to convey the message of freedom. He planned the famous Kakori train robbery, in which a train carrying money was looted. Along with a few others, he organized the HINDUSTAN SOCIALIST REPUBLICAN ASSOCIATION (HSRA), an organization that sought freedom from the British through an armed rebellion. His actions inspired many to join the organization, and his writings sing the song of freedom even today. When we talk about the unsung freedom fighters of India, Bismil's name should always be included.

Komaram Bheem (1900-1940)

KomaKomaram Beam he would be born on 22nd October 1901 in Hyderabad. He was a brave warrior and leader. He hailed from the Gond tribal community and fought against the oppression of tribal people at a very young age. Komaram Bheem was an uneducated person and had no interaction or exposure to the exterior world. He was highly inspired by Shaheed Bhagat Singh's ideologies and contributions to his motherland. He gave birth to the slogan "Jal, Jungle, Jameen' which indicates forest community should have full rights to all the resources of the forest. He also led a rebellion or revolt against the Nizams of Hyderabad in which he was killed. He is worshipped by the Gond Adivasi Community and is often praised in folk songs.

Kamala Devi Chattopadhyay (1903-1988)

She was a social reformer and distinguished theatre actor .She was the first woman of India whom British rulers arrested for her active presence as a patriotic leader. Kamala Devi was a fearless woman who was a committed freedom fighter. She worked to improve women's social and economic conditions in India and participated in Salt Satyagraha in 1930. Also, she was the first lady candidate for the Legislative Assembly. Kamala Devi played a significant role in establishing the All India Women's Conference.

Conclusion

Independence didn't come to us easily; when we say this in the Indian context, it seems like an understatement. This is because there are just too many sacrifices made by the **freedom fighters of India**, heard and unheard, from every sect and strata of Indian society to count. The history behind the present picture of Independent India is too many sacrifices and contributions made by the brave freedom fighters who selflessly jumped into the battle to make India free from British rule. These freedom fighters are from every section and corner of Indian society. Regrettably, the present generation is unaware of the names of many freedom fighters who gifted independent India by sacrificing their lives.

The main purpose behind this paper is to recall and to pay tribute to the forgotten brave-hearted Hero and Heroines of the Indian Independence Movement. This paper serves as a medium of inspiration and encouragement for the future generations.. We should appreciate and regard the efforts and contributions of the unsung brave and courageous freedom fighters.

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Periphyton Growth on Two Different Bamboo Substrate Models for Its Use in Aquaculture

Tabassum Fatima
Aquaculture and
Fisheries Research Laboratory
Department of Zoology
School of Life Science
Swami Ramanand Teerth Marathwada
University, Nanded, Maharashtra

Shivaji Chavan
Aquaculture and
Fisheries Research Laboratory
Department of Zoology
School of Life Science
Swami Ramanand Teerth Marathwada
University, Nanded, Maharashtra
Email: schavan646@gmail.com

Abstract

Periphyton-based fish farming practices are considered low-cost technologies as they help in sustainable aquaculture production. The present study was designed to determine the efficiency of two different substrate models (viz. roof hut model and prism model) made from the bamboo sticks. The small-sized substrate models were constructed for invitro studies. The growth of periphyton was investigated on the 30th day of the experimental setup. This is the first time experimenting with bamboo substrate models. From the result it was found that the biomass of periphyton in terms of dry weight 0.03±0.01 g/cm² was observed on both substrate models. There is no biomass difference and taxonomic difference between these two models. It may be due to the material used for the construction of the model being the same i.e. bamboo sticks and cotton thread. The taxonomic identification of the periphyton community showed the different genera of class Chlorophyceae and Bacillariophyceae. These models are efficient for periphyton growth and they also increase the productivity of periphyton due to increased surface area of substrate models. These models can be used for low-cost aquaculture.

Keywords

Periphyton, substrate model, bamboo, aquaculture.

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Introduction

Periphyton is defined as "a complex of sessile organisms attached to submerged substrates such as stones and sticks and including algae, invertebrates, detritus and microorganisms" (Azim et. al. 2002). Periphyton is considered as an important nutritional component of fish. It grows on a variety of substrates in aquatic ecosystems and supports fish production. The periphyton-based aquaculture technology brings great advances in the development of aquaculture farming at low cost, without the need for supplementary feeding and reduced pollutants. In pursuit of low-cost aquaculture, a variety of substrate-based aquatic systems have been developed to grow finfish and shellfish to provide shelter and increase the production of Periphyton as food. **(Dutta et al. 2018)**

The addition of substrate is beneficial in aquaculture to increase energy and nutrients in the system. The periphyton grown on substrates are easily harvested by the herbivorous and omnivorous fishes. According to Azim et al. (2001) addition of hard substrates such as bamboo and other tree branches, which are generally absent in traditional fish ponds, is an essential component of the periphyton-based aquaculture to generate microbial and zooplanktonic biomass associated with alga growth. This abundant natural food source is directly exploited by many herbivorous and omnivorous fish species as a basic food source. **(Amisah et al. 2008)**

In recent years, periphyton-based fish farming has developed as an alternative for systems with low supplementary feed inputs. Higher fish yield from such systems is achieved through the nutritional contribution of periphyton growing on the substrates and also through better survival as the substrates act as shelters for fish. Active photosynthetic periphyton community increases pH and oxygen levels in water thereby improving water quality. Fish/prawn culture is enhanced by fertilization, substrate introduction or biofuels technology. **(Keshavanath et al. 2017)**

Periphyton production in ponds is enhanced through the provision of substrate, such as bamboo poles. Wahab et al. (1999) reported that yields of calabash, *Labeo cal*abash (Hamilton),were 80% higher in ponds using bamboo substrates as compared to the control ponds without substrate. This increase in fish production is thought to be due to providing substrate for the growth of periphyton on which the fish feed. **(Azim et al. 2001)**

In this study, to increase the growth of periphyton instead of using isolated substrates of bamboo the substrate models are constructed. The logic of the construction of models depends on a simple idea i.e., increased surface area gives increased periphyton growth and also provides shelter and breeding habitat for the fishes.

