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**PAYMENT BANKS AND FINANCIAL INCLUSION IN INDIA****<sup>1</sup>Dr. Sunny Fernandes and <sup>2</sup>Sabeena Hamza Koya**<sup>1,2</sup>Assistant Professor in Commerce, Sydenham College of Commerce and Economics, 'B' Road, Churchgate, Mumbai – 400020**ABSTRACT**

*A payment bank is a novel concept in the banking system in India. It is a new concept in the banking sector. It is one of the new entrants in the field of digital India. The purpose of payment banks is to widen the horizon of financial inclusion and to extend the reach of banking to the vast majority of the unbanked and under-banked segments of the population. Payment banks are the entities formed by the RBI committee headed by Nachiket Mor to cater to the needs of small-scale businesses, low-income households, vast migrant laborers, and people in the unorganized sector. Payment banks cater to the customer's banking needs through mobile/ smartphones. Through Payment banks, net banking, mobile banking, ATM cards, and debit card services are available. They cannot issue credit cards or give loans out of 41 applicants; RBI gave licenses to 11 applicants for opening payment banks. Bharti Airtel was the pioneer to open a live payment bank in March 2017, followed by PayTM and Indiapost. RBI ensured that this initiative serves its intended purpose through a rule that 25% of the total branches of payment banks must be in rural, unbanked areas.*

*This paper throws light on the concept of payment banks and financial inclusion, the objective and features of payment banks, the history of payment banks, similar and contrasting features between traditional banks and payment banks, services payment banks can and cannot offer.*

*Keywords: Payment bank, Traditional bank, Financial Inclusion*

**INTRODUCTION**

A Committee on Comprehensive Financial Services for Small Businesses and Low- Income Households, headed by Nachiket Mor submitted its final report on 7<sup>th</sup> January 2014. It recommended the formation of a new category of bank, called payments bank, along with other recommendations. The initiative to form a payment bank is a great step in furthering financial inclusion in India. Due to this step, banking is redefined in India. As per RBI, the target audience of payment banks is migrant laborers, low-income households, small businesses, and unorganized sector workers who will be offered savings accounts, current accounts, and remittance services with a low transaction cost. Payment banks will enable poor people who do cash transactions, to join formal banking. Traditional banks will find it uneconomical to open branches in every village. Mobile phone coverage is a promising low-cost platform for quickly providing fundamental banking services to every rural citizen. This financial innovation will also increase the pace of India's journey into a cashless economy. The majority of the poor people, migrant laborers would shift to payment banks due to money being transferred through mobile phones. Ever since, the nationalization of banks, the RBI has given the nod to the private sector business for banking services.

**OBJECTIVES OF THE STUDY**

1. To review the literature on payment banks.
2. To understand the concept of payment bank and financial inclusion.
3. To know the features of a payment bank.
4. To trace the history of payment banks.
5. To know the similar and contrasting features of traditional banks and payment banks.
6. To identify the services payment banks can and cannot offer.

**RESEARCH METHODOLOGY**

The research paper is an attempt at exploratory research based on secondary data sourced from journals, articles, books, websites, etc.

**REVIEW OF LITERATURE**

**Dr. J. C. Pande (2015)** explained the process of setting up Payment Banks under RBI guidelines and elaborated on the services rendered by Payment Banks.

**Varun Kesavan (2015)** elaborated on the RBI guidelines for licensing payment banks and explained Nachiket's thought process.



**Nidhi Chandarana (2015)** conceptualized the need for payment banks in India based on secondary data and focused on PPI (Pre-paid Instruments) and M-PESA.

**Dr. V. Ramesh Naik, P. Firdous and P. Harika (2018)** have conducted a study on the role of payment banks in India, based on secondary data.

**Dr. Ritu Wadhwa and Dr. Ashima Agarwal (2019)** have made a conceptual study of payment banks elaborating on the advent of payment banks, payment banks vs. traditional banks, purpose, benefits, challenges, and opportunities.

### **Meaning of Payment Bank**

A payment bank is a scheduled bank, conceptualized by a committee headed by Dr. Nachiket Mor, formed by the Reserve Bank of India. A payment bank is a new category of bank and is like any other bank but operating on a smaller scale, without involving any credit risk. It can perform the majority of the banking operations, but cannot give loans or issue credit cards. It can accept demand deposits up to Rs. 1 lakh, offer remittance service, mobile banking/transfers/purchases, and other banking services like ATM/debit cards, net banking, and third-party fund transfers. A payment bank operates digitally on mobile phones and other devices using the internet, rather than through physical branches.

Payment bank promotes the achievement of the goal of financial inclusion, which provides affordable financial services to low-income, marginalized, and disadvantaged groups.

### **The objective of Payment Bank**

As per the data of the Reserve Bank of India, almost 60% of the people of India, are still not connected with the banking sector. These 60% of people include many low-income people,

Who live in rural areas of India, work in the unorganized sector, and often migrate to the city/abroad, in search of jobs.

The main objective of setting up payment banks is to promote financial inclusion, by advancing the reach of payment and financial services like small saving accounts and remittance services to small businesses, low-income households, migrant laborers, unorganized sector workers, and other areas by enabling an accomplished technology-driven environment.

Through payment banks, the Reserve Bank of India wants to enhance the penetration level of financial services, to the remote areas of the country.

### **Features of Payment Bank**

- The target audience of the payment bank is small businesses, low-income households, migrant laborers, the unorganized sector, and the marginalized and disadvantaged people.
- The potential candidates to run payment banks are mobile phone companies, consumer goods companies, post offices, and agri /dairy type co-operative corporate business correspondents. For Scheduled Commercial Banks can open payment banks, as their subsidiaries.
- To set up a payment bank, the minimum capital requirement is Rs. 100 crores.
- Like commercial banks, the payment bank will also accept money from the people as a deposit, but the limit is fixed, which means the payment bank can accept deposits up to a maximum of Rs. 1 lakh from a customer.
- Payment banks can open savings accounts and current accounts.
- Payment banks can pay interest on the received deposits, just like Scheduled Commercial Banks.
- Payment banks can issue debit cards, and ATM cards, but cannot issue credit cards.
- Payment banks cannot provide loan or lending services to customers.
- Payment banks cannot accept deposits from Non-Resident Indians (NRIs). It means that people of Indian origin, who have settled abroad, cannot deposit their money in the payment bank.
- Payment banks will have to keep the Cash Reserve Ratio (CRR) like other Scheduled Commercial Banks.
- Payment banks can provide the facility of utility bill payments to their customers and the general public.
- Payment banks cannot open subsidiaries to undertake Non-Banking Financial Services activities.

- 
- Payment banks with RBI's approval, can work as a partner with other commercial banks and also can sell mutual funds, pension products, insurance products, and foreign exchange services.
  - Payment banks must have the word "Payment Bank" in their names to look different from other banks.
  - Payment banks will be allowed to provide internet banking services and mobile banking facilities to their customers.
  - Payment bank can become a business correspondent of any other bank, but it will have to comply with the RBI Guidelines.
  - Payment banks can accept remittances to be sent to or receive remittances from multiple banks through payment mechanisms approved by RBI like RTGS/ IMPS/NEFT.
  - Payment banks can transfer payments through channels like payment bank branches, ATMs (Automated Teller Machines), BCs (Business Correspondents), etc.
  - The payment bank's outside liabilities should not exceed 33.33 times its paid-up capital and reserves.
  - 25% of branches must be in unbanked rural areas.
  - The promoter shall contribute a minimum of 40% of the paid-up equity capital for the first five years, from the date of business commencement.
  - The payment bank will have to invest a minimum of 75% of its demand deposits in government treasury/ securities bills, with maturity of up to one year, and hold a maximum of 25% in current and fixed deposits with other commercial banks for operational purposes.
  - The eligible deposits mobilized by the payments bank would be covered under the deposit insurance scheme of the Deposit Insurance and Credit Guarantee Corporation of India (DICGC).

### **History of Payment Banks**

- On 23 September 2013, the RBI constituted a Committee on Comprehensive Financial Services for Small Businesses and Low-Income Households that was headed by Nachiket Mor.
  - On 7<sup>th</sup> January 2014, the Nachiket Mor Committee submitted its report and recommended the formation of a new category of bank called the Payment Bank, along with other recommendations.
  - On 17<sup>th</sup> July 2014, the RBI released the draft guidelines for payment banks, inviting suggestions, and comments from the interested entities and the general public.
  - On 27 November 2014, the RBI released the final guidelines for payment banks.
  - In February 2015, the RBI released the list of 41 applicants who had applied for the license of payment banks. The license applications were evaluated by an External Advisory Committee (EAC), headed by Nachiket Mor.
  - On 28 February 2015, during the Union budget presentation, the announcement was made that India Post will use its large network to run the payment banks.
  - On 6<sup>th</sup> July 2015, the External Advisory Committee submitted its report, after examining the financial track record and governance issues of the applicant entities.
  - On 19<sup>th</sup> August 2015, the RBI gave in-principle licenses to 11 entities to launch Payment Bank, out of these three were surrendered. The remaining eight entities areas follows:
    - Aditya Birla Nuvo
    - Airtel M commerce service
    - Department of posts
    - Reliance Industries
    - PayTM
    - Vodafone M-pesa
    - FINO paytech
-

- National securities deposits

Under Section 22 of the Banking Regulation Act, the RBI will grant full licenses for setting up a Payment Bank, after satisfactory fulfillment of the conditions required to set up a Payment Bank.

**Similar Features and Contrasting Features between Traditional Banks and Payment Banks.**

**Similar Features**

Sr. No.	Features	Traditional Banks	Payment Banks
1	Accept deposits	Yes	Yes
2	Customers withdrawal facility	Yes	Yes
3	Paying interest on deposits	Yes	Yes
4	Investment Products	Yes	Yes
5	Issue Debit Cards/ ATM	Yes	Yes

**Contrasting Features**

Sr. No.	Features	Traditional Banks	Payment Banks
1	Provide loans or involved in lending activities	Yes	No
2	Issue Credit Cards	Yes	No
3	Maximum Deposit Limit	No Limit	Yes (Rs. 1 Lakh per individual customer)
4	Maintaining minimum balance in account by customers	Yes	No
5	Charging for intra-banking transactions and withdrawals	No	Yes
6	Mandatory to be technology-driven	No	Yes, from the very beginning
7	Setting up subsidiaries to undertake non-banking financial services and activities	Yes	No

**Services offered by Payment Banks**

- A payment bank can accept deposits up to a maximum limit of Rs. 1 lakh only per individual customer.
- A payment bank can accept demand deposits and savings bank deposits from individuals, small firms, and other entities.
- Through a payment bank, a savings bank account, or a current account can be opened.
- Payment banks pay interest on the deposits, just like normal banks.
- Payment banks can issue debit cards/ ATM cards to their customers.
- Through payment banks, mobile banking can be accessed.
- A payment bank app can also be used to pay utility bills.
- Payment banks are allowed to transfer payment through any channels like branches, Automated Teller Machines (ATM), business correspondents, etc.
- Payment bank can provide Internet banking services, that includes payment mechanism, which is approved by RBI like RTGS/ NEFT/ IMPS.
- Payment banks can provide basic financial services like access to mutual funds, insurance products, pension products, and foreign exchange (forex) services, subject to conditions set by the RBI.

**Services Payment Banks cannot offer**

- As per RBI Guidelines, payment banks cannot issue credit cards.

- Payment banks cannot accept deposits from Non-Resident Indians (NRIs).
- Payment banks cannot deal in any kind of lending business. They are prohibited from issuing any kind of loan like personal loans or any other loans to their customers.
- Payment banks are not allowed to set up subsidiaries for undertaking non-banking financial services.

### **Concept of Financial Inclusion**

The term 'financial inclusion' was first declared in the RBI Annual Policy Statement 2005-2006. The effort towards bringing an increasing number of people under the banking umbrella started in the 1960s.

According to the Indian Banker (2015), "Financial inclusion, a multidimensional concept is about Ensuring both "access" and "delivery" of financial services to the people, especially the poor and underprivileged and those who are residing in socio-economically backward areas. Financial services should include at least banking (deposit, loan, and remittance products) and insurance products."

### **C. Rangarajan Committee Report on Financial Inclusion in India (2008)**

"Financial inclusion is the process of ensuring access to the financial services and prompt and adequate credit were needed by vulnerable groups such as weaker sections and low-income groups at an affordable cost."

Financial inclusion is the delivery of financial services at affordable costs to the vast sections of disadvantaged and low-income segments of society who tend to be excluded from the formal banking sector, in contrast to financial exclusion, where those services are not available or affordable. It means, the provision of affordable financial services i.e. access to payments and remittance facilities, savings, loans, and insurance services by the formal financial system to those who tend to be precluded.

The three dimensions of financial inclusion are Branch Penetration (the number of branches per lakh of the population), Credit Penetration (the number of loan accounts per one lakh population, the number of small borrowers loan accounts per one lakh population, and number of agricultural and number of agricultural advances per one lakh population) and Deposit Penetration (the number of saving deposit accounts per one lakh population).

Over some time, there has been an increase in branch, credit, and deposit penetration.

### **CONCLUSION**

Payment banks were introduced to bring financial inclusion into the country. This financial innovation will speed up the process of turning India into a cashless economy. With the introduction of payment banks, the dream of "Banking at your doorstep" could turn out to be a reality, even in the remotest of areas, in India. It was a bold step to redefine the banking system in India, thereby rendering services to the common masses on a large scale. Payment banks are an important addition to digital innovation in the banking sector. But they need to be managed properly, to sustain and grow in the vast and dynamic banking arena.

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**CORPORATE SOCIAL RESPONSIBILITY (CSR) - A CASE STUDY OF MAHINDRA AND MAHINDRA LTD. (M & M LTD.)****<sup>1</sup>Dr. Sunny Fernandes and <sup>2</sup>Sabeena Hamza Koya**<sup>1,2</sup>Assistant Professor in Commerce, Sydenham College of Commerce and Economics, 'B' Road, Churchgate, Mumbai – 400020**ABSTRACT**

India is the first country in the world to have mandated Corporate Social Responsibility, through Section 135 of the Companies Act, 2013. Corporate Social Responsibility (CSR) is the responsibility of corporates towards society or various stakeholders. The world's richest tradition of CSR is in India. Religion has played a major role in promoting the concept of CSR in India. This research paper is on CSR with special reference to the CSR activities of Mahindra and Mahindra Ltd for the period from 2014-15 to 2022-23.

*Keywords: Corporate Social Responsibility, Mahindra and Mahindra Ltd.*

**INTRODUCTION**

Corporate Social Responsibility is not a new concept. In the first phase of CSR development in India from 1850 to 1914, industrialists like Tata, Birla, Godrej, Modi, Singhanian, and Mahindra promoted the CSR concept by placing importance on social and economic considerations.

In India, religion has played a vital role in promoting the concept of CSR. It is based on the policy of give and take. We get something from society and in return, we have to give back something to society in terms of promoting rural development, rural sports education, health and sanitation, providing clean and safe drinking water, health and sanitation, women empowerment and gender equality, disaster management, environmental protection and so on.

Mahindra and Mahindra Ltd. has played a very significant role in undertaking CSR initiatives and helping in the overall economic and social development of the Indian Economy. It has assisted in communities to RISE. The research paper throws light on the CSR activities of Mahindra and Mahindra Ltd. from 2014-15 to 2022-23. Corporate Social Responsibility has been made compulsory in India, through Section 135 of the Companies Act, 2013. India is the pioneer country in the world to make it mandatory for companies to undertake CSR activities. The government alone cannot take the responsibility of performing

the responsibilities towards the society or community or various stakeholders like consumers, employees, shareholders, investors, suppliers, banks, financial institutions, society, etc.

M & M Ltd. has been at the forefront of helping people to RISE through impactful CSR projects that have addressed critical issues. For M & M Ltd., CSR is about abiding with statutory and legal compliances and creating social and environmental value for its stakeholders, thus, contributing to building an equal and future-ready nation.

**OBJECTIVES OF THE STUDY**

1. To introduce the CSR concept.
2. To trace the evolution of CSR in India.
3. To review the literature on CSR.
4. To highlight the CSR activities of Mahindra and Mahindra Ltd. For the period from 2014-15 to 2022-23.

**RESEARCH METHODOLOGY**

The research paper is an attempt at exploratory research, based on secondary data, sourced from journals, articles, annual reports, websites and books.

**REVIEW OF LITERATURE:**

**Neeraj Kumar Sharma (2018)** in his research paper titled "An Analysis of Corporate Social Responsibility in India" has used exploratory research based on secondary data. He has explained CSR in India with the CSR models. He has stated the challenges faced by CSR in India and has given suggestions to overcome the challenges.

**Shreeraj Suresh Bhor (2020)** in his research paper titled "An Analysis of Corporate Social Responsibility of Pharmaceutical Companies in Pune" has used secondary data. The concept of CSR is explained along with the

CSR activities of three pharmaceutical companies in Pune. The CSR challenges and the steps to increase CSR activity in Pune are discussed.

**S. Gayathri (2016)** in her research paper titled “An Insight into the CSR Activity of Mahindra & Mahindra Ltd.” aims to study the CSR activities of M. & M. Ltd. For a period of 5 years from 2010 to 2014. The study uses secondary data from Annual Reports. The CSR section along with the Business Responsibility Report has been studied.

**Ajit Singh, HitendraBargal Priyanka Chawla (2017)** in their research paper titled “CSR Activities and the Problems Faced by Companies in India” have used descriptive research based on secondary data. It cites examples of CSR initiatives of some Indian Companies. It scrutinizes CSR spending and the problems/ challenges faced by companies in India.

**Aarti Chopra (2020)** in her research paper “Analysis of Community CSR Activities of Tata Chemicals Ltd.” Has determined the measures taken by Tata Chemicals Ltd. For the financial year 2019-20, to conduct a CSR campaign which is successful. Primary data has been used. Interpretive and inductive approaches have been used and survey questionnaire strategy has been used.

### **CSR Concept**

In ‘CSR’, ‘C’ refers to Corporate, and Corporate refers to the Company form of business organization. ‘S’ refers to Society/ Community. A Corporate/ Company has certain responsibilities towards society, the various stakeholders like employees, consumers, shareholders, investors, creditors, trade unions, government, local community, media, etc., and not only the shareholders of the company. ‘R’ refers to Responsibility, the social obligation, moral obligation, ethical obligation, and legal obligation towards the entire society or community at large.

### **DEFINITIONS**

#### **Philip Kotler and Nancy Lee**

“Corporate Social Responsibility is a commitment to improve community well-being through discretionary business practices and contribution of corporate resources. Corporate social initiatives are major activities undertaken by a corporation to support social causes and to fulfil commitments to corporate social responsibility.”

#### **Ratan Tata**

“A company should have in its DNA a sense of work for the welfare of the community. CSR is an extension of the individual sense of social responsibility. Active participation in CSR projects is important for a company.”

Thus, a company/corporate has to fulfil its philanthropic responsibilities by being a good citizen and contributing resources to the community and thereby improving the quality of life of people/ society/ community. A company/corporate has to perform ethical responsibilities by being ethical. It has an obligation to do what is correct/ right, just and fair, good, and avoid bad/ wrong/ harmful/detrimental to the interest of the people/ community/ society/ stakeholders. A corporate has to perform legal responsibilities by obeying the laws/legislations/ Acts. The law is the codification of society regarding correct and wrong. A corporate has to play the game rules. A corporate has the economic responsibilities of being profitable. Profits are the foundation, on which all other responsibilities depend.

Profit maximization is not the only objective of business/ corporate. Besides the economic objective of making profits, businesses have obligations/ responsibilities towards society. Thus, it has a social responsibility to fulfill, taking the interests of all stakeholders and not just the shareholder's interests. CSR is getting integrated with the core business strategy, emphasizing addressing environmental and social concerns.

### **Evolution of CSR in India**

The world's richest tradition of CSR is in India. CSR concept may be relatively new to India. But, the concept dates back to Mauryan history, where philosophers like Kautilya emphasized ethical practices and principles while doing business. In ancient times there was an informal practice of CSR in the form of charity to the poor and disadvantaged people. At several places, Indian scriptures stated the significance of sharing one's earnings with the deprived section of the society. Sharing and caring are deeply rooted in Indian culture.

In promoting the CSR concept, religion has played a major role. Islam had a law called Zakat, which rules that a portion of one's earnings must be shared with the poor in the form of donations. Merchants belonging to the Hindu religion gave alms and got temples and night shelters made for the poorer sections,

Hindus followed Dharmada where the manufacturer or seller charged a specific amount from the buyer or purchaser, which was used for charity. The amount was known as charity amount or Dharmada. Similar to Islam’s Zakat, Sikhs follow Daswandh which is donating one-tenth (10%) of the income towards charity. Thus in India, religion, without doubt, has played a very significant role in the evolution of CSR.

In India, CSR has its roots much prior to the entry of any other external factors in India, when we speak about CSR from an Indian perspective. There is proof, from ancient times in the scriptures, regarding the presence of CSR. The world’s largest/ richest tradition of CSR is in India, in comparison to other countries. CSR concepts can be found in various historical documents and religious books.

The prominent schools of thought in Ancient Indian ethos are shown in the following tables.

**Table- 1** The Prominent Schools of thought in Ancient Indian Ethos

<b>Scriptures</b>	<b>Description</b>
The Vedas	There are four Vedas- Rig-Veda, Yajur-Veda, Sama-Veda and Atharva-Veda. The prime component of these Vedas is the understanding of the concept of the universe. An attempt to help achieve one goal and objective i.e. union of self (atman) and world (Brahma)
Upanishads	Upanishads form the hard-core soul of the individual, laying a path to connect the individual self to the supreme power, God, and rise over and above the desire and liking from materialistic pleasure.
Bhagavad Gita	Krishna Gathas, the rhymes, and preaching are fundamental pillars establishing a sound base for spirituality and ethics, pronounced through a dialogue between Lord Krishna and the warrior Arjuna who is in a great crisis of life. The Karma yoga, Bhakti yoga, and the notion of three Gunas (Sathwa, Rajas, and Tamas) have eminent implications in the context of ethical leadership, decision making and management, the area of concern where the concepts of CSR Corporate Governance and Ethics are expected to be practiced.
Ramayana	It depicts the duties of relationships, portraying ideal characters like the ideal father, ideal servant, the ideal brother, the ideal wife, and the ideal king. Apart from this the Ramayana also teaches how the temptation for lust can bring a powerful and well-established man’s dooms day.
Buddhism	Lord Gautam Buddha gave the world with four fundamental noble truths. They are (i) Suffering exists, (ii) There is a cause of the suffering, (iii) Suffering can be eradicated, (iv) There is a means for eradication of that suffering. His practice establishes the fact
	that everything on earth is non-permanent and everything on earth has an “anatha”. Buddha also gave the world the eightfold path to liberation from all suffering.

**Source:** <http://asiaresearchnews.com/corporate-social-responsibility-in -India- a-long-way-to-go>

**Csr\_White\_Paper\_Kpmg**

Religion was a very influential factor in motivating people to perform socially useful activities. However, the religious factor, as time passed by has weakened and thus people resorted to other encouragements, to motivate the people in corporate affairs to engage in activities useful for society.

**Case Study of Mahindra & Mahindra (M. &M.) Ltd. Company Profile**

Mahindra & Mahindra (M. & M.) Limited is an Indian multinational automotive manufacturing company. Its headquarters are in Mumbai.

Mahindra & Mahindra Ltd. was established in 1945 as Mahindra & Muhammad and later it was renamed as Mahindra & Mahindra.

Mahindra & Mahindra Ltd. is part of the Mahindra Group. In India, by production M. & M. is one of the largest manufacturers of vehicles. In the world, by volume, its subsidiary, Mahindra Tractors is the largest tractor manufacturer. In 2018, Fortune India, ranked M. & M. Ltd. 17<sup>th</sup> on a list of top companies in India. Maruti Suzuki and Tata Motors are its major competitors.



**HISTORY**

On 2<sup>nd</sup> October 1945 in Ludhiana Mahindra & Mahindra was founded as a steel trading company and it was named Mahindra & Muhammad, by the brothers Kailash Chandra Mahindra and Jagdish Chandra Mahindra, along with Malik Ghulam Muhammad (1895-1956).

The present chairman of Mahindra Group, Anand Mahindra is the grandson of Jagdish Chandra Mahindra, co-founder of M. & M. Anand Mahindra was born on 1<sup>st</sup> May 1955 in Mumbai. His father, Harish Mahindra, was an industrialist, and his mother, Indira Mahindra, was a homemaker. The 66-year-old billionaire has two siblings- Anuja Sharma and Radhika Nath. Anand Mahindra is an alumnus of Lawrence School, Lovedale, Harvard University, and Harvard Business School. He studied filmmaking and architecture at Harvard University and completed his MBA from Harvard Business School.

**Corporate Social Responsibility (Csr) Initiatives of M. &M. Ltd.**

The flagship company of the Mahindra Group is Mahindra & Mahindra Ltd. It provides mobility products and farm solutions. Right from its inception in 1947, the company has grown at a great pace. A wide range of products and solutions, ranging from SUVs to electric vehicles, tractors, pick-ups, two-wheelers, commercial vehicles, and construction equipment are offered presently.

To drive positive and sustainable change in building resilient communities, M. & M. Ltd. Focuses its CSR initiatives.

The redefined core purpose of M. & M. Ltd. mentions, “We will challenge conventional thinking and through innovative use of all our resources, drive positive change in the lives of our stakeholders and communities across the world, to enable them to Rise.”

It can be clearly seen that Corporate Social Responsibility is integral to and at the core of the philosophy of the company.

The company's CSR activities are primarily focused on the girls, youth, and farmer's development, which are supported through education, health, and environmental initiatives.

Diligence in CSR expenditure has been shown by M. & M. Ltd. from the financial year 2014-15 when the companies were made compulsory to spend 2% of their net profits on CSR through the introduction of the new provision of Section 135 in the Companies Act, 2013 M. & M. Ltd. has been spending without fail the prescribed amount for CSR. The company went beyond its CSR spending to 97.08 crore from the prescribed amount of 96.85 crore in the financial year 2021-22 and the CSR spending was Rs 92.28 crore and the budgeted CSR amount was Rs. 91.87 crore in the financial year 2022-23.

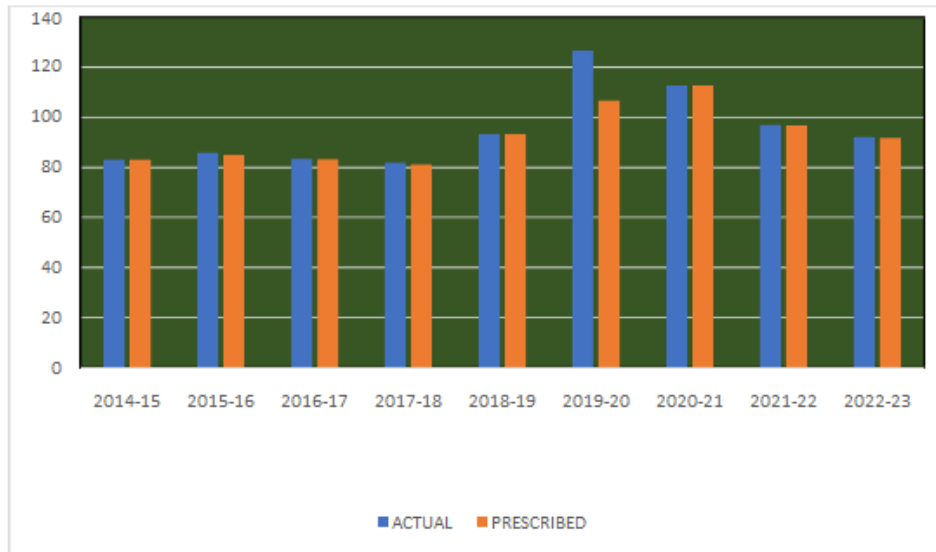
**Table -2:** Csr Amount Spent & Csr Amount Outlay of M. & M. Ltd.

Financial Year	Csr Amount Spent (In Crores)	Csr Amount Outlay/ Budget (In Crores)
2014-15	83.24	83.22
2015-16	85.90	84.95
2016-17	83.57	83.30
2017-18	81.97	81.27
2018-19	93.50	93.37
2019-20	126.59	106.56
2020-21	112.78	112.56
2021-22	97.08	96.85
2022-23	92.28	91.87

**Source:** Annual Reports of M. & M. Ltd. From Financial Year 2014-15 to 2022-23.

**Bar Diagram**

**Bar Diagram Regarding Csr Amount Spent and Csr Amount Outlay of M & M Ltd. For the Financial Years 2014-15 to 2022-23**



**(A) CSR of M. & M. Ltd.**

Corporate Social Responsibility has always been an integral part of the Mahindra Group’s vision and the cornerstone of our Core Value of Good Corporate Citizenship – **Keshab Mahindra, Chairman Emiritus**.

Responsible business practices, for M. & M. Ltd. means being responsible for its business processes, products, engaging in responsible relations with customers, employees and the community. For M. & M. Ltd. CSR goes beyond just following statutory and legal fulfillments and creates for its main stakeholders social and environmental value.

The implementation of CSR projects of M. & M. Ltd. is done directly through its ESOPs structure, wherein the implementation of the CSR projects is done directly by the employees of M. & M. Ltd. or through implementing partners which include Non- Government Organizations (NGOs). The NGOs must have an established track record of minimum three years in executing the particular activity. The Mahindra Foundation, The K.C. Mahindra Education Trust, Naandi Foundation and Tech Mahindra Foundation are the main implementation partners, the company works with.

**(B) Policy of CSR**

In line with its core purpose, M. & M. Ltd. has set up its CSR vision to focus its efforts in important constituencies which help in building the nation and the economy

Thus, M. & M. Ltd. targets to enable its stakeholders like employees, customers etc. and the communities to RISE.

The main aim of the company’s CSR efforts is within the constituencies of youth, girls and the farmers, through designing programmes in the areas of health, education and environment.

Subject to the Board’s approval, the company may also make contributions towards the corpus of the KC Mahindra Foundation Trust and Mahindra Foundation, besides contributing to its Corporate Foundations / Trust’s projects.

The CSR Policy of the company has to be monitored from time to time, by the Board level CSR Committee of the company.

The projects or programmes to be undertaken, the modalities of execution and implementation schedule from time to time, has to be approved and recommended to its Board, by the CSR Committee.

The CSR Committee has also to install a monitoring mechanism for tracking the progress of each project, besides recommending and approving budgets for implementation of project.

**(C) CSR Committee**

The CSR Committee comprises of Dr. Vishaka N. Desai (chairperson), Mr. Anand A. Mahindra, Dr. Anish Shah, Mr. Vikram Singh Mehta and Mr. Muthiah Murugappan.

There is also a CSR Council in the Company, whose Chairman is the President – Group HR and Communications and Member of the Group Executive Board, which includes all sectors, senior management executives, senior CSR executives and an advisor of CSR. The CSR strategy is implemented by the CSR Council and the reporting is done to the Board level CSR Committee.

**(D) Project Nanhi Kali**

Project Nanhi Kali supports the education of underprivileged girls in India. Nanhi Kali in Hindi means a 'little bud'. Project Nanhi Kali is for supporting girls from low income families for completion of ten years of formal schooling. Project Nanhi Kali, which is the flagship CSR project of M. & M. Ltd. has created an impact on the lives of over 4,50,000 girls who are called Nanhi Kalis, from underserved communities of India.

Presently, the project supports in nine states, the education of 1,74,681 Nanhi Kalis across 6001 academic support centres. A 360 degree support is provided to girls from Class 1 to Class 10, which includes 2 hours of free after-school remedial classes daily, by the project. A yearly school supplies kit is also given, so that they can come to school with dignity. The project has given its support to 78,437 girls in secondary schools through accessibility to digital tablets, which are pre-loaded with smart content related to education, sensitizing parents and communities on the significance of girls education and to become their collective guardians is also done by the Nanhi Kali team. In order that the girls are capable of facing the post-Covid world, the Nanhi Kali team has increased their efforts by investing in providing quality digital education to girls. Thus underprivileged girls are encouraged to continue their education at the critical time of Covid.

In the Nanhi Kali project each and every girl gets holistic support including the following:

**(a) Academic Support and Access to an Adaptive Learning Software in Digital Tablets:**

Academic support is given duly at Nanhi Kali Academic Support Centres. These centers are set up within government schools and operate for two hours before or after school. Every girl at these centres gets access to a personalized, adaptive learning platform called Mindspark, in collaboration with leading EdTech organization, Educational initiatives. This software which is widely recognized has proved to improve among users, the learning outcomes. The girls learn Maths, their local language and English from Class 1 to Class 10 and Science from Class 6 to Class 10, through Mindspark. Mindspark will match instructions to the level of learning and pace of each girl, guaranteeing that the girls learn with understanding, supported by Artificial Intelligence (AI). It allows access to quality education to the remotest areas by pre-loading the software onto digital tablets.

**(b) Trained Women Tutors**

Community Associates who are the Nanhi Kali Tutors are women from local communities. They help in learning and monitor the girls through their schooling. In order to create girl-friendly ecosystems, the Nanhi Koli tutors engage with parents / community stakeholders.

**(c) Sports Curriculum**

The Nanhi Kalis are given a chance to take part in sports and fitness activities daily, through a professionally designed sports curriculum which has been included into the programme.

**(d) School Supplies Kit**

Every Nanhi Kali is given yearly, a school supplies kit which includes a school bag, stationery a pullover / rain coat and a 12 month supply of branded sanitary napkins, to help the girls attend school with dignity. Branded Sanitary Napkins are given because 46.6% of teenage girls are still following unhygienic menstrual practices.

In the National CSR Awards Ceremony in 2019, organized by the Ministry of Corporate Affairs for "National Priority Area Education for Project Nanhi Kali" M. & M. Ltd. received an award.

Nanhi Kali in association with Mahindra Group in 2018, launched a new campaign throwing light on girl child education titled Ladki Haath Se Nikal Jaayegi, whose aim was to remove the misconceptions around girl child education by taking on a fresh view with the campaign. Recognition was given to the campaign with several accolades. In 2019 at Goafest, it won Gold in the Special Abby (General Sensitive) category.

**(E) Mahindra Pride Schools**

Youths from socially and financially disadvantaged communities have a unique 90-day livelihood training programme, under Mahindra Pride School. It has a placement record which is hundred percent. In the financial year 2019-20 Mahindra Pride Schools have trained and placed 6045 students in the 9 schools in Hyderabad, Pune, Patna, Srinagar, Varanasi, Chandigarh and 3 in Chennai. This programme has trained till date; 39,280 youths.

There is a network of more than 200 companies, many of which have been repeat recruiters of graduates of Mahindra Pride Schools (MPS). This indicates the training quality given at MPS. The ex-students of MPS who are working with various companies act as role models in their community. Referrals are sent to MPS by active alumni clubs regularly. Minimum 30 – 40% of a batch includes referrals. The alumni encourage students undergoing training at MPS to overcome their challenging situations, by acting as peer leaders and mentors to students.

In 16 states in the financial year 2019-20, training was imparted to 1,01,391 students through MPS Classrooms conducted through IITs, Polytechnic, Arts and Science Colleges. 40-50 hours of training is given to final year students in the MP classrooms on English speaking, interviews, life skills, aptitude tests, digital literacy, and group discussions.

**(F) Project Hariyali**

The green initiative of M. & M. Ltd. is Project Hariyali. In this initiative the company aims at adding 1 million trees, every year, to India's green cover.

Project Hariyali was started in 2007. Today it has become a movement amongst the employees of the company, vendors, customers and dealers. Across the country tree plantation drives are undertaken. M. & M. Ltd. planted 132 million trees taking the total tally to 17.93 million trees in the financial year 2019-20. Out of 17.93 million trees, 10.78 million trees are planted in the Araku Valley. It has made a green environment and given livelihood support to tribal farmers growing coffee in the region.

At the Indo-French Chamber of Commerce and Industries (IFCCI) in 2020, the project was adjudged with India's Best CSR Project in the Environment and Sustainability Category. The honour has recognized the projects contribution and commitment to giving nature-based solutions to address, the issues pertaining to climate change.

In the 2020 edition of the Limca Book of Records for "Most trees planted", the project had featured.

**(G) Integrated Watershed Management Programme (IWMP)**

In order to enhance the ground water table of the region, IWMP project was implemented in a Private Public Partnership (PPP) model with the Madhya Pradesh Government in Bhopal and in Hatta with the NABARD.

The IWMP was implemented in 48 villages which includes 35 villages in Bhopal and 13 villages in Hatta. IWMP aims at benefitting 38,447 people residing in 48 villages by helping to enhance agricultural productivity and improve the overall living standards.

In 2019, in MP at National CSR Awards organized by the Ministry of Corporate Affairs, the project was given the honour of National Priority Area Agriculture and Rural Development for IWMP.

**(H) Saving Lives with Safer Roads**

To create India's first Zero Fatality Corridor (ZFC) on the Mumbai-Pune Expressway

M. & M. Ltd. is partnering with Save Life Foundation and MSRDC through interventions in 4Es i.e. Engineering, Enforcement, Education and Emergency Response.

To build a replicable model for road safety, which can be implemented in any road, the ZFC is a first attempt.

Due to ZFC, the number of road crash fatalities on the Mumbai-Pune Expressway (MPEW) can be reduced, from an annual average of 140 to 0 by the year 2020, which is the end of the UN Decade of Action For Road Safety.

**(I) Employee Social Options**

ESOPs is where Mahindra employees channelize their time and skills, to address the needs of local communities, through a longer running Employee Volunteering Programme. 22,877 M. & M. employees

volunteers contributed 1,63,818 person- hours, towards giving back to the society, in the financial year 2019-20.

**(J) COVID-19 Relief**

At the end of the financial year 2019-20 resilience was tested, marked by the COVID- 19 crisis. The crisis tested the world’s capability to respond to a pandemic at a time, when the world is already problems of severe inequalities of gender, class, access to livelihood, opportunities, amongst others.

There was an urgent need for corporate to come forward and support communities in need because the socio-economic impacts of the pandemic hit the vulnerable and marginalised groups particularly hard.

To fight the COVID crisis M. & M. Ltd. gave its support to the Govt. machinery efforts, by responding to the crying needs for products needed to battle the COVID-19 crisis. M. & M. Ltd. decided to use the company’s manufacturing facilities to make personal production equipment like low-cost innovative ventilators, face shields and face masks.

Under the aegis of Mahindra Foundation, M. & M. Ltd., set up a COVID-19 relief fund. This relief fund was used to give relief to those badly affected by the pandemic like daily wage laboruers, supply chain workers, small businesses and traders.

A contribution of Rs.20 Crores was done by M. & M. Ltd. to the ‘Prime Minister’s Citizen Assistance and Relief in Emergency Situations Fund’ (PM CARES FUND).

The CSR initiatives of M. & M. Ltd. has given support to the Government agencies has given quick and timely relief. M. & M. Ltd. has reached to a large poorer sections of the society, the vulnerable and the marginalized groups.

**Table – 3** CSR Amount Spent On Different Activities by M. & M. Ltd. from 2014-15 to 2020-21

		2014-	2015-	2016-	2017-	2018-	2019-	2020-	2021-	2022-
Sr. No.	Activities	15 (In Crores)	16 (In Crores)	17 (In Crores)	18 (In Crores)	19 (In Crores)	20 (In Crores)	21 (In Crores)	22 (In Crores)	23 (In Crores)
1	Eradicating Extreme Hunger & Poverty	--	--	--	0.29	--	--	--	--	N.A.
2	Promoting Education	24.87	41.11	36.39	35.43	34.43	38.67	33.98	40.77	N.A.
3	Promoting Gender Equality and Women Empowerment	--	0.25	0.05	--	0.08	0.11	20.30	11.12	N.A.
4	Reducing Child Mortality and Improving Maternal Health	--	--	--	--	--	--	--	--	--
5	Combating HIV, AIDS, MALARIA and Other Diseases	--	--	--	--	--	--	--	--	--
6	Promoting Preventive Health Care and Sanitation	21.86	21.92	11.39	9.92	14.79	16.86	64.30	53.58	N.A.
7	Ensuring Environmental Sustainability	7.34	6.77	5.20	7.78	11.52	11.84	23.13	7.94	N.A.
8	Provide Safe Drinking Water	--	1.55	--	--	--	--	--	--	N.A.
9	Enhancing Employment	4.79	10.88	5.58	10.12	12.66	17.53	13.79	--	N.A.

	Oriented Skills									
10	Promoting the Setting up of Old Age Homes, Day Care Centers and such facilities for Senior Citizens	0.80	0.70	0.80	0.02	--	--	--	--	N.A.
11	Social Projects	--	--	--	--	--	--	--	--	--
12	Rural Development	15.03	13.17	22.96	17.91	19.91	17.97	33.29	9.61	N.A.
13	Contribution to prescribed Relief Funds	2.00	--	--	--	--	--	--	--	--
14	Promotion of Rural Sports	--	0.25	0.09	0.26	0.11	--	--	--	N.A.
15	Disaster Management	--	--	--	--	--	23.61	23.46	19.41	N.A.
16	Protection of Culture	--	0.12	--	--	--	--	--	--	--
17	Such Other Matters	--	--	--	0.25	--	--	--	--	--

**Source:** Annual Reports of M. & M. Ltd. From Financial Year 2014- 15 to 2022-23.

**Note:** Figures for the Year 2022 - 23 Not Available (N.A.)

## CONCLUSION

CSR idea first came up in 1953 when it became an academic topic in HK Bowen's "Social Responsibilities of the Business".

Corporate Social Responsibility means the obligation or responsibility of corporates / companies to perform activities in favour of the society or community at large, without expecting anything in return. The social activities are done for the development or upliftment of the society, for social welfare and also for building the brand or image/goodwill of the company. From ancient times in the scriptures, there is proof of the presence of CSR. India has the world's richest tradition of CSR. The CSR concept can be found in different historical documents and different books of religion. The concept of CSR may be relatively new to India. In India CSR has evolved through four phases like community engagement, socially responsible production and socially responsible employee relations. There are many challenges facing CSR in India, which have to be faced. An important challenge is the need for more dependable progress indicators of CSR. The bigger the company, the bigger should be its CSR program.