Materials and Methods

Collection of Periphytic Water Sample

The periphytic water sample was collected from the Kayadhu River system canal, Tq. Kalmnoori, Dist. Hingoli, Maharashtra, India in the month of March, 2023.

Physico-chemical Parameters of Initial Water and Aquarium Water

The physicochemical parameters of initial water and periphyton-grown water were tested, such as, temperature, pH, dissolved oxygen, chloride, phenolphthalein alkalinity and total alkalinity, free CO2, hardness and calcium hardness by following the standard procedure of water examination. (Trivedy et al. 1998 and Eaton, APHA 1995)

Construction of Substrate Model

For in vitro studies, the substrate models were constructed from the bamboo sticks with the help of cotton thread. It is the first time use of substrate models for the growth of periphyton. In this experiment two types of bamboo substrate models were constructed,

1. **Pentagonal Roof Hut Model**

In this model the bamboo sticks are arranged in a pentagonal shape one above the other in such a way that it forms a ladder-like structure from each side. Different sizes of bamboo sticks were used to construct this model. These bamboo sticks are tied by a cotton thread to fix the shape and at the top one common knot is made to support the model for easy handling.

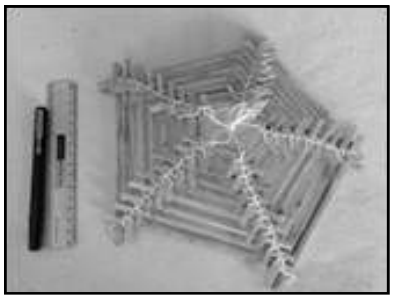


Fig 1: Pentagonal Roof Hut Model

2. **Prism Model**

The model consists of three rectangular sides and two triangular sides; hence, it is named a prism model. The triangular sides are open. The two rectangular sides have horizontally arranged sticks fixed to the two vertical sticks and the one rectangular side at the bottom has intersecting sticks which make small squares. The whole structure is fixed by the cotton thread.

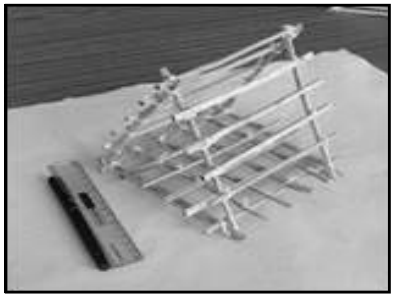


Fig 1: Prism Model

Experimental Set-Up for Growth of Periphyton

The experimental setup consists of a small trough size (38x23 cm at the base and 40x25.5 cm at the top side) having a 1 cm soil layer at the bottom. The soil is provided with fertilizers such as cow dung (8g), NPK (1.6g) and Urea (1.6g). The basic periphytic culture water and fresh water in 1: 9 ratios were added in a trough. The stone weights are attached to the constructed substrate models. These models were submerged in the water. The oxygen is provided by aquarium air pumps and light is provided by tungsten bulbs for photosynthetic activity. The experimental substrate models were kept in the trough for 30 days (Shaikh & Chavan 2015).

Fixation and Identification of Periphyton

The substrate models were removed from the water of the periphyton culture system. The periphyton grown on the surface were collected by using a soft brush and rinsed with distilled water. The periphytic sample was preserved in 4% formalin. Temporary mounts of periphyton were prepared in glycerin and xylene. Periphytic samples were identified by using keys from freshwater biology by Edmonson (1959).

Biomass Estimation of Periphyton

The biomass of periphyton was estimated in terms of dry weight. For this the sample was collected from the substrate models by scrapping area about 1 cm^2 and collected in Whatman filter paper. Dry these samples in incubator at 37 °C for 24 hrs. The weight of filter paper was measured before and after the collection of periphyton. The dry weight of the periphyton was calculated by using the formula

$$TDP = WF_2 - WF_1$$

where,

TDP = Total dry weight of periphyton

WF_1 = Weight of filter paper before collection of periphyton

WF_2 = Weight of filter paper after incubation

Results

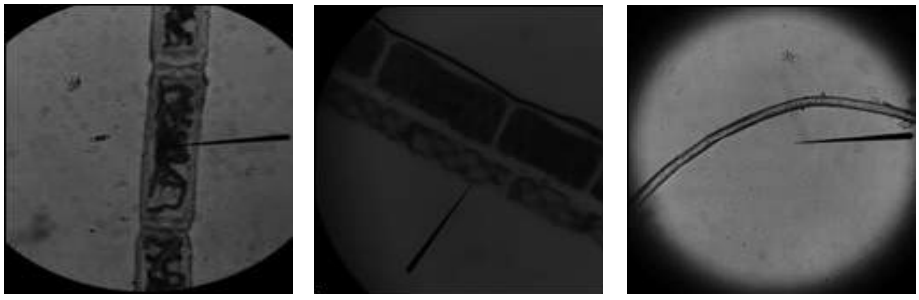
Table 1: Physico-chemical Parameters of Water