Companies should realize that the government only, will be unable to get success in its efforts to bring up the downtrodden, underprivileged people of the society. India is the only and the first country in the world, for making CSR compulsory/mandatory through a legislation, Companies Act, 2013, Section 135 and the provisions of the Companies (Corporate Social Responsibility Policy) Rules, 2014 which came into effect from 1 April, 2014.

As far as M. & M. Ltd. is concerned, it has undertaken many CSR activities and has been very sincere and honest in fulfilling its social responsibilities. It has reached the masses to improve their standard of living, to exploit their employable skills and to help their dreams come true. Other corporates in the private sector and public sector have a lot to learn, from the type of CSR activities undertaken by M. & M. Ltd. M. & M. Ltd. has set an excellent example in undertaking Corporate Social Responsibility (CSR) activities, for other corporates to follow.

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5. [www.indiacsr.in](http://www.indiacsr.in)

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**EXPERIENTIAL LEARNING: EXPLORING ITS IMPACT ON THE STUDENTS**

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**ABSTRACT**

*India needs highly educated and competent individuals to advance its economy and graduate from being a developing country to one that is developed. In order to achieve this goal, education systems should push students to develop competences that go beyond content knowledge and to become capable of managing their own learning, problem-solving, and information beyond restricted information containment. Knowledge building at advanced levels takes on new meanings that must be examined, developed, integrated, and resolved within the framework of a specific task. One of the effective teaching methods that teachers employ with their pupils is experiential learning. The kids learn through carrying out tasks that give them new experiences. Experiential learning requires practical application. The present paper aims to highlight the concept of experiential learning and its impact on college students.*

**INTRODUCTION TO INDIAN EDUCATION SYSTEM**

India has a great heritage of knowledge. For many years, knowledge has been flowing throughout. Many scientists, mathematicians, astronomers, and other professionals have done many kinds of research. They have made many inventions through education. The Indian education system is undoubtedly one of the oldest education systems in the world.

It is a fact that our education system in India is not the best one. Lack of reforms and improvements are making it quite boring and ineffective. Students are not taking much interest in studies. There are many factors that are leading this problem of students' disinterest in education. People are blaming this orthodox education system. The image of studies and education has been made so reflective by the system. Education is more exploration than slogging for passing examinations and tests. However, the current system of education appears to be a burden. Taking this into consideration the Government introduced NEP 2020 which has brought paradigm shift in education system.

**National Education Policy 2020**

The NEP 2020 which was started by the Union Cabinet of India on 29<sup>th</sup> July 2020, outlines the vision of new education system in India. The new policy replaces the previous National Policy on education, 1886. The policy is a comprehensive framework for elementary education to higher as well as vocational training in both rural and urban India. The policy aims to transform India's education system by 2030.

**Importance / Role of Experiential learning in the NEP**

Experiential learning is a corner stone of the NEP's transformative vision for education in India. By emphasizing active engagement, application of knowledge and holistic development, experiential learning equips students with the skills, competencies and mind-set required for success in the 21st century.

**Experiential Learning**

Experiential learning is a process of learning where students "learn by doing". Students are able to connect better with theories and knowledge that has been taught to them in the classroom to the real world situations. This can be done by engaging students in hands on experience and reflection.

Lewis and Williams (1994, p.5) defines Experiential learning as "In its simplest form, experiential learning means learning from experience or learning by doing. Experiential education first immerses learners in an experience and then encourages reflection about the experience to develop new skills, new attitudes, or new ways of thinking."

The foundation of experiential learning is interdisciplinary and constructivist learning. Experimental methodology does not unconnect one subject to other subjects. Compartmentalized learning doesn't reflect the real world, while the experiential classroom works to create an interdisciplinary learning experience that mimics real world learning. (Wurdinger, 2005, p. 24)

In experiential classrooms, "students can process real-life scenarios, experiment with new behaviours, and receive feedback in a safe environment. Experiential learning assignments help students relate theory to practice and analyse real-life situations in light of course material" (Lewis & Williams, 1994, p. 8).



The experiential learning theory promotes deep learning over surface learning. Surface learning typically entails studying for an exam and is accomplished through memorization of material from a textbook, which may not result in the retention of the material learnt. However, deep learning typically entails acquiring knowledge through a variety of techniques, such as reading, experimentation, role-playing, and discussion. These methods help students to apply and discuss theories rather than just memorize them, these teaching strategies assist students in understanding what they are studying.

**Process to incorporate experiential activities in the classroom:****1. Understanding Learners needs.**

Analyse the learners and identify their needs based on the level of their education.

**2. Identify appropriate activities and course content.**

It is important to identify "What exercises fit your course content and meet the needs of the particular student population in terms of cognitive development"

**3. Identify potential issues in integrating experiential learning.**

It is also important to identify the problems that students face while engaging in experiential learning activities so that preventive measures can be taken accordingly.

**REVIEW OF LITERATURE**

Mamatha, SM (2021), highlights the significance of experiential learning in higher education. It emphasizes the shift in educational focus towards enhancing students' conceptual understanding and interests. Experiential learning, defined as learning through reflection on doing, is presented as a learner-centered approach that involves hands-on activities, internships, and service-learning. It underlines the historical roots of experiential learning, tracing it back to the Gurukul system in India. Institutions benefit from enhanced student engagement, improved reputation, and community engagement. Overall, this highlights the value of experiential learning as a pedagogical approach that bridges the gap between theory and practice, preparing students for real-world challenges in higher education.

Nooghabi, S.N, Iravani, H.& Fami, H.S. (2011) highlights several critical challenges in conducting practical courses, encompassing a scarcity of educational spaces, an inadequacy of experienced instructors, a lack of emphasis on supplementary learning experiences, and difficulties in classroom management. In response to these issues, several suggestions emerge, including the provision of on-the-job training for instructors to enhance their teaching capabilities, a call to motivate students toward skill acquisition rather than mere course completion, recognizing the need for increased budget allocation to address infrastructure and resource limitations, advocating for the development of contemporary practical course programs, and promoting comprehensive program reengineering that encompasses content, teaching methods, and physical settings.

Jay Roberts (2018), highlights the growing importance of experiential learning in higher education, driven by challenges like economic shifts and changing demographics. It emphasizes how experiential education addresses both institutional and pedagogical needs. Institutionally, it provides practical skills to students, countering criticisms of colleges and universities not adequately preparing graduates for the workforce. Pedagogically, research supports the impact of experiential learning on student success, with various studies highlighting its effectiveness. The article acknowledges challenges in integrating experiential methods into formal curricula and calls for a balanced approach between traditional and experiential learning. It covers diverse topics in experiential education, urging for more research, particularly in long-term student outcomes and diversity considerations. It underscores the need for continued growth, innovation, and interdisciplinary connections in the field.

**METHODS OF EXPERIENTIAL LEARNING:****Internships:**

Internships give students the ability to explore career alternatives and obtain practical experience, extending their education beyond the classroom and providing important, career-related experience.

**Role-Playing:**

Role plays and simulations are examples of experiential learning in which students engage in a variety of challenging learning environments while assuming various characters, personalities, oppositions within a group.

**Project-Based Learning:**

Students engage in practical projects that are connected to their curriculum. They work together to find solutions to challenges in the real world. The learning process includes reflection on the project ,progress and results.

**Educational – Games:**

Students can see where they rank among their peers from around the globe when game-based learning is used with a large audience. Students can compete against one another on a variety of themes and subjects to determine where they stand in relation to others in their college, nation, or world.

**Field-Excursion:**

An excellent illustration of experiential learning is a field trip. This allows students to broaden their knowledge and improve their talents outside of the traditional classroom and in the real world. Teachers might take their students to a museum, planetarium, Architectural site, or other attraction.

**Research:**

Encouraging students to perform individual or group research, assisting them in the development of essential research abilities.

**OBJECTIVES OF THE STUDY:**

1. To study the impact of experiential learning on students.
2. To identify the challenges faced by students during experiential learning activities

**RESEARCH METHODOLOGY FOR THE STUDY :**

The present study has following research methodology:

- a) **Sources of Data:** The present research study is based on both secondary and primary data. Primary data has been collected by preparing structured questionnaire using Google forms. The secondary data has been collected from the sources such as articles magazines, newspapers, official websites, internet etc.
- b) **Sample Design:** For the present study purpose, simple convenient random sampling has been selected. The sample size was of 141 students. The survey was conducted using Google forms .
- c) **Tools and Techniques:** The simple average method and percentage method has been used to analyse the data. The data has been analysed with the help of the Tabular method.

**HYPOTHESIS:**

**Hypothesis I:**

H0: There is no significant relationship between the age & experiential learning (Enhancing Public speaking skills,)

H1: There significant relationship between the age & experiential learning (Enhancing Public speaking skills)

**Hypothesis II:**

H0: There is no significant relationship between the Gender & experiential learning (Project based learning helps in boosting the confidence)

H1: There is significant relationship between the Gender & experiential learning ((Project based learning helps in boosting the confidence)

**Data Analysis & Interpretation:**

**1. Demographic Information:**

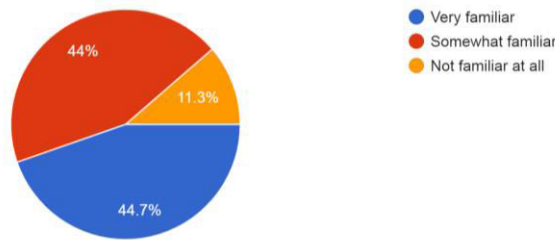
<b>Age</b>	<b>Under 18</b>	<b>19.1%</b>
	18-24 years	80.9%
	25&above	-
<b>Gender</b>	Male	51.8%
	Female	48.2%
	Prefer Not to say	-
	Others	-
<b>Course</b>	BBI	46.8%
	BAF	53.2%

	BAMMC	-
	BMS	-
	BSC IT	-
	Others	-

From the above table it was found that the majority 80.9% of the students belongs to the age group of 18-24 years where as 19.1% belongs to the age group of below 18 years. None of the respondents belongs to the age group of above 25 years. Majority of the students are Male. 51.8% are male & Female are 48.2% whereas none of the respondents belongs to the category of Prefer Not to say & others. Majority of the respondents have elected the course of BAF i.e 53.2 % followed by BBI 46.8%

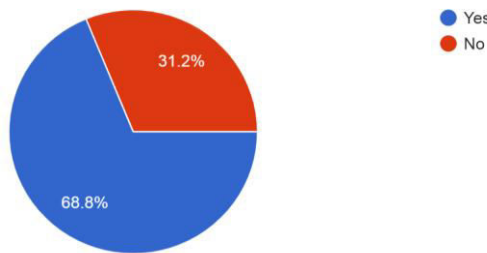
**2. Students familiarity with the concept of experiential learning?**

141 responses



It was found that around 45 % of students are very familiar with the concept of experiential learning & 11.3 % of the students were not familiar.

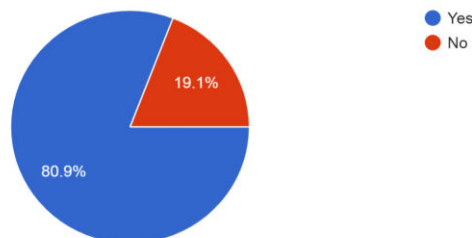
**3. Participation of the students in experiential learning activities during your educational journey?**



The above pie chart shows that 69% of the students participated in different activities while 31% of them didn't participate in the activities. It interprets that majority of the respondents had participated in various activities i.e Group Discussion ,Case Study, internships, field trips, hands-on projects .

**4. Students Perception about how experiential learning differs from traditional classroom learning?**

141 responses



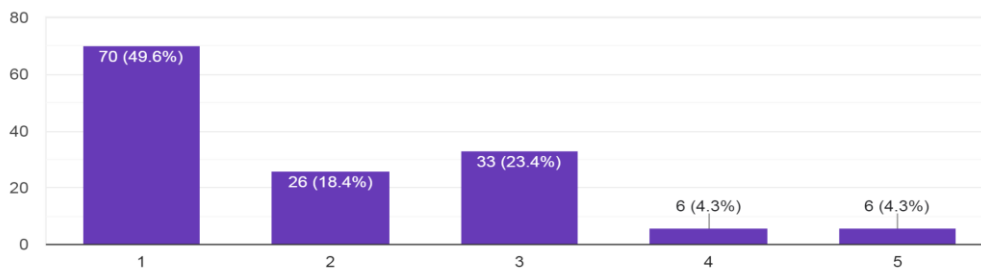
From the above Chart its clears that 81% of the students are of the opinion that experiential learning differs from traditional classroom learning.

5. To what extent do you agree with the following statements about experiential learning? (Scale: 1.Strongly Agree, 2.Agree, 3.Neutral, 4. Disagree, 5.Strongly Disagree

**a. Group Discussion helps to enhance Public Speaking Skills:**

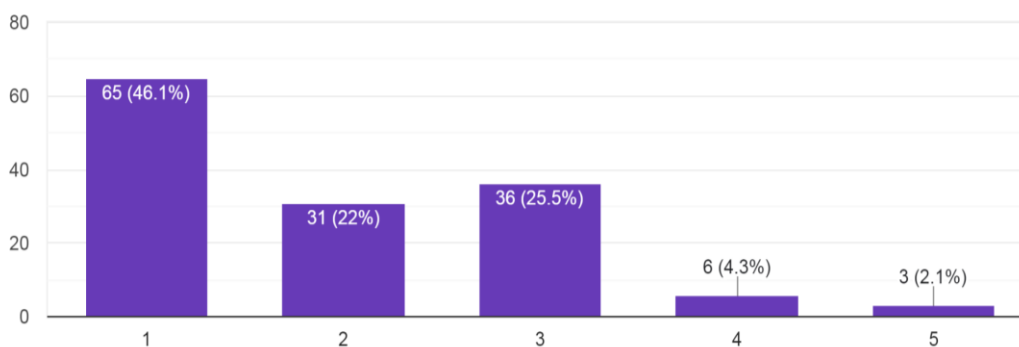
a. Group Discussion helps to enhance Public Speaking Skills

141 responses



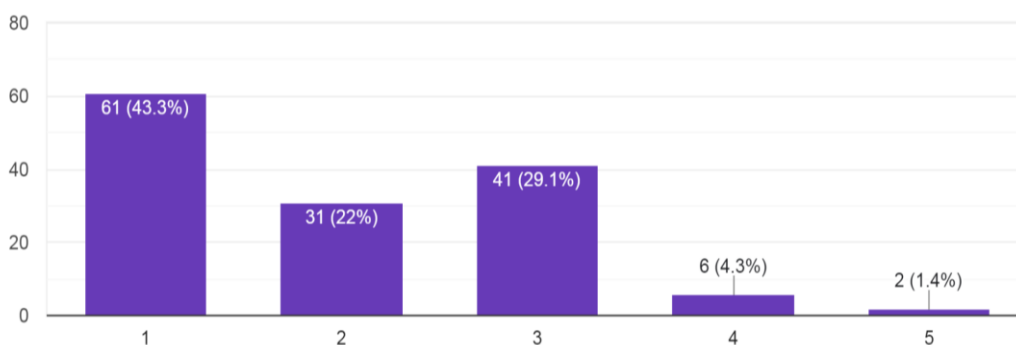
50% of the students strongly agrees that Group Discussion helps to enhance Public Speaking Skills where as 18.4% of them agree with the statement. It was found that very few of the students around that 4.3% of them disagree & strongly disagree with the statement.

**b. Internships enhances the understanding of theoretical concepts beyond the classrooms & gives practical corporate exposure.**



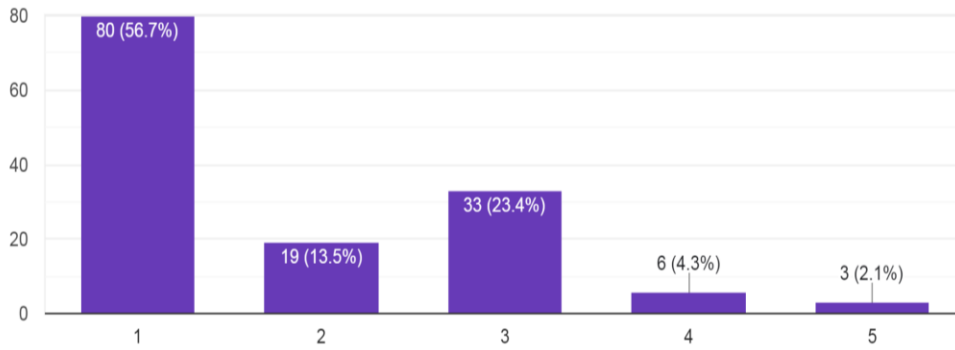
46.1% of the students strongly agrees that Internships enhances the understanding of theoretical concepts beyond the classrooms & gives practical corporate exposure where as 22% of them agree with the statement .It was found that very few of the students that 4.3% of them disagree & 2.1 % strongly disagree with the statement.

**c. Role plays helps to enhance the personality.**



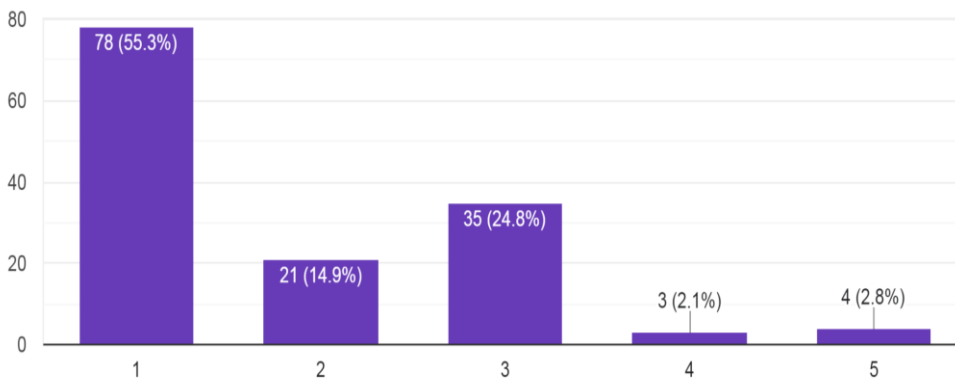
More than 43.3% of the students strongly agree with the above statement. Followed by 22% of them agree whereas very few i.e 1.4% of them strongly disagree that Role plays help them to enhance their personality.

**d. Educational – Games helps to improve critical thinking, problem solving, and communication skills.**



Majority 56.7% of the students strongly agreed that Educational – Games helps to improve critical thinking, problem solving, and communication skills where as 23.4% of them are neutral.

**e. Organising events helps me in learning Management skills.**

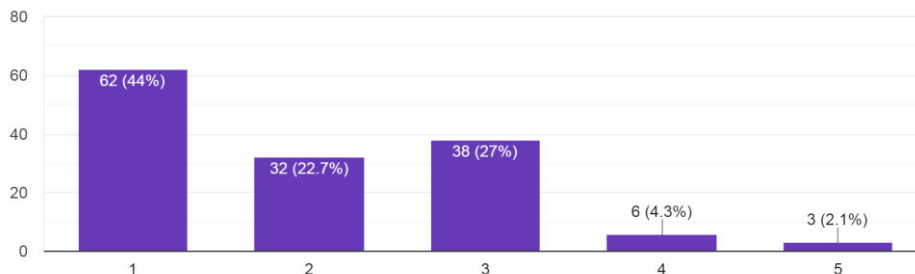


Majority 55.3% of the students strongly agree whereas 24.8% of them are neutral about it. It was found that approx. 5% of the students didn't agree with the statement.

**f. Case studies help to Connect with the real world situations.**

f. Case studies helps to Connect with the real world situations.

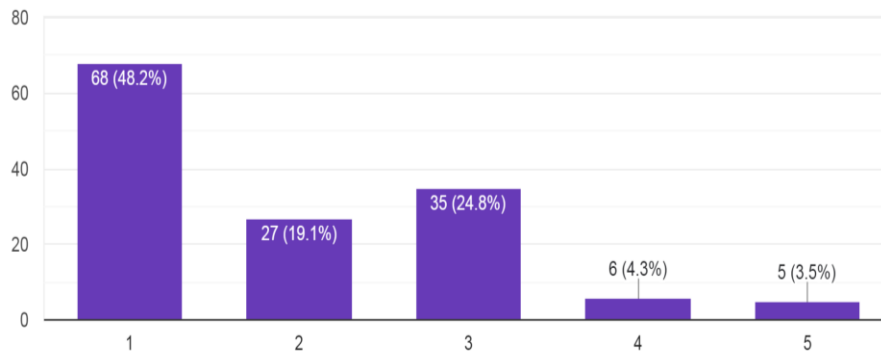
141 responses



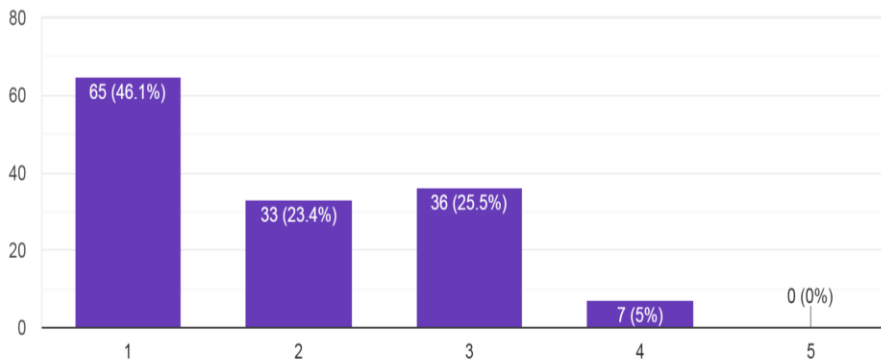
67% students agree that case studies help to Connect with the real world situations.

**g. Field trip helps to apply classroom knowledge to real-world situations.**

Majority of the students i.e 67.3% agreed that Field trip helps to apply classroom knowledge to real-world situations

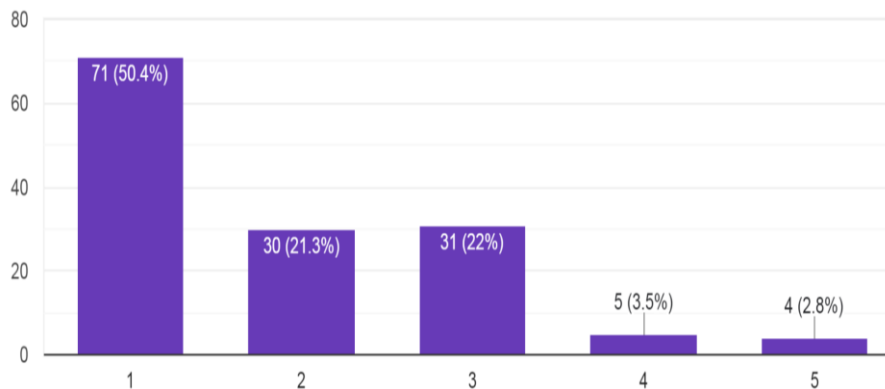


**h. Project based learning helps in boosting the confidence.**



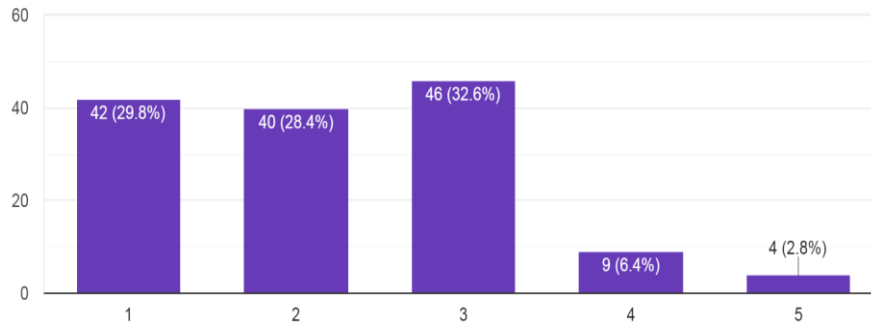
Approx 70% of the students agreed that Project based learning helps in boosting their confidence.

**i. Conducting Research activity helps to improve the research skills.**



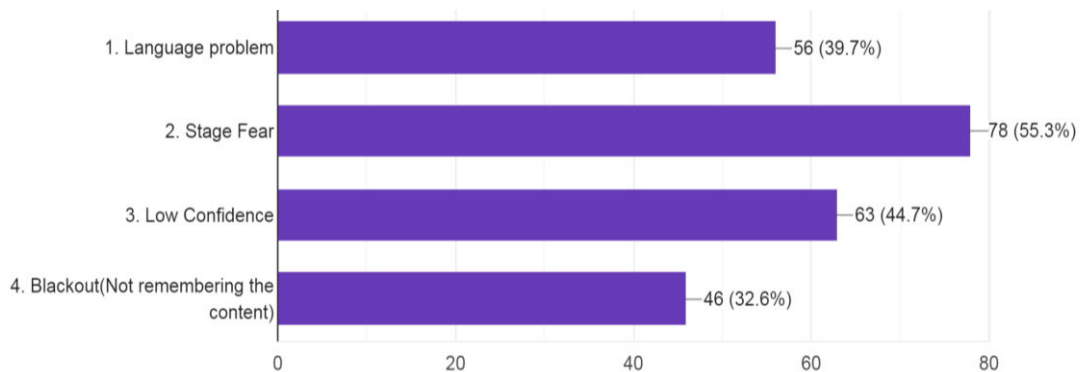
More than 70% of the students agreed that Research helps to improve their research skills.

6. On a scale of 1 to 5, how satisfied are you with the impact of experiential learning on your education?



Around 58% students are satisfied with the experiential learning whereas approx. 10% of the students are not satisfied.

7. Challenges encountered in experiential learning activities (Role playing) by the students:



It was found that Majority of the students encountered stage fear followed by low confidence. Approximately 40% of the students face language problems along with not remembering the content.

Hypothesis Testing:

Hypothesis I:

	a.Age	a. Group Discussion helps to enhance Public Speaking Skills
a.Age	1	
a. Group Discussion helps to enhance Public Speaking Skills	0.281	1

The correlation value is 0.281 which is positive which indicates that there exist a correlation between the age & experiential learning (Group Discussion helps in Enhancing Public speaking skills,).The Null Hypothesis is rejected & alternative Hypothesis is accepted which proves that there is significant relationship between the age of the students & their experiential learning.

Hypothesis II:

	b.Gender	h. Project based learning helps in Boosting the confidence.
b.Gender	1	
h. Project based	-	1

learning helps in Boosting the confidence.	0.205545572	
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The Null Hypothesis is accepted as the correlation value is -0.205 approx which is negative which proves that there is no significant relationship between the Gender & experiential learning (Project based learning helps in Boosting the confidence). This indicates that there is no relationship between the Gender of the students & their confidence level.

### FINDINGS FROM THE STUDY:

- 80.9% of the students belongs to the age group of 18-24 years
- Majority of the students are Male 51.8% are male & Female 48.2%.
- Majority of the respondents have elected the course of BAF i.e. 53.2 % followed by BBI 46.8%
- It was found that around 45 % of students are Very familiar with the concept of experiential learning
- 69% of the students participated in different activities Group Discussion, Case Study, internships, field trips, hands-on projects. While 21% of them didn't participated.
- 81% of the students view that experiential learning differs from traditional classroom learning
- 50% of the students strongly agrees that Group Discussion helps to enhance Public Speaking Skills where as it was found very few of the students around that 4.3% of them disagree & strongly disagree with the statement.
- 46% of the students strongly agree that Internships enhances the understanding of theoretical concepts beyond the classrooms & gives practical corporate exposure.
- More than 60% of the students strongly agree with the below statement. Very few i.e 1.4% of them strongly disagree that Role plays didn't help them to enhance their personality.
- Majority 56.7% of the students strongly agreed that Educational – Games helps to improve critical thinking, problem solving, and communication skills where as 23.4% of them are not sure.
- Majority 55.3% of the students strongly agreed that whereas 24.8% of them are not sure that Organising events helps them in learning Management skills.
- An approx. 68% student agrees that Case studies help to Connect with the real world situations.
- Majority of the students agreed i.e. 67.3% that Field trip helps to apply classroom knowledge to real-world situations
- Approx. 70% of the students agreed that Project based learning helps in boosting their confidence.
- More than 70% of the students agreed that Research helps to improve their research skills.
- Around 58% students are satisfied with the experiential learning whereas approx. 10% of the students are not satisfied.
- Majority of the students encountered stage fear followed by low confidence .Approximately 40% of the students face language problems along with not remembering the content.

### SUGGESTIONS

- ✓ **Peer interaction:** Encourage students to collaborate in groups or pairs so they can help one another comprehend and use the language correctly.
- ✓ Encourage students to rehearse their performances or presentations frequently. They will feel less worried the more comfortable they are with the content.
- ✓ **Group Projects:** Include group projects and group activities in the curriculum. Working alongside others helps ease the stress of being the center of attention.
- ✓ **Celebrate Every Success:** Give yourself credit for any success, no matter how minor. Students' motivation and self-confidence can be increased via positive reinforcement.
- ✓ Encourage peer cooperation and teamwork when doing experiments. As students collaborate and learn from one another, their confidence can grow as they exchange information and abilities.



- ✓ **Discussion and Teamwork:** Encourage teamwork and group discussions. Students can improve their understanding by clarifying ideas to others.
- ✓ Utilize instructional technology, such as interactive apps or virtual simulations, to support learning across multiple modalities.

### CONCLUSION

Experiential learning encourages students to become proactive participants in their own educational journey, ultimately leading to an enriched and more effective teaching learning environment. The approach of experiential learning involves the utilization of various methods such as games and assistive tools. Through these techniques, students actively engage in tasks, gaining a deeper comprehension of practical applications and processes, which is subsequently retained in their memory. Experiential learning plays a vital role in equipping students with the necessary skills for their chosen career paths, reinforcing the theoretical aspects of their courses. This student-centric approach emphasizes hands-on learning, discovering, reflecting, and applying knowledge. It enhances students' communication, self-confidence, and decision-making abilities, enabling them to address real-world challenges effectively. Experiential learning is particularly beneficial for young learners, harnessing their life experiences and cognitive capabilities to stimulate creativity and constructive action. Additionally, it provides adults with the contextual understanding required to apply new skills, especially within a classroom setting. However, it is essential to note that experiential learning is most effective when applied to content with practical real-world relevance.

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- <https://www.kent.edu/community/>
- <https://www.futurelearn.com/info/blog/what-is-experiential-learning>
- [https://www.mcgill.ca/elndoc\\_ryerson\\_bestpracticesryerson.pdf](https://www.mcgill.ca/eln/files/elndoc_ryerson_bestpracticesryerson.pdf)
- <https://www.linkedin.com>

**INNOVATIVE TEACHING AND LEARNING METHODS****Dr. Manisha Dilip Bhingardive<sup>1</sup> and Mr. Manoj Balkrushna Chavan<sup>2</sup>**<sup>1</sup>Associate Professor, Satish Pradhan Dnyanasadhana College, Thane<sup>2</sup>Assistant Professor, Shri Bhausaheb Vartak Arts, Commerce and Science College Borivali (W)**ABSTRACT**

*It has become a challenge for everyone to maintain their position in the current era of competition. No field has been an exception in this. This competition has started increasing also in the education sector. Parents and students prefer schools and colleges which have the highest result. Therefore, emphasis should be placed on how to make more concepts clear to the students. In this research paper, it is going to be studied which innovative teaching and learning methods can be adopted to better clarify the concepts of the students.*

*Keywords: Innovative Teaching Learning, Students, Classroom*

**INTRODUCTION**

The purpose of education is not only to teach textbooks but to create a new thinking, creative environment and develop leadership qualities among students. That is why educational institutions should incorporate innovative teaching and learning methods that impart better knowledge. Innovation involves looking at problems and solving them in a different way. It also improves the learning process because it forces students to think at a higher level to solve complex problems. Innovation does not only mean the use of technology or new inventions, although they can contribute to innovation. Innovation involves a new way of thinking, which helps students develop their creativity and problem-solving skills.

Finding new ways of teaching is an important skill. Research has shown that certain methods and approaches can actually enhance learning skills. In education, student engagement refers to the level of attention, curiosity, interest, optimism, and passion that students display while learning or being taught, which extends to their level of motivation to learn and progress in their education. When students are engaged in the lesson, they learn more and retain more. Here are some innovative ideas that will help teachers reinvent their teaching methods and make their classrooms more interesting for students.

There is a need to introduce new teaching methods in the traditional curriculum of arts, commerce and science. The changing nature of the subject, especially commerce, requires a change in the teaching method. Due to the drastic changes in the syllabus of subjects like stock market, marketing, e-commerce, banking, research methodology etc. in the commerce curriculum, it has become necessary for the teachers to use innovative teaching methods like talks and presentation, group discussion, brainstorming, online quizzes, pre recorded video lecture, role-plays etc.

**OBJECTIVES:**

1. To find out the innovative teaching and learning methods for classroom teaching.
2. To understand the need of innovative teaching and learning methods for classroom teaching.

**RESEARCH METHODOLOGY:**

Research Methodology refers to a method of collecting relevant information for research work. For this work the following research methodology has been adopted.

Secondary data is collected through the newspapers and reports of different organizations. References of websites are also taken into consideration for necessary information.

**Secondary Data will be collected with the help of following sources:-**

1. Internet.
2. Annual Report.
3. Newspaper/Pamphlets.
4. Dictionary/Other Books.
5. Books, Journals etc.

**Needs of Innovative Teaching and Learning Methods**

- Adoption of innovative teaching and learning methods are useful to face the competition in the current education sector.

- Innovative Teaching and Learning Methods are important to improve student outcomes from an academic point of view as well as to develop those soft skills that students need to succeed in life.
- Innovative Teaching and Learning Methods Are helpful to prepare students for a dynamic workplace by providing them opportunities to develop skills such as creativity, adaptability, and resilience.
- Innovative Teaching and Learning Methods in education are helpful to improve students' engagement in classroom teaching.
- According to the changes in technology in the education sector, it has become necessary to adopt new teaching and learning methods.
- Teachers need to adopt innovative teaching and learning methods to learn new technologies and techniques in the field of education.

### **METHODS OF INNOVATIVE TEACHING**

1. **Brainstorming:** Brainstorming is a group activity where each member of the group gives their contribution to solve the problem. This technique requires open discussion on a topic in which each member of the group is encouraged to think and suggest as many ideas as possible based on their knowledge.
2. **Role-plays:** This technique provides an opportunity for participants to act out different roles and to illustrate how to work with or for others in certain situations so that the role's perspective, experience, and context or problem can be better understood.
3. **Group Discussions:** This technique fosters a deeper understanding of a subject and enhances long-term retention. Group discussions can also help increase the attention of participants and help them focus by involving them in the learning process. Group discussions can also provide feedback to trainers on participants' understanding
4. **Incidental Learning:** Incidental Learning is an unplanned and unintended learning technique where teachers take advantage of naturally occurring situations to provide learning opportunities for the students. For example- Teacher might show a video or perform a character which is related to a topic which makes a lesson relevant to students' lives.
5. **Talks and Presentation:** This technique is used for both kinds of education, offline and online where teachers can show visual presentations to make their teaching more effective. In this technique teachers also get more attention from the students.
6. **Classes outside the classroom:** Fieldwork and outdoor learning is based on real world examples. Some lessons become more effective if students get experiential learning outside the classroom. This technique is helpful to develop students' emotions and critical thinking.
7. **Online Quizzes:** Online quizzes enhanced students' interest in the learning process. It is an effective mechanism to encourage students to complete their classroom work, and from the educator's perspective these are more effective and time efficient.
8. **Game Based Teaching:** This technique is used for both kinds of education, offline and online. This method helps students to enjoy and not feel bored during teaching lessons. In this technique, students memorise the teaching lesson in an effective manner. Students who are not good in studying, for those this technique helpful.
9. **Pre-recorded Video Lectures:** Such kind of videos also saves the time of teachers during classroom teaching. These videos allow students to get information related to the topic even after the classroom teaching. Students can use these videos for revision purposes and clear their doubts.
10. **Storytelling:** Teachers can introduce lessons in a storytelling form, Storytelling is an effective form of teaching where teachers reflect better sustainable development information, principles and values with the students.

### **CONCLUSIONS**

This research paper focuses on innovative teaching and learning methods which includes various new methods like brainstorming, roleplays, group discussions, online quizzes, pre-recorded video lectures, game based teaching, talks and presentation, classes outside the classroom, incidental learnings and storytelling. This research suggests that in the current competitive and changing environment, it is imperative to use new teaching

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techniques to enhance students' understanding and develop their skills. Teachers need to identify the needs and interests of the students and adopt new techniques through which they can draw the maximum attention of the students towards them.

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**A STUDY ON BENEFITS OF INTRODUCING IKS IN HIGHER EDUCATION FOR HOLISTIC DEVELOPMENT OF STUDENTS IN MUMBAI, THANE AND NAVI MUMBAI REGION****Suyash Vijay Pradhan<sup>1</sup>, Mrugaya Sachin Gaikwad<sup>2</sup>, Ms. Nilofer Maske and Pradnya Tiwad<sup>4</sup>**<sup>1</sup>Adv., <sup>2</sup>Assistant Professor and <sup>4</sup>Assistant Professor, Satish Pradhan Dnyanasadhana College, Thane (Arts, Science and Commerce)**ABSTRACT**

India is known to be the mother of Gurukul system, where knowledge transmission was taking place from Guru to sisya. This relation was prominent and popular everywhere in India and it was well – respected as well. But the problem of ancient Indian Knowledge was that all transmission was oral. Since there was no documentation, the proof that the same originated from India was virtually impossible to present. We must be honest that no one thought about all this until the time recently where two incidents opened our eyes. First, the granting of Patent for Neem to a US Company and then, researchers getting patent for Turmeric Powder (*Curcuma Longa*) for wound healing. While all this is known in India for a very long period of time and it has been practiced effectively as well, granting patent for the same to some other country was not only humiliation, but also made us think as to why this ancient Indian Knowledge deserves to be documented even more urgently. Indian education System underwent major changes about 200 years back, which brought a rather abrupt end to the process of knowledge system.

By ignoring the vast store of old knowledge, we have continued the British educational system in independent India. Because it lacked rigour and scientific principles, old Indian knowledge was disregarded by former British educational programmes. Therefore, there is urgent need to revive this ancient treasure and bring it back to our future generations before it could be projected as a work of someone else.

To study the benefits of Introducing IKS in Higher Education for Holistic Development of students in Mumbai, Thane and Navi Mumbai Region, researchers have followed structured open and close ended question for the genuine primary data collected. In total 356 students were the part of survey.

Descriptive analysis method, along with tabulation and graphical presentation. For hypotheses testing correlation model and Annova test are used. The strong positive correlations among these variables suggest that there is a consistent and interconnected belief among respondents. They tend to associate the enhancement of qualities, the building of skills, and the relevance of IKS in the new era. This implies that those who see IKS as beneficial for personal qualities and skills are also more likely to perceive its importance in the modern context. The regression analysis supports this hypothesis by showing a significant positive relationship between awareness and perception of relevance. In conclusion, the analysis provides evidence that awareness of aspects under IKS is a significant predictor of the perception of the relevance of IKS in the new era. This suggests that increasing awareness about IKS can contribute to a stronger perception of its contemporary significance.

**Keywords:** Indian Knowledge system, transmission, prominent, *Curcuma Longa*, humiliation, British educational system, rigour, scientific principles, disregarded, ancient treasure, Holistic Development, Descriptive analysis, correlation model, Annova test, significant, perception.

**INTRODUCTION**

India is a nation having a long-standing history of known to mankind civilizations and practices. The indigenous sources and belief systems in India date the civilization to a very ancient period, almost time immemorial, although current western researchers date it to at least 5000–8000 years. Despite these distinctions, a nation with such a long history ought to have gained some knowledge during its lengthy existence. The perception in modern culture is that the West is the source of all knowledge from which we gain. Given that compared to Indian civilization or for that matter civilizations like Chinese and Egyptian, the western one is more recent, it does clearly indicate that this knowledge is fairly recent one as opposed to the representation that Western knowledge is very ancient and that all the knowledge that we derive is from the West. The best example that we can give is of Ship Building industry that had flourished in India and then the knowledge was spread around the world.

**GAP OF RESEARCH**

India is known to be the mother of Gurukul system, where knowledge transmission was taking place from Guru to sisya. This relation was prominent and popular everywhere in India and it was well – respected as well. But the problem of ancient Indian Knowledge was that all transmission was oral. Since there was no documentation, the proof that the same originated from India was virtually impossible to present. We must be honest that no one

thought about all this until the time recently where two incidents opened our eyes. First, the granting of Patent for Neem to a US Company and then, researchers getting patent for Turmeric Powder (*Curcuma Longa*) for wound healing. While all this is known in India for a very long period of time and it has been practiced effectively as well, granting patent for the same to some other country was not only humiliation, but also made us think as to why this ancient Indian Knowledge deserves to be documented even more urgently. Indian education System underwent major changes about 200 years back, which brought a rather abrupt end to the process of knowledge system.

By ignoring the vast store of old knowledge, we have continued the British educational system in independent India. Because it lacked rigour and scientific principles, old Indian knowledge was disregarded by former British educational programmes. Therefore, there is urgent need to revive this ancient treasure and bring it back to our future generations before it could be projected as a work of someone else.

### **OBJECTIVES OF STUDY**

To find out the interest of students in learning IKS.

To study student's awareness about Traditional Indian Education Philosophies.

To understand Ancient Indian Knowledge is applicable and relevant in the new era.

### **FORMULATION OF HYPOTHESES**

#### **Hypothesis 1**

1. **H<sub>0</sub>**: There is a positive relationship between the belief in the enhancement of qualities through IKS and the perception of the relevance of IKS in the new era, as well as the belief in building skills through IKS.