Sr. No.	Parameters	Initial	Model 1	Model 2	Standard
1	Temperature ˚C	28	28	28	25-32
2	pH	8	8	8	7-9
3	DO (mg/l)	8.51	17.83	15.40	5-15
4	Free CO2 (mg/l)	39.6	83.6	88	1-10
5	Chloride (mg/l)	46.9	65.18	54.94	1-100
6	PA (mg/l)	40	100	80	50-300
7	TA (mg/l)	140	140	150	50-300
8	Ca^{+2} hardness (mg/l)	61.72	92.18	85.77	5-100

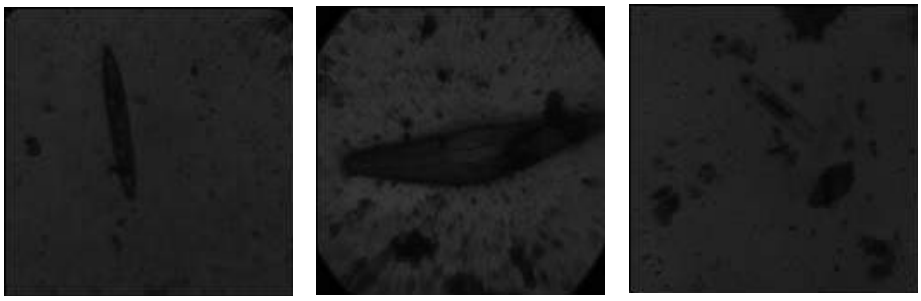
All water quality parameters were within the limits suitable for periphyton growth. Variations of some parameters in vitro conditions occur due to the change in habitat. The DO of initial water and periphytic culture system water differ due to the air pumps. The free CO_2 increased in the invitro system due to fertilizers. Chloride content, total alkalinity and phenolphthalein alkalinity increased in the invitro condition. The calcium hardness increased in the invitro condition but it is normal range of periphyton growth.

Identification of Periphyton

The sample of periphyton grown on substrate models consists of different genera of class Chlorophyceae such as *Rhizoclonium, and Spirogyra* and some algal filaments and it also shows different genera of bacillariophyceae such as *Bacillaria, Cymbella* and *Pinnularia*.



Rhizoclonium sp. | *Spirogyra sp.* | *Algal Filament*



Bacillaria sp. | *Cymbella sp.* | *Pinnularia sp.*

Estimation of Biomass

After 30 days of experimental setup up the periphyton growth on substrate models was measured in terms of dry weight (g/cm^2). The growth obtained on the pentagonal roof hut model and prism model are 0.03 (g/cm^2) and 0.03 (g/cm^2) respectively.

Discussion

Generally, water quality remained within the normal range during the Invitro experiment. The growth of periphyton on two different bamboo substrate models shows similar results. The biomass of periphyton measured from both substrate models was 0.03 ± 0.01 g/cm^2. According to Rai et al. (2008) plankton density did not differ among all substrate added treatments. The substrates (rice straw and kanchi) added to the pond significantly increases fish production and did not negatively affect water quality; therefore, the treatments with substrates were better than the treatment without a substrate (control). Keshavanath et al. (2017) conducted two experiments using plant substrates viz. bamboo, Bombay and Leucaena without and with fish to evaluate their suitability for periphyton development, and their influence on water quality and growth performance of Karachi (*Semaprochilodus insignis*). The best growth of periphyton was observed on bamboo, followed by ambay and Leucaena. Bamboo-grown periphyton had the highest chlorophyll-a and protein content. All the water quality parameters monitored were within the suitable limits for aquaculture. The effect of periphyton, grown on bamboo substrate, on the growth and yield of two Indian major carps, Labeo rohita and Labeo genius, were studied by Azim et al. (2001). A large number of plankton were colonized on bamboo substrates. Rohu grew faster, in the ponds with bamboo substrates compared with the ponds without substrate. From these research reviews we can conclude that the bamboo substrate has a positive effect on the carp culture. According to Wahab et al. (1999) a large number of periphyton have colonized on the bamboo substrates. The survival rate of rohu in the treatment was higher than in the control. This may be due to the periphyton growing on bamboo substrates influencing the better survival of stocked fish by protecting fish-eating birds. In this finding the two different models are constructed from bamboo sticks for the first time to evaluate the growth of periphyton for invitro studies. So, these models would be more efficient for stocking fish than the isolated substrate. These models also increase the productivity with increased surface area of the substrate model. A similar type of research was conducted by the Garcia et al. (2016), they evaluated the potential of periphyton-based cage culture of Nile tilapia with or without bamboo substrates for periphyton growth. They installed bamboo modules made from bamboo rods cut into halves lengthwise. Each module consists of seven vertical bamboos (1 m) attached at their edges to two horizontal bamboos (2 m) and secured with a diagonal bamboo. Galvanized wire was used to tie the bamboo rods. The presence of bamboo substrates improved the fish weight gain but reduced the carrying capacity of the cage at the highest density.