#### **Hypothesis 2**

2. **H<sub>0</sub>**: There is a significant positive relationship between the awareness of aspects under Indian Knowledge Systems (IKS) and the perception of the relevance of IKS in the new era.

### **LIMITATIONS OF STUDY**

1. The study of IKS and its historical footprints are difficult to trace and requires lot of time to study and understand.
2. The study is interdisciplinary in nature.
3. Research Universe is still unaware of IKS as a subject to be introduced. Hence, researchers are unable to gauge the exact opinions.

### **REVIEW OF LITERATURE**

#### **NEWSPAPERS**

##### **(Hindustan Times, Sept 2023)**

The New Education Policy (NEP) 2020 in India mandates the incorporation of Indian Knowledge Systems (IKS) in higher education. However, autonomous colleges in Maharashtra are facing challenges implementing it due to the lack of specific guidelines. Some colleges have opted for yoga as part of IKS, with concerns raised about cultural challenges and controversies. Colleges are appealing for clear guidelines from the government and universities. Some institutions have taken an innovative approach, incorporating contributions of Indian scientists, mathematicians, and various subjects in their IKS curriculum. Discussions are underway for online solutions, but challenges persist in defining clear objectives for teaching IKS.

##### **Times of India (Aug, 2023)**

The National Education Policy (NEP) 2020 marks a transformative shift in India's education landscape. Emphasizing holistic development and skill enhancement, NEP focuses on character building, multidisciplinary education, flexibility, and inclusivity. It draws inspiration from India's rich educational heritage and aims to revive the Indian Knowledge System. NEP promotes flexibility through the Academic Bank of credits, fosters critical thinking, integrates vocational education, and supports online learning. It prioritizes equity, multilingualism, and life skills development, envisioning well-rounded citizens. The policy strives to make education learner-centric, embracing innovation, and preparing students for the 21st-century global landscape. The emphasis on outcome-based education, continuous assessment, and teacher training underscores NEP's commitment to quality education. NEP seeks to reduce student migration for higher studies, encouraging twinning programs and collaborations with foreign universities. Entrepreneurship, societal connect, and a focus

on research further define NEP's comprehensive approach. The success of NEP relies on the collective commitment of the teaching community to embrace this transformative change.

**(Times of India, Jan 2022)**

In the era of AI, ML, and Blockchain, Indian technical institutes are incorporating traditional learning systems like the Indian Knowledge System (IKS) through elective credit courses. The AICTE, led by Anil Sahasrabudhe, promotes IKS education and has launched initiatives for new centers, research proposals, and student internships. AICTE will provide funding for IKS centers in schools and STEM institutes. The regulator has commissioned a textbook on IKS by Mahadevan, a professor at IIM Bangalore. Mahadevan highlights the significance of IKS for engineers, connecting them to cultural roots and expanding intellectual horizons. IITs are also interested in IKS, primarily as an extracurricular activity, with initiatives like short courses and a Ph.D. program at IIT Guwahati's Centre for Indian Knowledge System. The focus on IKS aligns with NEP 2020's emphasis on a holistic education system.

**RESEARCH METHODOLOGY**

Type of Research Method	Basic Research
Research Universe	UG and PG students.
Sampling Method	Simple Random and Convenience Sampling non-probability methods were used.
Research Area	Mumbai, Thane and Navi Mumbai Region
Sample Size	356
Method of data collection	Primary and Secondary
Primary Data collection Methods	Structured close ended questionnaire was designed and circulated through google forms.
Secondary Data Collection Methods	Books, Research Papers, Magazines, Websites, Newspapers articles and social media sites such as Facebook, Instagram, What's app.
Data Analysis Techniques	Descriptive Analysis Method To analysis and interpret the data percentage and graphs are used.
Hypotheses Testing Method	Correlation Model, ANNOVA test used.

**DATA ANALYSIS & INTERPRETATION**

**Descriptive Analysis:**

Your Area / Region	Counts	% of Total
Mumbai	50	14.0 %
Navi Mumbai	11	3.1 %
Thane	295	82.9 %

The data reveals the distribution of respondents among different regions, specifically Mumbai, Navi Mumbai, and Thane. Among these regions, Thane stands out with a significant majority, representing approximately 82.9% of the total respondents. Mumbai follows with a smaller share, comprising around 14.0% of the respondents, while Navi Mumbai has the smallest representation, accounting for about 3.1%.

Your Level of Study	Counts	% of Total
Post Graduate	150	42.1 %
Under Graduate	206	57.9 %

The data provided represents the distribution of respondents' levels of study, categorizing them into "Post Graduate" and "Under Graduate" categories. According to the results, the majority of respondents, approximately 57.9% of the total, have an undergraduate level of education. In contrast, around 42.1% of the respondents have achieved a postgraduate level of study.

Does Ancient Indian Knowledge generally interest you?	Cou nts	% of Total
No	26	7.3 %
Yes	330	92.7 %

The data presented reflects the level of interest in Ancient Indian Knowledge (AIK) among respondents. It reveals that a substantial majority, approximately 92.7% of the total, expressed a keen interest in Ancient Indian Knowledge, answering "Yes" to the question. Conversely, only a small fraction, approximately 7.3% of respondents, indicated that Ancient Indian Knowledge does not generally interest them, answering "No

Have you heard about Indian Knowledge Systems (IKS) to be introduced as a subject in Streams	Counts	% of Total
No	186	52.2 %
Yes	170	47.8 %

The data provided pertains to awareness about the introduction of Indian Knowledge Systems (IKS) as a subject in academic streams. According to the results, approximately 52.2% of the respondents answered "No," indicating that they are not aware of the introduction of IKS as a subject. Conversely, about 47.8% of respondents answered "Yes," signifying their awareness of this development. This data suggests that there is a significant portion of the surveyed population that is not yet informed about the introduction of IKS as a subject, highlighting the need for further education and awareness about this initiative.

Are you aware about Traditional Indian Education Philosophies as mentioned below	Count s	% of Total
Ayurveda	104	29.2 %
Mimamsa	2	0.6 %
Nyayshastra	34	9.6 %
Unani	4	1.1 %
Vedas	163	45.8 %
Yogashastra	49	13.8 %

The data provided indicates awareness levels regarding various Traditional Indian Education Philosophies among the surveyed individuals. Among these philosophies, the Vedas garnered the highest recognition, with approximately 45.8% of respondents being aware of them. Following that, Ayurveda received significant recognition, with 29.2% of respondents indicating awareness. Nyayshastra and Yogashastra also had notable levels of awareness, with 9.6% and 13.8% respectively. However, Mimamsa and Unani had relatively lower levels of recognition, at 0.6% and 1.1% respectively.

Are you aware that following aspects come under IKS, and we are using till now also.	No	Yes
Basic & Applied Sciences	36.5 %	63.5 %
Health	47.8 %	52.2 %
Psychology	58.7 %	41.3 %
Engineering	67.4 %	32.6 %
Technology	66.3 %	33.7 %
Kavyas	74.4 %	25.6 %
Architecture	66.3 %	33.7 %
Arts	52.8 %	47.2 %
Code of Living (ways of living)	57.6 %	42.4 %
Public Administration	64.9 %	35.1 %
Wellness	65.4 %	34.6 %
Alchemy	86.0 %	14.0 %
Aesthetics	80.3 %	19.7 %

The data presented highlights the extent to which various aspects are considered to be a part of Indian Knowledge Systems (IKS) and whether they are perceived as still being in use today. The percentages represent the proportion of respondents who believe that each aspect is under IKS and is still relevant.



- Basic & Applied Sciences:** A significant majority, 63.5%, acknowledge that Basic & Applied Sciences fall under IKS, emphasizing the enduring importance of scientific knowledge from ancient India.
- Health:** Around 52.2% of respondents recognize Health as a component of IKS, suggesting that traditional Indian health practices continue to be valued.
- Psychology:** 41.3% of respondents associate Psychology with IKS, indicating the consideration of ancient Indian psychological concepts.
- Engineering and Technology:** While a substantial 32.6% and 33.7% believe that Engineering and Technology are part of IKS, respectively, it shows a somewhat lower level of recognition compared to other aspects.
- Kavyas (Literary works):** A quarter of respondents (25.6%) identify Kavyas as part of IKS, indicating a somewhat lower awareness of traditional Indian literary contributions.
- Architecture:** Similar to Engineering and Technology, 33.7% acknowledge Architecture within IKS, emphasizing its historical significance.
- Arts:** A considerable 47.2% recognize Arts as part of IKS, reflecting the enduring cultural and artistic traditions.
- Code of Living (ways of living):** Approximately 42.4% associate Code of Living with IKS, suggesting the acknowledgment of ancient Indian ethical and lifestyle principles.
- Public Administration:** About 35.1% of respondents identify Public Administration under IKS, indicating awareness of ancient governance systems.
- Wellness:** Approximately 34.6% believe Wellness is part of IKS, highlighting the consideration of holistic health practices.
- Alchemy:** A smaller percentage, 14.0%, associates Alchemy with IKS, indicating lower awareness of this historical practice.
- Aesthetics:** Around 19.7% recognize Aesthetics within IKS, suggesting a somewhat lower awareness of ancient Indian aesthetic principles.

In conclusion, the data reflects varying levels of awareness and recognition of different aspects under Indian Knowledge Systems (IKS). While some aspects like Basic & Applied Sciences, Health, and Arts enjoy significant recognition and are perceived as relevant, others such as Alchemy and Aesthetics have lower awareness levels. This suggests the need for increased education and awareness about the diverse aspects of IKS and their continued relevance in the modern world.

Why do you feel that Ancient Indian Knowledge is applicable and relevant in the new era.	No	Yes
Personality Development	51.1 %	48.9 %
Protecting Indian Knowledge	46.3 %	53.7 %
Passing on heritage to new generation	47.2 %	52.8 %
Spreading awareness of Indian Knowledge Systems around the world	43.8 %	56.2 %
Sustainable Education Development	55.1 %	44.9 %

The data presented reflects respondents' perceptions regarding the applicability and relevance of Ancient Indian Knowledge in the new era, along with their level of agreement (Yes or No) on various aspects related to this relevance. Here's an interpretation of the results:

- Personality Development:** Slightly more respondents, at 48.9%, believe that Ancient Indian Knowledge is applicable for Personality Development in the new era, indicating a recognition of its potential influence on personal growth and well-being.
- Protecting Indian Knowledge:** A majority, 53.7%, see the importance of Ancient Indian Knowledge in protecting and preserving India's intellectual heritage, demonstrating a desire to safeguard this valuable knowledge.

- 3. Passing on heritage to the new generation:** A slightly larger portion, 52.8%, agree that Ancient Indian Knowledge plays a role in passing on cultural heritage and wisdom to the younger generation, emphasizing its role in maintaining cultural continuity.
- 4. Spreading awareness of Indian Knowledge Systems around the world:** A substantial 56.2% of respondents agree that Ancient Indian Knowledge has a role in spreading awareness about Indian Knowledge Systems globally, showcasing its potential as a cultural and intellectual export.
- 5. Sustainable Education Development:** While 44.9% agree that Ancient Indian Knowledge is relevant for sustainable education development, a majority does not strongly associate it with this aspect, suggesting that more awareness and education might be needed in this area.

In conclusion, the data suggests that there is a considerable recognition of the relevance of Ancient Indian Knowledge in the new era, particularly in terms of protecting and passing on cultural heritage, spreading awareness globally, and contributing to personality development. However, there is still room for greater awareness and education about its potential role in sustainable education development. Overall, the data reflects a positive perception of Ancient Indian Knowledge and its continued importance in the modern world.

Have you encountered any example of application of IKS in your current studies?	Counts	% of Total
No	264	74.2 %
Yes	92	25.8 %

The data provided indicates whether there have been encounters with examples of the application of Indian Knowledge Systems (IKS) in the current studies of the respondents. Here's the interpretation:

- No:** A substantial majority, approximately 74.2% of the respondents, have not encountered any examples of IKS in their current studies, indicating a potential gap in the integration of traditional Indian knowledge into their educational experiences.
- Yes:** About 25.8% of respondents have encountered examples of IKS in their current studies, suggesting that some educational programs or institutions may be incorporating elements of IKS into their curriculum.

This data underscores the need for broader awareness and integration of IKS into educational settings, as the majority of respondents have not yet experienced its application in their studies. It also suggests a potential opportunity to explore and integrate IKS more comprehensively in various educational context

Do you feel that introduction of IKS will enhance any of the following qualities in you	No	Yes
Problem Solving	43.5 %	56.5 %
Critical Thinking	47.2 %	52.8 %
Analytical Skills	47.5 %	52.5 %
Improving Perception	42.7 %	57.3 %

The data provided reflects respondents' perceptions regarding the potential enhancement of certain qualities in themselves through the introduction of Indian Knowledge Systems (IKS). Here's an interpretation of the results:

- 1. Problem Solving:** A majority, 56.5% of respondents, believe that the introduction of IKS has the potential to enhance their problem-solving abilities. This suggests that there is a positive perception of IKS contributing to practical problem-solving skills.
- 2. Critical Thinking:** Similarly, 52.8% of respondents feel that the introduction of IKS could improve their critical thinking skills. This indicates that IKS is perceived as having the potential to encourage deeper and more analytical thought processes.
- 3. Analytical Skills:** About 52.5% of respondents believe that IKS can enhance their analytical skills, reflecting an acknowledgment of the role of IKS in fostering analytical thinking.
- 4. Improving Perception:** A substantial 57.3% of respondents agree that IKS has the potential to improve their perception. This suggests that IKS is seen as a tool for enhancing one's understanding and perspective.

In conclusion, the data suggests a generally positive perception among respondents regarding the potential benefits of introducing Indian Knowledge Systems (IKS). It is believed that IKS can contribute to the

enhancement of problem-solving abilities, critical thinking skills, analytical skills, and overall perception. These findings underscore the value attributed to IKS in personal and intellectual development.

Do you feel that IKS will be helpful in building which of the following skills?	No	Yes
Reasoning	40.2 %	59.8 %
Analogy	60.4 %	39.6 %
Logic	26.1 %	73.9 %
Fallacy (a false belief or a wrong idea)	73.3 %	26.7 %

The data provided reflects respondents' beliefs about the potential of Indian Knowledge Systems (IKS) in building specific skills. Here's an interpretation of the results:

- Reasoning:** A majority, 59.8% of respondents, believe that IKS can be helpful in building reasoning skills. This suggests that there is a positive perception of IKS as a means to enhance logical and rational thinking.
- Analogy:** In contrast, a significant majority, 60.4%, feel that IKS may not be particularly helpful in building analogy skills. This indicates a lower level of confidence in IKS when it comes to this specific skill.
- Logic:** A substantial 73.9% of respondents believe that IKS can assist in building logic skills, indicating that IKS is seen as a valuable resource for developing logical thinking.
- Fallacy (a false belief or a wrong idea):** On the other hand, 73.3% of respondents believe that IKS may not be very helpful in addressing fallacies or false beliefs. This suggests a perception that IKS might not focus extensively on identifying and rectifying such misconceptions.

In conclusion, the data reflects a mixed perception of the potential of Indian Knowledge Systems (IKS) in building various skills. While IKS is generally perceived as beneficial for reasoning and logic skills, there is less confidence in its effectiveness for analogy skills and addressing fallacies. These findings highlight the need for a nuanced approach to incorporating IKS into educational contexts, considering its strengths and limitations in specific skill development areas.

Do you feel IKS will be helpful in your overall development	Counts	% of Total
No	10	2.8 %
Yes	346	97.2 %

The data provided indicates respondents' perceptions regarding the potential helpfulness of Indian Knowledge Systems (IKS) in their overall development. Here's an interpretation of the results:

- No:** A very small minority, approximately 2.8% of respondents, do not believe that IKS will be helpful in their overall development.
- Yes:** A significant majority, approximately 97.2% of respondents, believe that IKS will indeed be helpful in their overall development.

These results clearly demonstrate a strong and overwhelmingly positive perception among the surveyed individuals regarding the potential benefits of IKS in their personal and intellectual growth. The data suggests a widespread belief that IKS can make a valuable contribution to their overall development.

**Testing of Hypothesis**

- H0: There is a positive relationship between the belief in the enhancement of qualities through IKS and the perception of the relevance of IKS in the new era, as well as the belief in building skills through IKS**

**RESULT:**

The provided correlation matrix indicates the relationships between three variables: Enhancement of qualities through IKS, Building skills through IKS, and Relevance of IKS in the new era.

- Enhancement of qualities through IKS** has a strong positive correlation with **Building skills through IKS**, as indicated by a Pearson's correlation coefficient of 0.718 ( $p < .001$ ). This suggests that individuals who believe IKS enhances qualities are also likely to believe that it helps build skills.
- Enhancement of qualities through IKS** also has a strong positive correlation with the **Relevance of IKS in the new era**, with a Pearson's correlation coefficient of 0.637 ( $p < .001$ ). This implies that those who see IKS as enhancing qualities are also more likely to perceive it as relevant in the modern era.
- Similarly, **Building skills through IKS** and the **Relevance of IKS in the new era** are positively correlated, with a Pearson's correlation coefficient of 0.599 ( $p < .001$ ). This indicates that individuals who believe IKS helps build skills are also more likely to perceive its relevance in the contemporary world.

**CONCLUSION**

The strong positive correlations among these variables suggest that there is a consistent and interconnected belief among respondents. They tend to associate the enhancement of qualities, the building of skills, and the relevance of IKS in the new era. This implies that those who see IKS as beneficial for personal qualities and skills are also more likely to perceive its importance in the modern context.

Correlation Matrix				
		Enhancement of qualities through IKS	Building skills through IKS	Relevance of IKS in the new era
Enhancement of qualities through IKS	Pearson's r	—		
	df	—		
	p-value	—		
	95% CI Upper	—		
	95% CI Lower	—		
	N	—		
Building skills through IKS	Pearson's r	0.718	—	
	df	354	—	
	p-value	< .001	—	
	95% CI Upper	0.765	—	
	95% CI Lower	0.663	—	
	N	356	—	
Relevance of IKS in the new era	Pearson's r	0.637	0.599	—
	df	354	354	—
	p-value	< .001	< .001	—
	95% CI Upper	0.695	0.661	—
	95% CI Lower	0.571	0.528	—
	N	356	356	—
<b>Note. * <math>p &lt; .05</math>, ** <math>p &lt; .01</math>, *** <math>p &lt; .001</math></b>				

- H0: There is a significant positive relationship between the awareness of aspects under Indian Knowledge Systems (IKS) and the perception of the relevance of IKS in the new era.**

**RESULT:**

The provided linear regression analysis examines the relationship between the Awareness of aspects under Indian Knowledge Systems (IKS) and the Perception of Relevance of IKS in the new era.

**INTERPRETATION:**

- Model Fit Measures:** The overall model test indicates that the regression model is statistically significant ( $p < .001$ ). This suggests that there is a significant relationship between the Awareness of aspects under IKS and the Perception of Relevance of IKS in the new era. The R-squared value (0.427) indicates that approximately 42.7% of the variance in the Perception of Relevance can be explained by the Awareness of aspects under IKS.

2. **Omnibus ANOVA Test:** This test further confirms the significance of the model, with a highly significant p-value ( $< .001$ ) for the Awareness of aspects under IKS variable.

3. **Model Coefficients:** The coefficients for the Intercept and Awareness of aspects under IKS are also significant ( $p < .001$ ). The intercept value of 2.65 represents the estimated Perception of Relevance when Awareness of aspects under IKS is zero. The coefficient for Awareness of aspects under IKS (0.277) indicates that for every unit increase in Awareness, the Perception of Relevance increases by approximately 0.277 units.

**4. Assumption Checks:**

**Normality Tests:** The normality tests (Shapiro-Wilk, Kolmogorov-Smirnov, Anderson-Darling) do not suggest a significant departure from normality in the residuals.

**Heteroskedasticity Tests:** The heteroskedasticity tests (Breusch-Pagan, Goldfeld-Quandt, Harrison-McCabe) do not indicate significant heteroskedasticity.

**Durbin-Watson Test for Autocorrelation:** The Durbin-Watson test does not suggest significant autocorrelation.

**Collinearity Statistics:** The Variance Inflation Factor (VIF) and Tolerance values for the predictor variable "Awareness of aspects under IKS" indicate no significant issues with multicollinearity.

**CONCLUSION**

This hypothesis suggests that as individuals become more aware of various aspects under IKS, they are likely to perceive IKS as more relevant in the contemporary context. The regression analysis supports this hypothesis by showing a significant positive relationship between awareness and perception of relevance. In conclusion, the analysis provides evidence that awareness of aspects under IKS is a significant predictor of the perception of the relevance of IKS in the new era. This suggests that increasing awareness about IKS can contribute to a stronger perception of its contemporary significance.