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Change in Literacy Rate of Woman Post-independence: Understanding the Role of Higher Education

Prof. Geeta Chaudhary
Department of Sociology
Shaheed Mangal Pandey, Govt. Girls P.G. College, Meerut

Ms. Chetana Choudhary
Research Scholar
Department of Sociology
Shaheed Mangal Pandey, Govt. Girls P.G. College, Meerut

Abstract

This research paper delves into the transformation of women's literacy rates in India following independence in 1947. It examines the factors influencing this change, including government policies, socio-economic conditions, and cultural shifts. The paper employs a qualitative research approach, drawing on historical data, government reports, academic literature, and demographic surveys to analyze the evolution of women's literacy rates over time. It also explores the implications of increased female literacy for women's empowerment, socio-economic development, and gender equality in India. The paper concludes by discussing the challenges and opportunities in further enhancing women's literacy rates in the post-independence era.

Keywords

Literacy rate, women, post-independence, transformation, empowerment, gender equality, India.

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Introduction

The literacy rate of women has been a significant concern in India since its independence in 1947. Historically, women's education was neglected, and literacy rates among women were alarmingly low. However, post-independence, the government initiated various measures to promote education among women, recognizing it as a crucial tool for social and economic development. Despite these efforts, gender disparities in literacy persisted, especially in rural and marginalized communities. This study aims to explore the change in the literacy rate of women in India since independence, with a specific focus on understanding the role of higher education in this transformation. Higher education is believed to play a pivotal role in empowering women, enhancing their socio-economic status, and narrowing the gender gap in literacy.[1] By examining the trends, challenges, and opportunities related to women's literacy and higher education, this research seeks to provide insights into the effectiveness of existing policies and interventions. Ultimately, the findings of this study can inform future strategies aimed at promoting gender equality in education and fostering women's empowerment in India.

Statement of the Problem

The problem addressed in this study is the persistent gender gap in literacy rates among women in India despite efforts to promote education post-independence. Despite significant advancements in various socio-economic indicators, such as economic growth and technological development, women continue to lag behind men in literacy rates, especially in rural and marginalized communities. This gap not only perpetuates gender inequalities but also hinders women's full participation in social, economic, and political spheres.[2] Furthermore, while the importance of education in empowering women and promoting gender equality is widely acknowledged, there is limited research specifically focusing on the role of higher education in narrowing the gender gap in literacy rates. Higher education is often considered a crucial factor in enhancing women's literacy levels, providing them with the skills, knowledge, and opportunities necessary for personal and professional development. However, the extent to which higher education contributes to improving women's literacy rates in India remains understudied.

Therefore, this study aims to address the following questions:

1. What has been the trajectory of change in the literacy rate of women in India since independence?
2. What are the factors contributing to the persistent gender gap in literacy rates among women?

3. How does higher education influence the literacy rates of women in India?
4. What are the challenges and opportunities in leveraging higher education to narrow the gender gap in literacy rates among women post-independence?

Objectives

By addressing these questions, this research seeks to provide a comprehensive understanding of the problem and offer insights into potential strategies for promoting gender equality in education and improving women's literacy rates in India.

1. To examine the trends and patterns in the literacy rate of women in India post-independence, identifying changes and disparities across different regions, socioeconomic backgrounds, and educational levels.
2. To assess the impact of higher education on women's literacy rates, analyzing the effectiveness of educational policies and interventions in narrowing the gender gap.

Significance of the Study

The significance of this study lies in its contribution to understanding the transformative role of higher education in improving the literacy rates of women post-independence. By analyzing historical data and contemporary trends, this research provides insights into the effectiveness of educational policies and interventions. Understanding the factors influencing women's literacy rates can inform future policy decisions aimed at promoting gender equality, socioeconomic development, and empowerment. Moreover, this study sheds light on the broader implications of literacy enhancement for women's access to opportunities, health outcomes, and overall societal progress.

Historical Aspect

Before independence, the historical context of women's literacy in India reflects a rich and diverse tradition of learning and knowledge dissemination. In ancient India, women played significant roles in various spheres of society, including education. The Vedic period witnessed the emergence of educational institutions known as Gurukuls, where both boys and girls received education from learned sages and scholars. Women such as Gargi and Maitreyi are celebrated figures known for their intellectual prowess and contributions to philosophical discourse during this period. During the Mauryan and Gupta periods, advancements in literature, mathematics, and science flourished, and women actively participated in these intellectual pursuits. The famous University of Nalanda, one of the world's earliest centers of higher learning, attracted scholars and students from across the globe,

including women. But In medieval India, despite socio-cultural norms prevalent during the time, only women from royal families and affluent households received education in various fields such as literature, music, and art. The Bhakti and Sufi movements also provided avenues for women to engage in spiritual and intellectual pursuits. Overall, the historical context of women's literacy in pre-independence India reflects a nuanced landscape where women's access to education varied based on factors such as social status, economic background, and regional differences. While challenges existed, there were also instances of empowerment and educational opportunities for women that contributed to the overall intellectual and cultural heritage of the country.