Model Fit Measures						
Model	R	R <sup>2</sup>	Overall Model Test			
			F	df1	df2	p
1	0.653	0.427	264	1	354	<.001

Omnibus ANOVA Test					
	Sum of Squares	df	Mean Square	F	p
Awareness of aspects under IKS (Indian Knowledge System)	429	1	429.35	264	<.001
Residuals	576	354	1.63		
Note. Type 3 sum of squares					

Model Coefficients - Perception of Relevance of IKS in the new era						
Predictor	Estimate	SE	95% Confidence Interval		t	p
			Lower	Upper		
Intercept	2.65	0.3101	2.04	3.26	8.55	<.001
Awareness of aspects under IKS	0.277	0.017	0.243	0.31	16.24	<.001

Assumption Checks		
Normality Tests		
	Statistic	p
Shapiro-Wilk	0.939	0.211
Kolmogorov-Smirnov	0.177	0.101
Anderson-Darling	10.9	0.41
Note. Additional results provided by moretests		
Heteroskedasticity Tests		
	Statistic	p
Breusch-Pagan	9.56	0.62
Goldfeld-Quandt	0.865	0.832
Harrison-McCabe	0.536	0.844
Note. Additional results provided by moretests		
Durbin-Watson Test for Autocorrelation		
	DW Statistic	p
0.0434	1.91	0.404
Collinearity Statistics		
	VIF	Tolerance
Awareness of aspects under IKS	1	1

## DISCUSSION

The study focused on assessing the perception and awareness of Indian Knowledge Systems (IKS) among respondents in the Mumbai, Thane, and Navi Mumbai regions, as well as their views on the relevance and potential benefits of IKS in higher education and personal development. The results provide valuable insights into how individuals perceive IKS and its potential impact.

- **Regional Distribution and Education Levels:** One noteworthy finding was the regional distribution of respondents. Thane had the highest representation, with 82.9% of respondents, followed by Mumbai (14.0%) and Navi Mumbai (3.1%). This distribution reflects the demographic composition of the surveyed population.
- In terms of education levels, the majority (57.9%) were undergraduates, while 42.1% had achieved a postgraduate level of study. This distribution suggests a diverse sample of individuals with varying levels of educational backgrounds.
- **Interest in Ancient Indian Knowledge:** A striking result was the high level of interest in Ancient Indian Knowledge (AIK), with 92.7% of respondents expressing interest. This reflects a strong positive sentiment towards preserving and exploring traditional Indian knowledge systems.
- **Awareness of IKS and Traditional Indian Education Philosophies:** Regarding awareness, a significant portion of respondents was unaware of the introduction of IKS as a subject in academic streams (52.2%), emphasizing the need for greater education and awareness initiatives. The data also showed varying levels of awareness about specific traditional Indian education philosophies, with the Vedas being the most recognized.
- **Perceptions of IKS Relevance and Benefits:** Respondents generally believed that IKS holds relevance in the modern era. They associated IKS with qualities like personality development, protecting Indian knowledge, passing on heritage, spreading awareness globally, and sustainable education development. This positive perception indicates a recognition of the multifaceted role IKS can play in contemporary society.
- Furthermore, the data revealed that a significant portion of respondents (25.8%) had encountered examples of IKS in their current studies. This suggests that certain educational programs or institutions are incorporating elements of IKS into their curricula, albeit not universally.
- **Enhancement of Skills and Qualities:** Respondents believed that introducing IKS could enhance qualities such as problem-solving, critical thinking, analytical skills, and perception. This indicates a positive perception of IKS as a tool for personal and intellectual development.

## CONCLUSION:

In conclusion, the study provides valuable insights into the perceptions, awareness, and beliefs surrounding Indian Knowledge Systems (IKS) among respondents in the Mumbai, Thane, and Navi Mumbai regions. The

findings indicate a strong interest in Ancient Indian Knowledge and a positive perception of IKS as relevant in the modern era.

While awareness about IKS and specific traditional Indian education philosophies varies, the majority of respondents recognize the potential benefits of IKS in education and personal development. However, there is a need for increased awareness and education initiatives to bridge the awareness gap, particularly regarding IKS as a subject in academic streams.

The study also highlights the importance of integrating IKS into higher education to harness its potential in enhancing skills and qualities, such as critical thinking and problem-solving. Overall, the data underscores the significance of IKS in preserving cultural heritage, fostering personal development, and contributing to holistic education in the contemporary world.

### **SCOPE OF FURTHER RESEARCH**

1. To study and understand the concept of PAN India for the effective implementation of IKS at national level.
2. To assess the impact of introducing IKS at school level and the ways it modulates the new generation.
3. To explore the possibility of developing Materials for study in order to effectively deliver the knowledge of IKS.

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APPENDIX

Introduction of IKS

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Questions Responses 356 Settings

### A Study on benefits of Introducing Indian Knowledge Systems in Higher Education to foster holistic development of the students in Mumbai, Thane, Navi Mumbai Region

Indian Knowledge Systems (IKS) has been a treasure for all of us. Ancient Knowledge is a gift to us and we have been using it since ages. How ever, we have lost the habit of documenting our work as we presume that we know everything. The filing of Patent for Turmeric and Neem by US Scientists was an eye opener for us and hence our Government has decided to introduce IKS as a part of curriculum for protecting IKS and creating awareness about it.

Email \*

Valid email

This form is collecting emails. [Change settings](#)

1. Your Area / Region \*

Mumbai

Thane

Navi Mumbai

2. Your Level of Study \*

Under Graduate

Introduction of IKS

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Questions Responses 356 Settings

Post Graduate

3. Does Ancient Indian Knowledge generally interests you? \*

Yes

No

4. Have you heard about Indian Knowledge Systems (IKS) to be introduced as a subject in Streams \*

Yes

No

5. Are you aware about Traditional Indian Education Philosophies as mentioned below \*

Yogashastra

Nyayshastra

Vedas

Ayurveda

Unani

Mimamsa

Introduction of IKS

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Questions Responses 356 Settings

6. Are you aware that following aspects come under IKS, and we are using till now also. \*

Basic & Applied Sciences

Engineering

Technology

Architecture

Alchemy

Aesthetics

Kavyas

Arts

Health

Wellness

Psychology

Public Administration

Code of Living (ways of living)



Questions Responses 355 Settings

7. Why do you feel that Ancient Indian Knowledge is applicable and relevant in the new era. \*

- Personality Development
- Protecting Indian Knowledge
- Passing on heritage to new generation
- Spreading awareness of Indian Knowledge Systems around the world
- Sustainable Education Development

8. Have you encountered any example of application of IKS in your current studies? \*

Yes



No

9. If Yes, please specify the same (If No, write NA) \*

Short answer text

10. Do you feel that introduction of IKS will enhance any of the following qualities in you \*

- Critical Thinking
- Problem Solving
- Analytical Skills

Introduction of IKS  

Questions Responses 356 Settings

9. If Yes, please specify the same (If No, write NA) \*

Short answer text

10. Do you feel that introduction of IKS will enhance any of the following qualities in you \*

- Critical Thinking
- Problem Solving
- Analytical Skills
- Improving Perception

11. Do you feel that IKS will be helpful in building which of the following skills? \*

- Analogy
- Reasoning
- Logic
- Fallacy (a false belief or a wrong idea)

12. Do you feel IKS will be helpful in your overall development \*

Yes

No

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**A STUDY ON PREPAREDNESS OF NEP 2020 W.R.T DEGREE COLLEGE TEACHERS IN UNIVERSITY OF MUMBAI**

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**ABSTRACT**

*The NEP 2020 is a significant step towards transforming the Indian education system. The policy aims to make education more inclusive, equitable, and holistic. It focuses on the development of 21st-century skills such as critical thinking, creativity, and problem-solving. However, there are a number of critical issues that need to be addressed in order to implement NEP 2020 in higher education successfully. Here, the researchers have collected the data of 120 degree college teachers teaching across various colleges affiliated to University of Mumbai through simple random sampling technique. In order to test the validity of the data Linear regression analysis and Omnibus ANOVA Test is used by researchers. the positive relationship between awareness levels and the perception of NEP 2020's impact on teaching practices suggests that increasing awareness among degree college teachers can enhance their overall receptiveness to and implementation of NEP 2020 initiatives.*

*Keywords: NEP 2020, Preparedness, University Of Mumbai*

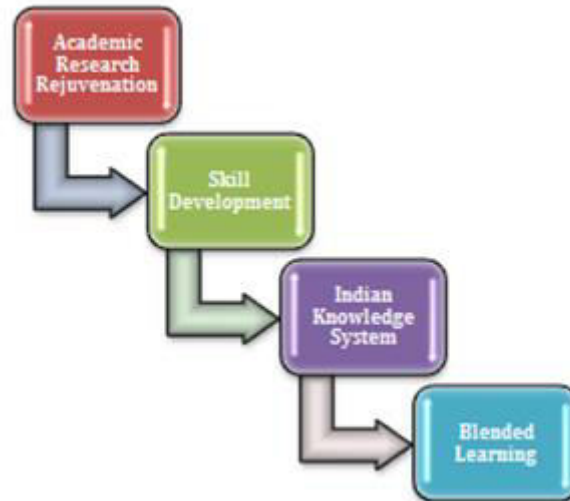
**INTRODUCTION**

The NEP 2020 is a significant step towards transforming the Indian education system. The policy aims to make education more inclusive, equitable, and holistic. It focuses on the development of 21st-century skills such as critical thinking, creativity, and problem-solving. There exist some critical issues that need to be addressed in order to implement NEP 2020 in higher education successfully which include issues of accessibility, quality of teaching, research, and innovation. The successful implementation of NEP 2020 in higher education will require a concerted effort from all stakeholders.

The National Education Policy 2020 (NEP 2020) is a landmark document that aims to transform the Indian education system at all levels. The policy has a number of ambitious goals for higher education, which include increasing access, improving quality, and promoting research and innovation. However, there are a number of critical issues that need to be addressed in order to implement NEP 2020 in higher education successfully. To overcome these challenges and provide high-quality higher education with fairness and inclusion, the NEP 2020 strategy promotes a complete reform and re-energization of the higher education system. The following significant changes to the current system are part of the policy's vision:

1. A New and Forward-Looking Vision for India's Higher Education System:
2. Quality Universities and Colleges.
3. Consolidating and restructuring institutions in order to provide a more multidisciplinary and holistic education
4. Ideal Learning Environments and Student Support
5. Faculty who are inspired, capable, and motivated.
6. Higher Education Equity and Inclusion educator preparation.
7. Vocational education reimagined.
8. Establishing a new National Research Foundation
9. To promote high-caliber academic research across all disciplines.
10. Changing the higher education regulatory system. Effective Leadership and Governance for Institutions of Higher Education

An attempt has been made to put NEP 2020 into action ever since it was adopted on July 29, 2020. Teachers have been working on various delivery methods for it in this regard. The student has a crucial part in the educational system, whereas the teacher plays a leading role. A comprehensive guide for educators to use as they get ready for NEP 2020



### Academic Research Rejuvenation:

NEP has made a historic commitment, particularly in terms of scholarly research. Prioritising research in higher education institutions, the National Education Policy (NEP)-2020 was the first plan for education to be considered after independence. By doing so, it has correctly acknowledged that academic research is a crucial component of the higher education system in the majority of knowledge nations.

### Skill Development-Bridging the Gap between Education and Industry:

The NEP 2020 acknowledges the dynamism of industry and the changing nature of skill requirements. It highlights the requirement for a course of study that is in line with company specifications, allowing students to gain useful skills and information applicable to the job.

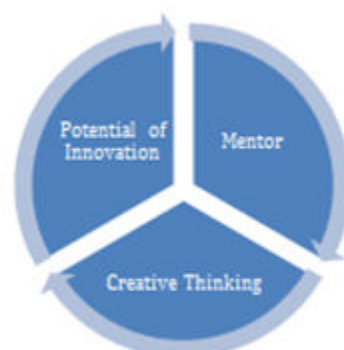
### Indian Knowledge System-

NEP 2020, the National Education Policy, seeks to completely transform the country's higher education system in all of its fundamental, content-related, and methodological elements. NEP-2020 has been guided by the great legacy of ancient and timeless Indian knowledge and ideas to give students a comprehensive overview of the Indian Knowledge System (IKS) and to make them aware of the contributions that early Indians made to philosophy, science, and other relevant fields. Teachers and students will need to understand the Indian Knowledge System and put it into practice in order to advance and create knowledge.

### Mixed-Media Education (Blended Learning)

With the help of Blended Learning, teachers become coaches and mentors rather than knowledge providers. This change does not imply that teachers take a more passive or minor part in the teaching of their students. Contrary to popular belief, BL allows teachers to have a more significant impact on students' learning.

In nutshell, any system improves through change rather than chance. The education system is similar. Every educator plays an assortment of leadership positions inside the institution. We can say that teachers will play a key role in their students' learning process as mentors who help them to improve their creative thinking and unlocking the innovation potential.



**Reference:** <https://www.ugc.gov.in/TOIKS.aspx>

**OBJECTIVES**

1. To assess the awareness levels of degree college teachers at the University of Mumbai regarding the National Education Policy (NEP) 2020.
2. To assess the perceived challenges and barriers that may hinder degree college teachers in their efforts to enhance their knowledge and align their teaching practices with the provisions of NEP 2020
3. To assess the Perception on Impact of NEP (National Education Policy) NEP 2020 on the professional development and teaching practices of degree college teachers.

**HYPOTHESIS:**

**(H0):** There is no significant relationship between Challenges and Barriers to NEP Alignment and Awareness Level about NEP 2020, and the Perception of NEP 2020 Impact on Teaching Practices.

**RESEARCH METHODOLOGY:**

<b>Research Universe</b>	Degree College Teachers affiliated to University of Mumbai
<b>Sampling Technique</b>	Random Sampling
<b>Sample Size</b>	120
<b>Data Collection Method</b>	Primary and Secondary data
<b>Primary data collection method</b>	Pre-structured and Pre-coded Questionnaire
<b>Data analysis techniques</b>	Linear regression analysis and Omnibus ANOVA Test

**DATA ANALYSIS AND INTERPRETATION:**

<b>No of Years' Experience in Teaching:</b>	<b>Counts</b>	<b>% of Total</b>
1-5 Years	22	18.3 %
11-15 years	32	26.7 %
16-20 years	14	11.7 %
21 years & above	9	7.5 %
6-10 years	43	35.8 %
<b>Subjects/Core Area</b>	<b>Counts</b>	<b>% of Total</b>
Accounting & Finance	23	19.2 %
Arts	18	15.0 %
Commerce & Management	56	46.7 %
Information Technology	23	19.2 %

The data provided offers valuable insights into the demographics of the participants based on their teaching experience and core areas of expertise. In terms of teaching experience, it is evident that the majority of participants fall within the range of 6-10 years of teaching experience, representing approximately 35.8% of the total. The next largest group consists of those with 11-15 years of experience, comprising around 26.7% of the total. Participants with 1-5 years of teaching experience account for approximately 18.3%, while those with 16-20 years constitute around 11.7%. Interestingly, a smaller but notable group of participants, about 7.5%, possess 21 years of teaching experience or more.

When it comes to the core areas of expertise, Commerce & Management emerges as the predominant category, with 46.7% of the participants specializing in this field. Information Technology and Accounting & Finance share a similar proportion of participants, each contributing around 19.2% of the total. Arts, although a smaller group, still represents a significant 15.0% of the participants' core areas.

<b>Would you love to personally enhance the knowledge for effective delivery of subject through NEP'2020</b>	<b>Counts</b>	<b>% of Total</b>
Maybe	26	21.7 %
Yes	94	78.3 %

If yes, what measures you will take for knowledge enhancement?	Counts	% of Total
Any Other	25	20.8 %
Learning through MOOC	25	20.8 %
Learning through New PG Courses or Diploma Courses available	43	35.8 %
Learning through You Tube	27	22.5 %

The data provided sheds light on the participants' willingness to personally enhance their knowledge for the effective delivery of subjects through the National Education Policy (NEP) 2020. Notably, a significant majority of participants, comprising 78.3% of the total, expressed a strong inclination towards enhancing their knowledge in this regard, demonstrating a proactive approach to aligning with NEP 2020's principles.

Among those who indicated a willingness to enhance their knowledge, the data reveals the various measures they are willing to undertake. Learning through New PG Courses or Diploma Courses available emerged as the most popular choice, with approximately 35.8% of participants opting for this method. Learning through YouTube videos is another prominent choice, selected by 22.5% of participants. Learning through Massive Open Online Courses (MOOCs) and other unspecified methods (Any Other) garnered equal interest, each chosen by 20.8% of participants.

In summary, the data reflects a strong enthusiasm among participants to enhance their knowledge for effective subject delivery in alignment with NEP 2020, with a diverse range of preferred methods for knowledge enhancement. These findings underscore the importance of providing opportunities and resources for educators to further their understanding and implementation of NEP 2020's principles in their teaching practices.

Are you aware of Introduction of Indian Knowledge Systems (IKS) in New Syllabus	Counts	% of Total
Can't Say	9	7.5 %
No	15	12.5 %
Yes	96	80.0 %

The data provides insights into the participants' awareness of the introduction of Indian Knowledge Systems (IKS) in the new syllabus. Notably, a significant majority of participants, accounting for 80.0% of the total, indicated that they are indeed aware of the inclusion of IKS in the new syllabus. This high level of awareness suggests that the introduction of IKS in the curriculum has garnered considerable attention and recognition among the surveyed participants. A smaller but still noteworthy portion of participants, approximately 12.5%, indicated that they are not aware of the inclusion of IKS in the new syllabus. Additionally, a smaller group, comprising 7.5% of participants, responded with "Can't Say," implying uncertainty regarding their awareness.

Perception of NEP 2020 Impact on Teaching Practices.	Agree	Disagree	Strongly Agree	Neither Disagree Nor Agree	Strongly Disagree
I will learn about Indian Knowledge Systems (IKS).	33.3 %	17.5 %	12.5 %	26.7 %	10.0 %
I will adapt to research and ethical research practices.	38.3 %	10.8 %	14.2 %	8.3 %	28.3 %
I will learn and re-learn new trends.	34.2 %	12.5 %	19.2 %	27.5 %	6.7 %
Do you believe vocational education must be a part of NEP 2020?	38.3 %	12.5 %	16.7 %	7.5 %	25.0 %
Experiential learning techniques should be	33.3 %	8.3 %	27.5 %	24.2 %	6.7 %

credited to students.					
Is NEP resulting in the holistic development of teachers?	31.7 %	13.3 %	19.2 %	4.2 %	31.7 %
I will adapt the 4 C's skills in teaching.	35.0 %	16.7 %	20.0 %	7.5 %	20.8 %

The data represents the perception of NEP 2020 impact on teaching practices and various statements related to education and professional development.

- **Indian Knowledge Systems (IKS):** Approximately 33.3% of respondents agree that they will learn about Indian Knowledge Systems (IKS), while 17.5% disagree with this statement. A smaller percentage, 12.5%, strongly agrees with it, and 26.7% neither agree nor disagree, indicating a varied response.
- **Research and Ethical Research Practices:** About 38.3% of respondents agree that they will adapt to research and ethical research practices. Only 10.8% disagree with this statement, while 14.2% strongly agree, and 8.3% neither agree nor disagree. A significant portion, 28.3%, strongly disagrees.
- **Learning New Trends:** For the statement about learning and re-learning new trends, 34.2% agree, 12.5% disagree, 19.2% strongly agree, 27.5% neither agree nor disagree, and 6.7% strongly disagree. This shows a mixed response regarding the willingness to embrace new trends in education.
- **Vocational Education in NEP 2020:** When asked about whether vocational education should be a part of NEP 2020, 38.3% agree, 12.5% disagree, 16.7% strongly agree, 7.5% neither agree nor disagree, and 25.0% strongly disagree. This statement elicits varying opinions, with a relatively high percentage in favor.
- **Credits for Experiential Learning:** Regarding giving credits to students for experiential learning techniques, 33.3% agree, 8.3% disagree, 27.5% strongly agree, 24.2% neither agree nor disagree, and 6.7% strongly disagree. It appears that a significant number of respondents support the idea of giving credits for experiential learning.
- **Holistic Development of Teachers:** In response to whether NEP is resulting in the holistic development of teachers, 31.7% agree, 13.3% disagree, 19.2% strongly agree, 4.2% neither agree nor disagree, and 31.7% strongly disagree. This statement draws varied opinions, with a substantial number expressing skepticism.
- **Adapting 4 C's Skills in Teaching:** Finally, for the statement about adapting the 4 C's skills in teaching, 35.0% agree, 16.7% disagree, 20.0% strongly agree, 7.5% neither agree nor disagree, and 20.8% strongly disagree. The response reflects mixed sentiments regarding the integration of these skills into teaching practices.

In conclusion, the data demonstrates a diverse range of perspectives among respondents regarding NEP 2020 and its implications for teaching practices. While there is support for certain aspects, such as vocational education and research integration, other areas reveal varying degrees of skepticism and uncertainty. These findings underscore the importance of considering these differing viewpoints in the implementation of NEP 2020 initiatives to ensure comprehensive and effective educational reforms.

#### Testing of Hypothesis:

1. **(H0):** There is no significant relationship between Challenges and Barriers to NEP Alignment and Awareness Level about NEP 2020, and the Perception of NEP 2020 Impact on Teaching Practices.