Government of India Initiatives

Post-independence, the Indian government has implemented several initiatives aimed at promoting women's education and literacy across the country. One of the landmark initiatives was the establishment of the National Policy on Education in 1968, which recognized the importance of education for women's empowerment and emphasized the need for universal access to education.[3] The policy advocated for the eradication of gender disparities in education and the promotion of equal opportunities for girls and women. Subsequently, various government schemes and programs were launched to enhance women's education. The Sarva Shiksha Abhiyan (SSA), launched in 2001, aimed to provide universal elementary education, with a specific focus on increasing enrollment and retention of girls in schools.[4] The scheme included provisions for infrastructure development, teacher recruitment, and community mobilization to ensure girls' access to education in rural and remote areas. Additionally, the Beti Bachao Beti Padhao (BBBP) initiative, launched in 2015, focused on addressing gender-based discrimination and promoting the education of girls. The program aimed to improve the sex ratio, prevent gender-based violence, and encourage the education and empowerment of girls through various interventions, including awareness campaigns and financial incentives for girl child education.[5] Furthermore, government-funded scholarships and incentives have been introduced to encourage girls' enrollment in schools and colleges, especially in marginalized communities. These initiatives reflect the government's commitment to promoting gender equality in education and empowering women through knowledge and skills development.[6] Despite challenges such as socio-economic disparities and cultural norms, these initiatives have contributed to significant improvements in women's literacy and educational attainment across India.[7]

Socio-economic Factors

Socio-economic factors play a crucial role in influencing women's literacy rates. Poverty is one of the primary barriers to female education, as families facing financial constraints may prioritize investing in the education of male children over females.[8] Additionally, limited access to educational resources, such as schools and learning materials, in rural and economically disadvantaged areas further impedes women's educational opportunities. Moreover, early marriage and childbearing often interrupt girls' education, perpetuating a cycle of low literacy rates among women. Discriminatory socio-cultural norms and practices, such as gender stereotypes and traditional gender roles, also contribute to unequal access to education for girls and women. Addressing socio-economic disparities and promoting gender equality in education are essential steps towards improving women's literacy rates and empowering women to participate fully in society.

Cultural Shifts and Changing Attitudes towards Women's Education

Cultural shifts and changing attitudes towards women's education have gradually emerged in response to advocacy efforts and awareness campaigns promoting gender equality and women's empowerment. Increasing recognition of the importance of women's education for national development and economic growth has led to greater investments in girls' schooling and literacy programs.[9] Additionally, advocacy initiatives by civil society organizations and women's rights movements have challenged traditional gender norms and promoted girls' right to education. As a result, there has been a gradual shift towards more positive attitudes and support for women's education among communities and policymakers. However, entrenched cultural beliefs and social norms continue to pose challenges to gender parity in education, highlighting the ongoing need for comprehensive strategies to address both socioeconomic barriers and cultural biases.[10]

Role of Higher Education

Higher education plays a pivotal role in empowering women by providing them with advanced knowledge, skills, and opportunities for personal and professional growth. Through higher education institutions, women gain access to specialized fields of study, career-oriented programs, and leadership development opportunities that enable them to pursue diverse career paths and break barriers in traditionally male-dominated fields.[11] Moreover, higher education equips women with critical thinking, analytical, and problem-solving skills, enhancing their capacity to contribute meaningfully to society and participate in decision-making processes. Additionally, higher education fosters confidence, self-esteem, and independence

among women, empowering them to challenge societal norms, advocate for their rights, and pursue their aspirations. Furthermore, higher education can catalyze social change by promoting gender equality, challenging stereotypes, and fostering inclusive learning environments that value diversity. By investing in women's higher education, societies can unlock the full potential of their female population, promote sustainable development, and create more equitable and inclusive societies for future generations.

Existing Researches

1. "The Impact of Higher Education on Women's Literacy and Socioeconomic Empowerment" by Smith, J., & Johnson, A. (2018): This study examines the relationship between higher education attainment and women's literacy rates, emphasizing the role of education in improving socioeconomic outcomes for women.
2. "Gender Disparities in Higher Education and Its Implications for Women's Literacy" by Brown, L., & Jones, K. (2019): This research investigates gender disparities in access to higher education and its implications for women's literacy rates, highlighting the importance of addressing educational inequalities to promote literacy among women.
3. "The Role of Higher Education Institutions in Enhancing Women's Literacy: A Comparative Study" by Garcia, M., & Martinez, S. (2020): This comparative study analyzes the effectiveness of higher education institutions in promoting women's literacy in different socio-cultural contexts, identifying best practices and challenges for enhancing women's educational opportunities and literacy skills.
4. "Impact of Higher Education on Women's Literacy: A Study in Urban India" by Gupta, R., & Sharma, P. (2017): This research explores the impact of higher education on women's literacy levels in urban areas of India, examining factors such as access to educational resources and socio-economic background.
5. "Role of Higher Education Institutions in Promoting Women's Literacy: Evidence from Rural India" by Patel, S., & Desai, N. (2018): This study investigates the role of higher education institutions in promoting women's literacy in rural areas of India, assessing the effectiveness of educational programs and initiatives in improving literacy rates among women.
6. "Challenges and Opportunities: Higher Education and Women's Literacy in India" by Khan, A., & Reddy, S. (2019): This research discusses the challenges and opportunities in higher education for improving women's

literacy in India, analyzing policy implications and strategies for enhancing access to quality education and literacy programs for women across different socio-economic backgrounds.

Theoretical Perspectives

Theoretical perspectives on women's education and empowerment provide frameworks for understanding the complex interplay between education, gender dynamics, and societal change. Several theoretical approaches shed light on these issues:

1. Human Capital Theory: This perspective views education, including women's education, as an investment in human capital that leads to increased productivity, higher incomes, and improved living standards. According to this theory, women's education enhances their skills, knowledge, and abilities, thereby empowering them economically and socially.
2. Feminist Theory: Feminist perspectives emphasize the role of education in challenging gender inequalities and promoting women's rights and empowerment. Feminist theorists critique traditional educational systems for perpetuating gender stereotypes and advocate for inclusive, gender-sensitive curricula that address the needs and experiences of women and girls.
3. Empowerment Theory: Empowerment theory focuses on the processes through which individuals, including women, gain control over their lives and achieve greater autonomy and agency. Education is seen as a key mechanism for empowerment, providing women with the knowledge, skills, and confidence to make informed choices, challenge social norms, and participate more fully in society.
4. Social Reproduction Theory: This perspective highlights how education perpetuates existing social inequalities, including gender disparities. Social reproduction theorists argue that educational systems often reproduce and reinforce existing power structures and inequalities, including those based on gender. Women's education is seen as both a potential tool for empowerment and a site of social reproduction, depending on the context and implementation.
5. Capability Approach: Developed by economist Amartya Sen and philosopher Martha Nussbaum, the capability approach focuses on individuals' capabilities to live the lives they value. Education is viewed as instrumental in expanding women's capabilities and freedoms, enabling them to pursue their goals and aspirations beyond traditional gender roles and expectations.

These theoretical perspectives provide valuable frameworks for analyzing the complex relationship between women's education and empowerment, shedding light on both the opportunities and challenges faced by women in accessing and benefiting from education.

Methodology

The research design for this study titled "Change in Literacy Rate of Women post-independence: Understanding the Role of Higher Education" will be mixed methods. This approach will allow for a comprehensive understanding of the topic by combining both qualitative and quantitative data collection and analysis methods.

Qualitative methods such as interviews, focus groups, and case studies will be employed to gather in-depth insights into the experiences, perceptions, and attitudes of women toward higher education and its impact on their literacy levels. This qualitative data will help capture the nuances and complexities of women's educational journeys and the socio-cultural factors influencing their access to and engagement with higher education.

Quantitative methods, including surveys and statistical analysis, will be used to collect and analyze numerical data related to literacy rates, educational attainment, and demographic characteristics of women across different regions and periods. This quantitative data will provide broader trends and patterns regarding the relationship between higher education and women's literacy rates.

By employing a mixed-methods approach, this research aims to triangulate findings from qualitative and quantitative data sources, enhancing the validity and reliability of the study's conclusions and recommendations.

Trends in Women's Literacy Rates

Trends in women's literacy rates over time reflect the progress and challenges in achieving gender equality in education. Here are some key trends observed globally and in various regions:

1. Global Increase: Overall, there has been a significant increase in women's literacy rates globally over the past century. This trend is attributed to various factors, including improved access to education, awareness campaigns, and policy interventions aimed at promoting gender equality in education. From a historical perspective, literacy levels for the world population have risen drastically in the last couple of centuries. While only 12% of the people in the world could read and write in 1820, today the share has reversed: only 14% of the world population, in 2016, remained illiterate. Over the last 65 years the global literacy rate increased by 4% every 5 years – from 42% in

1960 to 86% in 2015. (According to the OECD report "How Was Life? Global Well-being since 1820" Literacy rate in 1900: 21% Literacy rate in 1960: 42% According to the World Bank: Literacy rate in 2015: 86%) [12]

2. Gender Gap Reduction: While women's literacy rates have been rising, the gender gap between male and female literacy rates has been gradually narrowing. Efforts to promote girls' education and address gender disparities in access to schooling have contributed to this trend. With global growth predicted to languish at just 3 percent over the next five years and with traditional growth engines sputtering, many economies are missing out by not tapping women's potential. Only 47 percent of women are active in today's labor markets, compared with 72 percent of men. The average global gap has fallen by only 1 percentage point annually over the past three decades and remains unacceptably wide. To blame are unfair laws, unequal access to services, discriminatory attitudes and other barriers that prevent women from realizing their full economic potential. The result is a shocking waste of talent, leading to losses in potential growth.[13]
3. Regional Variations: There are significant regional variations in trends in women's literacy rates. In some regions, such as East Asia and Latin America, women's literacy rates have increased rapidly alongside improvements in overall literacy rates. However, in sub-Saharan Africa and South Asia, progress has been slower, and gender disparities in literacy rates persist.[14]
4. Urban-Rural Divide: Disparities in women's literacy rates between urban and rural areas persist in many countries. While urban areas typically have higher literacy rates for both men and women, rural areas often lag behind due to factors such as limited access to schools, poverty, and cultural norms.
5. Impact of Education Policies: Education policies and initiatives targeted at promoting girls' education have played a crucial role in driving improvements in women's literacy rates. Efforts such as building more schools, providing scholarships and incentives for girls to attend school, and implementing literacy programs for women have contributed to positive trends.[15]
6. Challenges Remain: Despite progress, challenges such as poverty, gender-based discrimination, early marriage, and inadequate infrastructure continue to hinder women's access to education and literacy. Addressing these challenges requires sustained efforts and investments in improving educational opportunities for women and girls.

Overall, while there have been significant improvements in women's literacy rates globally, continued efforts are needed to ensure equitable access to education for women and girls and to address the remaining barriers to achieving universal literacy.