#### RESULT:

Let's interpret the results of the linear regression analysis:

#### Model Fit Measures:

- **Overall Model Test:** The overall model test examines whether the model as a whole is statistically significant in explaining the variance in the dependent variable (Perception of NEP 2020 Impact on Teaching Practices). In this case, the overall model is statistically significant ( $p = 0.032$ ), indicating that at least one of the predictors (Challenges and Barriers to NEP Alignment and Awareness Level about NEP 2020) has a significant effect on the perception of NEP 2020 impact on teaching practices.

**Omnibus ANOVA Test:**

- The Omnibus ANOVA test assesses the significance of individual predictor variables in explaining the variance in the dependent variable:
- **Challenges and Barriers to NEP Alignment:** This predictor is statistically significant ( $p = 0.042$ ), indicating that it has a significant effect on the perception of NEP 2020 impact on teaching practices.
- **Awareness Level about NEP 2020:** This predictor is also statistically significant ( $p = 0.025$ ), indicating that it has a significant effect on the perception of NEP 2020 impact on teaching practices.
- **Residuals:** The residual sum of squares represents unexplained variance in the dependent variable after accounting for the predictors.

**Model Coefficients - Perception of NEP 2020 Impact on Teaching Practices:**

- **Intercept:** The intercept represents the estimated value of the dependent variable when all predictor variables are zero. In this case, when both "Challenges and Barriers to NEP Alignment" and "Awareness Level about NEP 2020" are zero, the estimated perception of NEP 2020 impact on teaching practices is 23.795.
- **Challenges and Barriers to NEP Alignment:** This predictor has a coefficient of 0.982, indicating that for every one-unit increase in "Challenges and Barriers to NEP Alignment," there is an estimated increase of 0.982 units in the perception of NEP 2020 impact on teaching practices. This effect is statistically significant ( $p = 0.042$ ).
- **Awareness Level about NEP 2020:** This predictor has a coefficient of 1.157, indicating that for every one-unit increase in "Awareness Level about NEP 2020," there is an estimated increase of 1.157 units in the perception of NEP 2020 impact on teaching practices. This effect is also statistically significant ( $p = 0.025$ ).

**Assumption Checks:**

- **Normality Tests:** The normality tests (Shapiro-Wilk, Kolmogorov-Smirnov, Anderson-Darling) assess whether the residuals (the differences between the observed and predicted values) are normally distributed. In this case, the p-values are greater than 0.05 for all three tests, suggesting that the assumption of normality is not violated.
- **Heteroskedasticity Tests:** Heteroskedasticity tests check whether the variance of the residuals is consistent across all levels of the predictors. In this case, the p-values for the Breusch-Pagan, Goldfeld-Quandt, and Harrison-McCabe tests are all greater than 0.05, indicating that the assumption of homoskedasticity is met.
- **Durbin-Watson Test for Autocorrelation:** The Durbin-Watson test checks for autocorrelation in the residuals. In this case, the p-value is 0.754, suggesting that there is no significant autocorrelation in the residuals.
- **Collinearity Statistics:** The Variance Inflation Factor (VIF) and Tolerance values assess multicollinearity between predictor variables. In this case, both predictor variables have VIF values close to 1 and Tolerance values close to 1, indicating that multicollinearity is not a concern.

Overall, the linear regression analysis suggests that both "Challenges and Barriers to NEP Alignment" and "Awareness Level about NEP 2020" are statistically significant predictors of the perception of NEP 2020 impact on teaching practices. These predictors have positive coefficients, indicating that an increase in either of these variables is associated with an increase in the perception of NEP 2020 impact on teaching practices.

Linear Regression						
Model Fit Measures						
Model	R	R <sup>2</sup>	Overall Model Test			
			F	df1	df2	p
1	0.192	0.0368	2.24	2	117	0.032

Omnibus ANOVA Test					
	Sum of Squares	df	Mean Square	F	p
Challenges and Barriers	124.8	1	124.8	3.56	0.042

to NEP Alignment					
Awareness Level about NEP 2020	83.7	1	83.7	2.38	0.025
Residuals	4106.9	117	35.1		
Note. Type 3 sum of squares					

<b>Model Coefficients - Perception of NEP 2020 Impact on Teaching Practices</b>				
Predictor	Estimate	SE	t	p
Intercept	23.795	2.755	8.64	< .001
Challenges and Barriers to NEP Alignment	0.982	0.521	1.89	0.042
Awareness Level about NEP 2020	1.157	1.397	1.54	0.025

<b>Assumption Checks</b>		
<b>1. Normality Tests</b>		
	Statistic	p
Shapiro-Wilk	0.966	0.104
Kolmogorov-Smirnov	0.112	0.121
Anderson-Darling	1.3	0.202
Note. Additional results provided by moretests		
<b>2. Heteroskedasticity Tests</b>		
	Statistic	p
Breusch-Pagan	2.32	0.313
Goldfeld-Quandt	1.25	0.2
Harrison-McCabe	0.444	0.187
Note. Additional results provided by moretests		
<b>3. Durbin-Watson Test for Autocorrelation</b>		
Autocorrelation	DW Statistic	p
0.0456	2.05	0.754
<b>4. Collinearity Statistics</b>		
	VIF	Tolerance
Challenges and Barriers to NEP Alignment	1.13	0.884
Awareness Level about NEP 2020	1.13	0.884

**RESULTS AND DISCUSSION:**

The findings of this study provide valuable insights into the preparedness and perceptions of degree college teachers at the University of Mumbai regarding the National Education Policy (NEP) 2020. The data analysis focused on three key objectives: assessing awareness levels about NEP 2020, understanding perceived challenges and barriers, and gauging the perception of NEP 2020's impact on teaching practices.

- **Awareness Levels about NEP 2020:** The study revealed that the majority of respondents, accounting for 80.0%, are aware of the introduction of Indian Knowledge Systems (IKS) in the new syllabus. This high level of awareness indicates that the inclusion of IKS in the curriculum has garnered substantial attention among the surveyed degree college teachers.
- **Perceived Challenges and Barriers:** The analysis also explored the challenges and barriers that degree college teachers anticipate in their efforts to align their teaching practices with the provisions of NEP 2020. While specific challenges were not detailed in this dataset, the significance tests indicated that challenges and barriers to NEP alignment were statistically significant (p = 0.042). This implies that degree college teachers perceive certain obstacles that may hinder their ability to adapt to NEP 2020.
- **Perception of NEP 2020 Impact on Teaching Practices:** The perception of NEP 2020's impact on teaching practices was a key focus of this study. The linear regression analysis revealed several noteworthy findings.



Both "Challenges and Barriers to NEP Alignment" and "Awareness Level about NEP 2020" were found to be statistically significant predictors of the perception of NEP 2020 impact on teaching practices. These predictors exhibited positive coefficients, signifying that an increase in either of these variables is associated with an increase in the perception of NEP 2020 impact on teaching practices. Specifically, as degree college teachers perceive fewer challenges and barriers to NEP alignment and possess a higher awareness level about NEP 2020, they are more likely to perceive a positive impact on their teaching practices.

### **CONCLUSION**

This study contributes valuable insights into the current state of preparedness and perceptions of degree college teachers at the University of Mumbai regarding NEP 2020. The findings highlight a generally high level of awareness about NEP 2020, particularly regarding the introduction of Indian Knowledge Systems (IKS) in the curriculum.

Moreover, the study underscores the significance of addressing challenges and barriers that degree college teachers may encounter in their efforts to align their teaching practices with NEP 2020's provisions. Identifying and mitigating these challenges can be crucial in facilitating a smoother transition to the new educational framework.

Furthermore, the positive relationship between awareness levels and the perception of NEP 2020's impact on teaching practices suggests that increasing awareness among degree college teachers can enhance their overall receptiveness to and implementation of NEP 2020 initiatives.

In conclusion, these findings emphasize the importance of targeted awareness campaigns, professional development opportunities, and support mechanisms to empower degree college teachers in adapting to NEP 2020 and fostering positive changes in their teaching practices. Implementing these strategies can contribute to the successful realization of NEP 2020's goals and objectives in the context of higher education at the University of Mumbai.

### **SCOPE FOR FURTHER RESEARCH:**

The researchers will conduct this survey with Maharashtra state and also will try to check with other states and universities who have implemented NEP 2020 and try to analyse their strategies towards preparedness of NEP 2020.

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**INDIAN KNOWLEDGE SYSTEM: A STUDY OF ANCIENT INDIAN CHEMISTRY OF GLASS****Dr Shivani Banerjee**

Associate Professor and Head of Chemistry Department Satish Pradhan Dnyanasadhana College, Thane

**ABSTRACT**

Science and technology in historic and medieval India included all principal branches of human expertise and activities. The classical texts of the Vedas offer crucial facts about chemistry during historic times. The most important chemical merchandise had been glass, paper, soap, paint, cosmetics, perfumes, alcoholic polishes, medicine, gunpowder, and salt. The manufacturing of glass changed into a first-rate technological improvement within the historic global. It required large expertise of pyro- generation and engineering to construct furnaces, to keep the furnace temperature for weeks, and with a view to blend the appropriate proportions of uncooked materials. Archaeologists have spent tremendous time and power investigating historic crafts to recognize historic communities. The antiquity of glass in India is 3,500 years. Indian glass beads and bangles had been principal exports everywhere in the Indian Ocean and past for greater than 2,500 years. The bulk of the glass to be had in India changed into in general comprised of Indian indigenous glass.

*Keywords: Ancient period, pyro- generation, archaeologists and indigenous glass.*

**INTRODUCTION**

Although the preliminary studies programs do no longer have a good deal of theoretical expertise or in-intensity information of the topic, there may be a precis of the study's findings and studies information suggesting that historic Indians believed that the universe consisted of five factors or compounds including Panchabhutas. Water, earth, air, hearthplace and ether; Everything is taken into consideration as a method of perception (taste, smell, hearing, sight and sound). Glass is certainly considered one among earliest man-made excessive generation materials. The manufacturing of glass changed into a first-rate technological improvement within the ancient times. Glass has a totally lengthy records and lots of styles of glass had been created and perfected over time. Glass is anywhere today, and generation has revolutionized its use, from controlling drafts to growing the strength of smartphone screens. Although glass is used in lots of contemporary-day expressions, it's miles an exceptional invention of historic subculture that modified creative expression. The word "glass" covers many merchandise whose most important characteristic is the freeze from the molten form to the solid form without crystallization. Generally, glass is crafted from a aggregate of silica (sand: approximately 75%), soda (approximately 15%), and calcium compounds (lime: approximately 10%) with the preferred metallic oxides used for colour and design. Glass has unfolded everywhere in the global as a treasure. Even today, several of the maximum costly works of artwork are nonetheless fabricated from glass

**Glass In Indian Literature**

Glass is a molten mixture of various substances such as lime, sand, alkali, and metal oxides. It comes in many forms; transparent, opaque, coloured, and colourless. Glass is always made from a mineral (obsidian) and is formed when siliceous materials (such as silica-rich plants and sand) combine with alkali (wood ash). The glass-making process may be an artifact of some metallurgical or similar process. Control the temperature of melting, forming, annealing, spotting and hot foiling are the important techniques applied. Mention of glass Kanch or Kaca is profuse in the ancient texts going back to 1200 B.C, or perhaps even further beyond. The Vedic text, Satapatha Brahmana refers in a general way to Kaca, the Sanskrit term used for glass. Our scriptures like Ramayana, Brihat Samhita, Kautilya's Arthashastra and Sukraniti Sara mention the use of glass. There is ample evidence that glassmaking was widespread in ancient India and that the craft achieved a high degree of success. The skill of the glassmaker is undoubtedly excellent. Kautilya's Arthashastra (3rd or 4th century BC) is a famous work on administration and management that contains valuable information on medical practice using glass objects. References to glass vessels for preserving medicines can be seen in texts like Charaka and Śusruta Samhitā. In the Amarakośa (seventh century AD) mention of glass vessels, cups and dishes are made. In later period, Somnath Kavi (ca. 1446—1539 AD) mentions about his glass spectacles in his Vyasoyogi Charita.

**Ancient Chemistry of Glass Making**

Glass is a "supercooled liquid". The main component of most glass is silica, which must be very hot to melt. It cools and hardens very quickly. This allows the designer to spend less time creating it. However, since ancient times, artists have found ways to be creative when designing glass and shaping it into beads. The heating process is considered the oldest, simplest, and most common method of glass bead making. The silica source was in the form of sand, quartz pebbles or crushed siliceous stones which forms the 'backbone' for the glass.

Flux is added to lower melting temperature is in the form of alkaline mineral deposit or Plant-ash alkali. The Colouring or opacifying agents are metal oxides or metallic salts.

Beginning in the 2nd century BC, glass beads were produced using local techniques in many parts of India. One of the most important and up-to-date glass bead manufacturing technologies in India is the kiln winding machine.

Kopia situated on the bank of the river Anoma in the Basti district of Uttar Pradesh, is the first archaeological site where there is ample evidence of glass manufacture, which has been dated by radiocarbon independently, by three different laboratories. Kopia, had perhaps a glass factory as many glass objects were found there. One large block of glass weighing about 76 kg and measuring 45 cm x 30 cm x 23 cm was found at that site is now kept in Lucknow Museum. The chemical composition of the glass sample taken from Kopia is as follows: silica 66.6%, aluminum oxide 7%, alkali metal (Na<sub>2</sub>O) 21.7%, ferric oxide 1.6%, lime 2.4%, manganese oxide 0%, and traces of titanium, magnesium oxide and dioxide. These probably give an indication about the massive scale of operations in vogue at that time.

Nevasa is in the Ahmednagar district of Maharashtra. A glassmaking furnace dated to the third to fourth century CE was unearthed there. It was a circular furnace, 0.75 m in diameter and 48 cm deep, and was made of burnt clay. Bichrome glass, slag, lime, cow dung, etc., were found in abundance around it. At one of the points near the periphery, there was a channelled projection, which was evidently used for inserting the pipe for the bellows. Ethnographic studies show that India had a unique way of making glass.

When many works that could be found from different places were re-examined, it is seen that glass products were made using methods such as moulding, folding, bending and double peeling. Sometimes a method called wire wrapping was also used to prepare different types of beads. Moulding was one of the basic techniques used in India to produce glass objects

### **Raw Material Used For Glass Making**

In general, literature mentions the usage of reh or sodic soils as the only ingredient necessary to melt glass were used by ancient Indians. Depending on the region, reh is likewise known as usar, kalar, and oos, are terms designating either the efflorescence itself or the sodic-rich soil. Generally, reh is a soil efflorescence containing huge quantities of sodium salts (carbonate, bicarbonate, and sulphate) and ranging proportions of calcium and magnesium salts. It happens in regions in which rivers draining mountains comprises of dissolved salts that percolate via the subsoil till saturation. Rains dissolve those salts, which moves through the soil throughout the dry season via way of means of capillary motion and forms white efflorescence at the surface. They are found in arid or semi-arid areas and may be exacerbated via way of means of negative irrigation techniques and negative drainage, which boost up water logging and salt accumulation in soil. This "country glass" became crafted from amassing soil encrustation after the rains. The encrustation regularly includes sufficient silica to keep away from including any sand. It was fired for a couple of weeks, producing a bubbly, semitranslucent green or black glass, coloured by the carbonization of goat dung added to the batch. The glass could be used immediately or be subtle via way of means of being crushed, colorizers brought, and fired again, using out the bubbles and generating a best glass. The furnace used to soften reh glass became advanced indigenously and the related pyrotechnics have been a critical a part of historic Indian knowledge

### **Types of Ancient Glass**

Indian glass makers had sufficient expertise in making beads, bracelets, and several other types. Chemical analyses of glassware found at more than 15 sites in different parts of India show that Indian glassmakers knew the importance of metal oxides or other compounds to impart desired colours to glassware. Iron-containing minerals such as hematite, copper, cobalt, manganese, aluminium, or lead were used together with silicates in the desired manner and in suitable quantities to produce various types of glass beads, bracelets, tiles, and bottles. The metal objects and other things found in these areas show the chemical knowledge of Indian glassmakers who honed their skills in making beads, bracelets, and many other items. According to the various beads found in Brahmपुरi, they were found to be made by wrapping a rod of molten glass around a wire or wire and then twisting it to suit the needs. The technique of preparing "multiple wound beads" from opaque glasses of different colours is also known. Some glass objects have been found at Maska (1000-900 BC), Hastinapur and Taxila (1000-200 BC) in South India. Blowing was introduced in India at the end of the first century. The method of making glass was certainly very old, although glassware has been unearthed from various archaeological sites in India, but the findings do not help in restoring the technology to the past. In the past, sodium-calcium silicates and compounds of phosphate, potassium and iron were used in the production of glass. Minerals are also used to make various tiles, bracelets, beads, and bottles. The black and brownish glass

beads found at Hastinapur (ca. 1000 BC) are predominantly sodium-calcium-silica in composition with traces of phosphates and potassium, as well as varying amounts of iron compounds, which are responsible for their colour. The city of Sirkap shows evidence of international trade in glass, as it has yielded remnants of foreign glass objects such as mosaic and milleflori (that's a Latin word meaning "thousand flowers"), lace, ribbed and swirled glass. dishes, blue and white cameo. Milleflori, with its floral and cellular structure, was mostly produced by Roman glassmakers. Single-coloured and polychrome glass bracelets were produced with great care. Certain beautiful patterns have also been applied to them with fine expertise. jewellery glass technology was well developed in India, the manufacture of glass vessels was not so popular.

### **Development of Glass Making In India**

According to archaeological evidence found at more than 30 sites in India, including Taxila, Hastinapur, Nalanda in present-day Pakistan, Ujjain in Bihar, Navasa in Maharashtra and Tetra in Nashik in Madhya Pradesh, Brahmagiri in Karnataka and Arikamedu in Puducherry, the glass industry developed and became very successful. Gold glass beads, green and blue glass, agate flasks, bracelets, earrings, eyeballs, etc. were widely used. Beads came in many colours, for example: black and brown glass beads found at Hastinapur (circa 1000 BC) are mainly composed of sodium-calcium silicate, phosphate and potassium compounds and various metal compounds, which is the reason for their colour. Archaeological excavations at Brahmपुरi and Kolhapur in Maharashtra (from the twentieth century BC to the second century AD) indicate that a glass industry, especially the production of lenticular beads, was also present in the region. Some cylindrical beads are also found in Kolhapur district. Then came the Persians and the Mughals. After their arrival, glassmaking began to develop in India. Indeed, the Indians had sufficient raw materials needed to produce high-quality glass, as well as knowledge of glassmaking, exposure to blown glass objects for centuries, and knowledge of primary glassmaking (as in beads and bracelets). South Asia has long been in contact with glassblowing civilizations and cultures since the first century AD. 522.

The site of Arikamendu, north of Pondicherry on the east coast of India, was a Roman trading town that yielded excavated remains of blown glass objects dating to the first century AD. This was the period when glass-making and craftsmanship flourished in India. Many of the glass products produced during this period were spittoons, glass plates and plate covers, dishes, glasses, tiles, and ear cups. As early as the 16th century AD, the Portuguese were selling this glass to East Africa. Among the prehistoric archaeological sites for glass production, Ahichchhatra, Maheswar, Nasik, Nevasa, Prakash is worth mentioning.

Trailokya Mukharji mentioned in his article that there is little evidence of traditional glass and glass making in Bengal. Many researchers claim that glass production in India did not go beyond the first and very primitive stage. The furnaces in use could not produce heat higher than 10,000°C. It was, however, three or four centuries before and after the Christian era when the Indian glass industry began to gain strength. In the 17th century Firozabad in Uttar Pradesh, known as the Glass City of India, started glass production. There are several areas like Naini, Hiranagua, Bahjoi, Sasni, Allahabad and Hathras among others that produce glass. With slow progress, Lokmanya Balgangadhar Tilak's first glass factory was established in Maharashtra in 1908.

Describing the glass industry in Maharashtra, Moreshwar Dikshit mentions a glass furnace at Asre in Colaba district which was in operation for 200 years but was closed in 1945 due to lack of voluntary competition with Firozabad glassware. Karnataka is famous to produce indigenous glass bangles. In some parts of Kolkata, broken glass is used to make perfume bottles, petrol, ink bottles and bangles. In Bihar, green glass is made from San River sand mixed with carbonate pottery, tiles and beads. A high level of modernization has been achieved through the opening of glass plants in India by various glass plants such as AGI, PIRAMAL, HNGIL, Asahi and Saint Gobain. And today, India has come a long way from ancient glassmaking to become one of the major producers of glass and glass products in the world. Currently, India's flat glass industry is valued at USD 2 billion.