Role of Higher Education

Higher education plays a crucial role in empowering women and fostering gender equality. Here are some key reasons why higher education is important for women's empowerment:

1. Expanded Opportunities: Higher education opens doors to a wide range of opportunities for women in terms of career choices, professional growth, and economic independence. With advanced degrees, women can access higher-paying jobs, leadership positions, and roles traditionally dominated by men, thereby increasing their financial security and social status.[16]
2. Enhanced Skills and Knowledge: Higher education equips women with advanced skills, knowledge, and expertise in their chosen fields. This enables them to compete effectively in the workforce, contribute to innovation and research, and make meaningful contributions to society.
3. Critical Thinking and Empowerment: Higher education fosters critical thinking, analytical skills, and self-confidence among women. Through rigorous academic training, women learn to question societal norms, challenge stereotypes, and advocate for their rights and interests. This critical perspective empowers women to navigate complex social, economic, and political environments and to advocate for gender equality.
4. Leadership Development: Higher education provides women with opportunities for leadership development and capacity building. By engaging in academic and extracurricular activities, women develop leadership skills, teamwork, communication abilities, and decision-making capabilities, preparing them to assume leadership roles in various spheres of society.
5. Role Models and Inspiration: Women who pursue higher education serve as role models and inspiration for future generations of women and girls. Their achievements challenge stereotypes, break barriers, and demonstrate the importance of education in overcoming gender discrimination and achieving success.
6. Social Change and Empowerment: Education is a powerful tool for social change and empowerment. Women who are educated are more likely to engage in civic participation, advocate for social justice, and contribute to

community development initiatives. Their education empowers them to challenge injustices, promote gender equality, and drive positive change in society.

Higher education is essential for women's empowerment as it provides them with opportunities for personal and professional growth, fosters critical thinking and leadership skills, and enables them to contribute meaningfully to society. Investing in women's higher education is not only a matter of equity and justice but also a strategic imperative for sustainable development and inclusive growth.[17]

Access to Higher Education for Women in India

Access to higher education for women in India has witnessed significant progress over the years, yet challenges persist. According to the latest data from the Ministry of Education, the enrollment of women in higher education institutions has been steadily increasing, with female enrollment reaching nearly 50% of total enrollment in recent years.[18] Government initiatives such as the Rashtriya Uchchatar Shiksha Abhiyan (RUSA) and Beti Bachao, Beti Padhao have played a crucial role in promoting women's education. Despite this progress, gender disparities in higher education persist. Women from rural and marginalized communities face significant barriers to access, including limited educational infrastructure, lack of transportation facilities, and cultural norms that prioritize male education over female education.[19] According to UNESCO, the Gross Enrollment Ratio (GER) for women in higher education remains lower than that of men, particularly in states with low literacy rates and poor socio-economic indicators.[20] Efforts to address these disparities include government schemes providing scholarships and financial assistance to female students, reservation quotas for women in educational institutions, and awareness campaigns to promote girls' education. Non-governmental organizations (NGOs) also play a crucial role in providing support services and advocacy for women's access to higher education. However, sustained efforts are needed to overcome deep-rooted social and cultural barriers and ensure equitable access to higher education for women across India.

Challenges and Barriers

Women pursuing higher education in India face numerous challenges and barriers that hinder their academic and personal development. One significant challenge is societal attitudes and cultural norms that prioritize male education and perpetuate gender stereotypes. These norms often discourage families from investing in their daughters' education or limit their educational opportunities, leading to lower enrollment rates and higher dropout rates among women. Additionally,

structural barriers such as limited access to educational institutions, especially in rural areas, pose significant challenges for women seeking higher education. The lack of adequate infrastructure, including transportation facilities and women-friendly campus environments, further exacerbates the problem. Economic constraints also play a crucial role, as many families struggle to afford[21] the cost of higher education for their daughters, especially in households with limited financial resources.[22]

Moreover, concerns about safety and security on campuses, particularly in urban areas, deter many women from pursuing higher education. Instances of gender-based violence and harassment further contribute to the reluctance of women to attend college or university. Addressing these challenges requires a multi-faceted approach, including policy interventions to promote gender equality in education, investment in infrastructure and resources for women's education, awareness campaigns to challenge gender stereotypes, and initiatives to enhance safety and security on campuses. By addressing these barriers, society can ensure that women have equal opportunities to pursue higher education and fulfill their potential.

Improving women's literacy through higher education in India requires a comprehensive approach involving policy interventions at various levels. Some key recommendations include:

1. Gender-sensitive Education Policies: Develop and implement education policies that prioritize gender equality and address the specific needs of women, including measures to increase access to higher education, reduce dropout rates, and promote retention through targeted scholarships and financial assistance programs.
2. Enhanced Infrastructure and Resources: Invest in the expansion and improvement of educational infrastructure, particularly in rural and underserved areas, to ensure equitable access to higher education for women. This includes the establishment of women-friendly campuses with adequate facilities and resources tailored to their needs.
3. Promotion of STEM Education: Encourage women's participation in science, technology, engineering, and mathematics (STEM) fields through targeted initiatives, scholarships, and mentorship programs. This can help bridge gender gaps in these fields and empower women with skills relevant to the modern workforce.
4. Awareness Campaigns and Community Engagement: Launch awareness campaigns to challenge gender stereotypes and promote the value of women's education within communities. Engage local stakeholders, including families,

community leaders, and religious institutions, to foster a supportive environment for women's education and empowerment.

5. Capacity Building for Educators: Provide training and professional development opportunities for educators to address gender biases in the classroom, promote inclusive teaching practices, and create supportive learning environments conducive to women's educational success.
6. Legal and Policy Reforms: Advocate for legal and policy reforms that protect women's rights to education and address barriers such as early marriage, gender-based violence, and discrimination. Enforce existing laws and policies aimed at eliminating gender disparities in education and ensure accountability at all levels.
7. Partnerships and Collaboration: Foster partnerships between government agencies, educational institutions, civil society organizations, and the private sector to leverage resources, share best practices, and implement coordinated strategies for advancing women's literacy through higher education.

By implementing these policy recommendations, India can make significant strides towards achieving gender equality in education and empowering women to reach their full potential through higher education.

Strategies for the Future

To increase access to higher education for women in India, several strategies can be employed. These include establishing women-centric scholarships and financial aid programs to alleviate financial barriers.[23] Additionally, creating flexible learning options such as distance education and online courses can accommodate women's familial and work responsibilities. Improving infrastructure and safety measures on campuses can enhance the appeal of higher education for women.[24] Moreover, targeted outreach programs and awareness campaigns can help dispel cultural and societal barriers, encouraging more women to pursue higher education. These strategies, when implemented comprehensively, can significantly enhance women's access to higher education and contribute to their socio-economic empowerment.

Conclusion

This research paper delved into the dynamic landscape of women's literacy rates post-independence in India, focusing particularly on the role of higher education. Through an exploration of historical contexts, government initiatives, socio-economic factors, and cultural shifts, it became evident that higher education plays a crucial role in empowering women and driving positive changes in literacy rates. The study

highlighted the significance of higher education in facilitating women's empowerment, emphasizing its role in enhancing socio-economic opportunities and fostering gender equality. By examining existing research and trends in women's literacy rates over time, this paper contributed to a deeper understanding of the link between higher education and women's empowerment. Furthermore, the identification of challenges and barriers faced by women in accessing higher education underscored the need for targeted policy interventions and strategic initiatives. The policy recommendations provided aimed to address these challenges and enhance access to higher education for women in India. Overall, this research contributes to the existing literature by shedding light on the transformative potential of higher education in advancing women's literacy and empowerment. By offering insights and recommendations, this study seeks to inform policymakers, educators, and stakeholders about the importance of prioritizing women's education for sustainable development and societal progress.

While this research endeavor aimed to provide comprehensive insights into the role of higher education in improving women's literacy rates post-independence in India, it is essential to acknowledge several limitations that may have impacted the study's findings and interpretations.

Firstly, the study relied heavily on secondary data sources, including government reports, academic literature, and statistical databases. While these sources offer valuable information, they may present limitations in terms of accuracy, reliability, and completeness. Additionally, the availability and quality of data on women's literacy rates and higher education participation may vary across different regions and periods, potentially introducing biases or gaps in the analysis.

Secondly, the research primarily focused on the Indian context, which may limit the generalizability of the findings to other geographical regions or cultural contexts. While the study attempted to provide a comprehensive overview of women's literacy trends and higher education access in India, it may not capture the nuances and complexities of other countries experiences. Furthermore, due to constraints such as time, resources, and scope, the study may have overlooked certain aspects or omitted relevant factors that could have influenced women's literacy rates and higher education participation. For instance, the analysis did not delve deeply into the intersectionality of gender with other social identities such as caste, class, or ethnicity, which could have provided richer insights into the challenges faced by marginalized women. Lastly, the research primarily adopted a qualitative approach, focusing on literature review and analysis rather than empirical data collection or fieldwork. While qualitative methods offer depth and context, they may lack the

statistical rigor and generalizability associated with quantitative research approaches. Overall, while this study contributes valuable insights into the topic of women's literacy and higher education, its findings should be interpreted with caution, considering the aforementioned limitations. Future research endeavors could address these limitations by employing mixed-methods approaches, accessing primary data sources, and considering a broader range of contextual factors.

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Prof. (Dr.) Anju Singh was born on 28 July, 1968 in Kanpur UP. She got her masters degree in Chemistry from Kanpur University in the year 1988 and was awarded Ph. D. degree in chemistry from Harcourt Butler Technological Institute, Kanpur, UP, in 1992. In 1996 she was appointed as a lecturer at Pandit Lalit Mohan Sharma Government PG College, Rishikesh and further worked in Rishikesh, Rampur and Meerut as a lecturer and as Principal in Saharanpur and Meerut and also worked as RHEO, Meerut and Saharanpur district. She has published numerous research papers both in National and International journals, worked as member of executive council, academic council and sports council at CCS University, Meerut. she was honoured with best teacher award 2021 by UP Higher Education department and currently serving as Principal of Shaheed Mangal Pandey Government Girls PG College, Meerut.

Prof. Bharati Dixit has a remarkable teaching experience of 24 years in higher education. She completed her educational qualifications with merit from DJ college, baraut and did her Ph.D. in Economics from CCS University, Meerut. She is currently working as Professor in Uttar Pradesh Government College. Dr. Dixit specialization in the field of Macro Economics. she has disseminated a legion of research papers and articles in multiple journals and magazines. She has also delivered an assorted number of lectures.

Dr. Poonam Bhandari has done her higher studies from prestigious LNIPE, Gwalior. Along with excellent academic record, she has been All India University level medalist in football and rhythmic gymnastics. A curious and passionate teacher, she loves to be in the company of her students. With few research papers and articles published in various respectable journals, she has written four books in Anatomy, Bio- Mechanics and sports management. Presently she is working as Assistant Professor at Meerut in Shaheed Mangal Pandey Government Girls PG College, Madhavpuram.

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