### **CONCLUSION**

The development of ancient India was manifested in various activities. The substantiation of glass in Indian archaeology is spread in both time and space. Though there have been claims at regular intervals by different experimenters about the glass being introduced to India from outside, eventually in the Indo- Roman period, the substantiation from as numerous as 29 spots gives ample substantiation that glass was known much before. Glass in Indian culture was not given the same significance as crockery or other essence in ancient times. Glass is an ideal material for recycling, and with growing consumer concern for green issues, glass bottles and jars are getting ever more popular. Glass recycling is good news for the terrain. It saves used glass containers being sent to landfill. As lower energy is required to melt recycled glass than to melt down raw materials, this also saves energy and production costs. Recycling also reduces the need for raw materials to be excavated, therefore

saving precious resources. Knowledge of ancient technology will inculcate a sense of pride among our youngsters in our unique legacies that is sustainable and strives for the welfare of all. Continued creation and understanding of ancient Indian glass chemistry will surely encourage farther advances in the field of glass chemistry.

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**AN IMPACT OF ARTIFICIAL INTELLIGENCE IN EDUCATION****Ms. Bhavna Wehele<sup>1</sup> and Mrs. Mithili Gaurishankar<sup>2</sup>**

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**ABSTRACT**

*This paper is to study the impact on education by Artificial Intelligence (AI). This paper intends to show the usage of Art. Int. for purposes of running the institutions, teaching as well in aiding the students in gaining knowledge. The primary data gathered will be used for the review of the research design and to the approach of it. Art. Int. is the form of computer technology, it is in the use of computer programs which are embedded in various forms, the usage of humanoid robotics as well as the chatbots which are internet and web connected. Academic and administrative work and functions can be done more effectively. During the Covid scenario, the education sector made good usage of Art. Int. for continuing with the activities of teaching and learning. It helps in achieving higher quality teaching activities, as also giving a wonderful learning experience while also enhancing the quality of education.*

*Keywords: Education, Art. Int., Higher quality education.*

**INTRODUCTION**

Art. Int. coined by 1955 by John McCarthy (Cope et al., 2021). The first Art. Int. was introduced with the theories of cybernetics and automata (Nilsson et al., 2009). McCarthy defined Art. Int. as “making a machine behave in ways that would be called intelligent if a human were so behaving”. (McCarthy et al., 1955). After that Turing’s found more latest and advanced replication of human intelligence to a machine. The best part is the ‘Turing test’ (Cope et al., 2021), that tells the difference between a computer and a person.

Claude Shannon introduced relay circuits i.e. on/off switches. But the logical development given by mathematical philosopher George Boole, suggested the false and true for closed and open circuits. “A calculus is developed for manipulating these equations by simple mathematical processes” (Shannon et al., 1938).

The challenge by that time was specifying the parameters of Art. Int. Computer and information communication technologies continued to evolve, and the computer was innovated to adapt to these new situations. Art. Int. helps in solving queries, finding solutions, making plans and performing different related functions.

Electronic computing, developed over three decades, plays a different way to help the teacher in teaching and it transforms the potential of education in different ways.

**Gap Analysis:**

The traditional teaching along with hybrid teaching with the use of Art. Int. has provided for a new system which incorporates education being provided from remote places and where distance does not matter.

**OBJECTIVES**

1. To analyze the impact of Art. Int. in different fields of education.
2. How Art. Int. completes multiple tasks.
3. Teaching and assessments using Art. Int.

**HYPOTHESIS:**

Art. Int. helps teachers to teach or not. The final results are arrived basis the responses provided by educators and teachers in the education field.

The hypothesis is:

**H<sub>0</sub>**= Teachers interested in including Art. Int. in their teaching. **H<sub>1</sub>**=Teachers not interested in including.

**Research Design And Methods:**

Primary data collected from the teachers who have taught and accessed online methods during the pandemic phase and the questionnaire is made in a way to collect the data and accordingly circulated and the teachers have filled the data of the major role and efficiency of Art. Int. in the field of academics as per their experience.

**LITERATURE REVIEW:**

In the sector of academia, Art. Int. played a major role. The students before getting introduced to computers were learning via the traditional with human contact and instructions directly by being physically present in a classroom. In 1970, the introduction of microcomputers made students learn computers for multiple reasons.

The development of networking, internet, world wide web led to increase in processing, computing in various software systems that are helpful in various ways in the educational industry in every department (M.M.L. Cairns et al.). Computer aided teaching and learning (CAI/L) is the latest technique used in the educational industry.

**Art. Int. In Current Education:**

The Art. Int. has introduced various mechanisms to automatically check classroom behaviour, detect learning progress, check adaptive behavior all of which improves technology’s interaction with humans. The abilities of Art. Int. like managing temperature in buildings, playing music, lighting depending on the mood of humans is very useful. In education, creation of robots to interact with the students and teachers, planning the routine tasks according to the learning speed of the students. Art. Int. helps to deal with multiple complicated matters related to students and modify the learning techniques to suit the students and improve their learning abilities.

Art. Int., application use in education administration plays a major role. It is used in analyzing and responding to the students in an effective manner. And some of the applications used to evaluate performance, grade, and continuous evaluation of the student improvement (R.C.Sharma et al.). In addition, it made the performance of the administration more effective and easier.

The development of Art. Int. in Education was given in following table (Jim Spohrer,IBM et al.,)

Perceive World		Develop Cognition		Build Relationships		Fill Roles	
Pattern Recognition	Video Understanding	Memory	Reasoning	Social Interactions	Fluent Conversations	Assistant & Collaborator	Coach & Mentor
Learning from Labeled Training Data and searching (Optimization)							
				Learn by watching and Reading (Education)			
				Learn by Doing and being Responsible (Exploitation)			
2015	2018	2021	2024	2027	2030	2033	2036

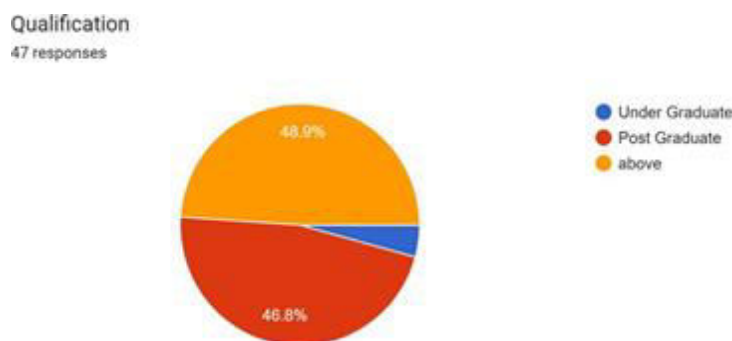
The impact of Art. Int. in an instructional purpose or as a pedagogical instrument to forecast the efficacy of teaching is very important and helps analyze the systems. It ensures the appropriate teaching methods to ensure correct and effective learning and development of the students. DeepTutor and AutoTutor are learner centered programs (V.Rus et al).

As the total number of students are more, the Art. Int. system is used to customize the content, better analyze learning plans, grade papers and exams, rubrics. Art. Int. also prevents students from cheating and plagiarism. In evaluating the assignments and essay writing of students, Art. Int. reduces the time. Henceforth, “Based on the entire ecosystem of learning tools” as per Nick Oddson, who invented Brightspace, elaborated the student gain through Art. Int.

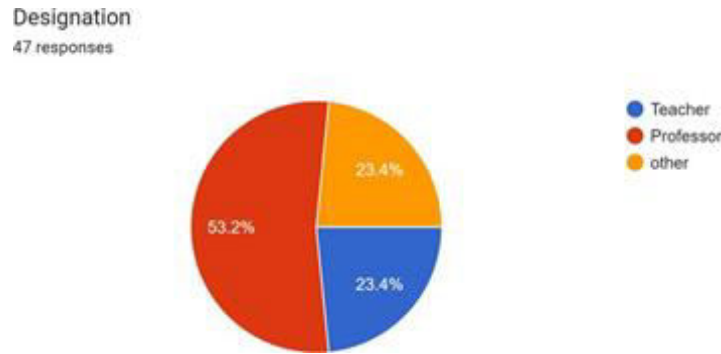
**Preliminary work:**

The result analysis of this paper was as follows.

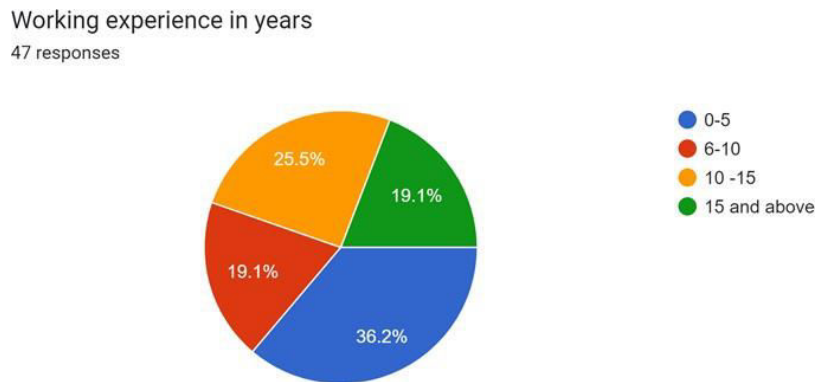
The questionnaire is framed for collecting primary data. The 47 teaching professional data were collected. The teacher’s teaching experience and need for Art. Int. in education data were collected. The confidential statements were sent with clear instructions to get the honest responses.



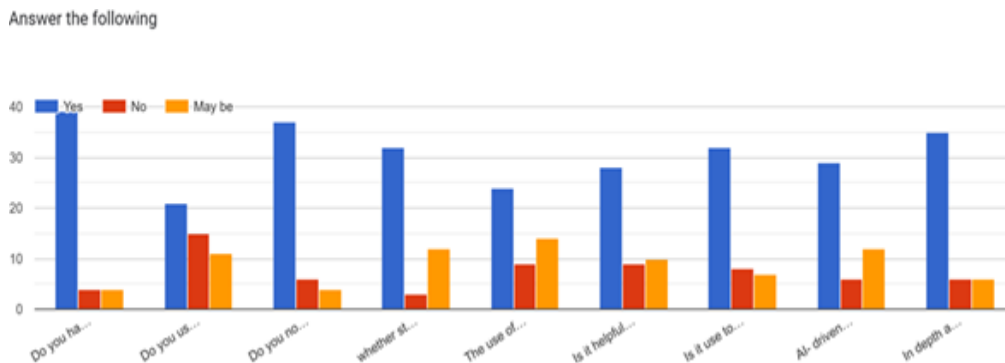
The teachers with 4.3% undergraduate, 46.8% Post graduate and 48.9% with other qualifications in the teaching field given the data.



The 53.2% professors, 23.4% teachers and with other designation teachers in the teaching field given primary data.



The teacher has experience of 36.2% in 0-5 years, 19.1% in 6-10 years, 25.5% in 10-15 years, 19.1% in 15 and above given the data for the survey.



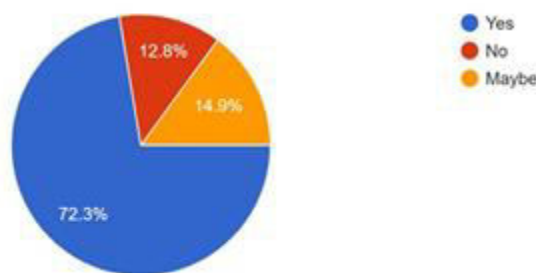
The number of teachers replied for the survey was given below

Answer the following	Yes	No	May be
Do you have digital teaching experience?	39	4	4
Do you use Art. Int.?	21	15	11
Do you notice the improvement in proficiency among the students	37	4	6
Do students recognize the video teaching?	32	3	12
Is the use of online teaching able to increase the memory and reasoning cognitive skills among students?	24	9	14
Is it helpful to build relationship on social interaction and fluent	28	9	10



conversation			
Is it use to student motivation and broad futureactionability	32	8	7
AI- driven assessment played good role in changeprocess	29	6	12
In depth academic knowledge is done in standard Curriculum design	38	6	3
Would you like to teachusing Art. Int.?	37	6	4

Would you like to teach using Artificial Intelligence?  
47 responses



The 72.3% of the teachers willing to continue Art. Int. teaching, 14.9% given may be and 12.8 % filled no answer.

**EXPECTED OUTCOME:**

From the observation, it was observed that more than 70% were interested in including the latest technology like Art. Int. to increase the performance of the students.

**BENEFITS TO THE SOCIETY:**

Students' learning patterns in their lacking skills can be found and improved. More students in different fields get achievements.

**FUTURE SCOPE:**

1. Art. Int. can be used to find the power of cognitive skills in students.
2. It can be used to find the talent in students, which can be converted to achievements.
3. Lack of learning can be improved, identifying using Art. Int..

**LIMITATIONS:**

As modeling technology is expensive, it is not possible to implement in all schools.

The survey was taken from teachers who have experience in hybrid mode, not with robotics.

**CONCLUSION**

The objective of the analyses under this paper was to review the effect of Art. Int. on the teaching and learning arms of the education sector. Qualitative data is collected from teachers, who have online teaching experience and assessment during pandemic. The integration of computer processing with different machines encouraged the use of Art. Int. in different fields. Learning University was one of the major sectors in which web based and online education platforms were used commonly.

The impact of robotics, cobots or humanoid robots as teaching aids enabled for effective and efficient change in the teaching methods implemented in learning institutions. Hence the entire industry of learning and teaching including all the education sector was massively transformed by usage of the various methods and techniques using Art. Int.

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**A STUDY ON THE BENEFITS OF YOUTUBE IN HIGHER EDUCATION WITH SPECIAL REFERENCE TO SOUTH MUMBAI****Manisha D. Bhingardive<sup>1</sup> and Bhagyashri kamble<sup>2</sup>**<sup>1</sup>Associate Professor, Satish Pradhan Dnyanasadhana College of Arts, Commerce and Science Thane (W), Mumbai<sup>2</sup>Assistant Professor, Prahladrail Dalmia Lions College of Commerce and Economics Malad (W) Mumbai**ABSTRACT**

*Higher Education Institutes (HEIs) throughout the world are recognizing the potential of using social networking as an outreach method for their marketing and recruiting campaigns and can serve as a catalyst for strategic change within the education sector. However, it is important that HEIs integrate the use of social media into their marketing programs in order to better reach their intended audiences and provide for a more successful educational experience for students. Though primarily developed for online social communication, social media platforms tend to possess suitable tools that can be used for instructional purposes in order to initiate active learning among students.*

*The present study aims to analysis the use of the YouTube platform for higher educational purposes in developing nations such as India. The study intends to examine the penetration and reception of the YouTube platform in higher educational institutions in the South Mumbai region. An extensive survey was conducted among the faculty members and students in the higher educational institutions in South Mumbai, India. The research reveals the present diffusion level of social software in the academic sector of south Mumbai, a region containing a varied technological landscape due to its internal digital divide and many other infrastructural discrepancies. Additionally, factors that induce and the barriers that affect the pedagogical employment of YouTube tools by higher education faculty members and students have been identified. The results reveal that while the pattern of use of YouTube for two-way communication with viewers, information contents and appeal messages among sampled institutions is fairly homogenous. The implications of these findings are that, although transnational higher education has been profoundly globalized, culture still plays a significant role in marketing practice for the recruitment of mobile students. In addition, different institutions have various student-targeted segments. These findings provide the basis of a series of recommendations for institutions looking to optimize their use of YouTube and promotional video design to market to national students.*

*Keywords: Higher Education, Youtube, ICT, Pedagogy, Learning.*

**INTRODUCTION**

In insolubility academic analyse the use of YouTube in higher education marketing videos is one of the most common means of product promotion employed by managerial marketers in any industry. A magazine ad is able to provide more information and does not have the same time limits imposed. This trend, however, appears to be reversing due to the rapid growth of YouTube, which was established in 2005. As a type of social media, YouTube has proven its advantages and efficiencies not only in attracting viewers but also in the potential for uploaded viewer and viewer-viewer interaction. At the current time, practitioners in every sector across the world consider YouTube as 'an efficient platform for advertising and marketing and higher education makes no exception. While the use of social media in general and YouTube in particular-as a marketing vehicle-is already ubiquitous in management and business practice, the body of scholarly research on social media is also growing within the higher education sector. The purpose of this study is to fill this gap in understanding by conducting a primary survey by sending the Google Form questionnaire to faculty members and students in the South Mumbai region. Hence, the present study aims to analyse the reception and use of YouTube tools in the colleges/universities present within South Mumbai.

**YouTube**

YouTube discovered in 2005, YouTube provides a public-access Web-based platform that allows people to easily upload, view, and share video clips on www.YouTube.com. YouTube also allows users to share video clips across the Internet through other web sites, mobile devices, blogs, and email. It has quickly become the most widely used resource for online videos. Anyone with Internet access can watch videos on YouTube, but user registration (which is free) is required to upload a video. It should be noted that posting of copyrighted material on the site is prohibited due to U.S. copyright laws. According to a 2006 survey, 100 million video clips are viewed daily on YouTube, with an additional 65,000 new videos uploaded every 24 hours. The web site averages nearly 20 million visitors per month. An estimated 56% of the users are male, with the most

prominent age range being 12 to 17 years old. Most information posted is for entertainment purposes. However, some information is educational, and may be provided by various government and community agencies.

#### **✚ YouTube in Higher Education**

As a teaching supplement, YouTube can be used to support those students who, because of their digital learning style, are more accustomed to using technology such as the Internet, video blogging, and text messaging than more traditional classroom learning tools. YouTube provides non-traditional and older learners with the opportunity to experience new technology, which will help them, develop marketable skills for their future careers. YouTube is a valuable teaching resource for faculty, which is crucial for educational budgets. Through YouTube, links can be easily clipped into PowerPoint presentations, documents, or online teaching platforms by simply cutting and pasting the selected video URL that is displayed on the YouTube site. Another way YouTube can be used is by providing an online platform for the posting of a video of a guest speaker for the course, which is especially useful for online classes and for classrooms located in more rural settings where appropriate speakers may be difficult to find. It is possible to restrict access to YouTube videos uploaded by faculty or students to only those in the course if desired.

#### **✚ Limitations and Challenges in Using YouTube**

Despite the positive features of YouTube as a teaching tool, there are still some limitations and challenges with this new technology.

- Searching for appropriate or content-specific clips on YouTube's huge video holdings may prove challenging and time consuming, particularly if the instructor does not have a specific area of content in mind. The efficiency of searching can be increased by entering relevant key descriptive terms and spending time searching similar topics and user-personalized YouTube pages with similar content.
- Video-sharing websites post videos that are both accurate and credible. Instructors should be selective about the videos they use in their courses, just as they should be with any resource. It is advisable that the instructor add a disclaimer to the link which indicates the content of the material is from YouTube and does not reflect the opinion of the instructor.
- In addition, because of the unrestricted platform of YouTube, prior to making a video available to the learners, instructors are strongly encouraged to determine whether the content of the video is accurate and from a credible source, particularly for health-based information.
- Computer protection against Spyware and viruses is important to consider, as recent reports have indicated that computer hackers may be using online video sources to upload Spyware and viruses.

#### **✚ ICT and Higher Education**

The diversity of students, academic preparedness, language, and schooling background are the main challenges facing teaching and learning in higher education. The usage of information and communication technologies (ICTs) as an educational tool in the promotion of women's advancement has immense potential. The application of ICTs as a tool for effective enhancement of learning, teaching and education management covers the entire spectrum of education from early childhood development, primary, secondary, tertiary, basic education and further education and training. The goals of educational reform are to integrate ICT in teaching and learning. ICT is commonly thought of as an important tool for fully participating in the knowledge society. ICT is believed to have a comprehensive impact on teaching methodologies. The ICT curriculum pivot on technology's nature, how to use and apply different technologies, and the impact of ICT on self and society. ICT encompasses the latest methods of communication, inquiry, decision-making, and problem-solving. The processes, tools, and techniques are what are needed for:

1. Obtaining and identifying information
2. Identifying and arranging
3. Summarizing and synthesizing the information
4. Evaluating and analyzing.

ICTs can improve the quality of education in a number of ways: ICTs which can be in the form of videos, television and also computer multimedia software, that merges sound, transcripts and imagery, can be made use of so as to make available stimulating, thought inspire and reliable content that will keep the student interested in the learning process. The students have the ability to study and comprehend the relevant information at their own convenient time.

**✚ Implications for Future Research**

While more research is necessary, this present study suggests that YouTube may be a viable, innovative teaching resource to supplement course content. This initial study could serve as the basis for future research in which the instructional use of YouTube could be examined in a larger population of college faculty at multiple institutions in the nation. Future research might explore the utility of YouTube as a learner tool to create and upload technology-based presentations in a variety of higher education settings. It may be of interest to further examine differences related to its use in undergraduate vs. graduate courses and in online vs. in-class settings (and courses which combine the two settings). Research on students' use and perception of YouTube in their classes would also be of value in determining the appropriateness and effectiveness of this online resource from their perspectives. The application of YouTube as a supplemental teaching tool may promote synthesis of course content and help sustain student engagement. The potential power and utility of this new technology in both in-class and online classrooms is promising when managed by an involved instructor who is sufficiently skilled in its application. These present study findings have implications regarding the need to provide continuing education to faculty on the use of YouTube in in-class and online courses, and perhaps to student users as well.

**✚ RESEARCH OBJECTIVES:**

Following objectives were framed on the grounds of title of the Research, "A study on the benefits of YouTube in Higher Education with special reference to south Mumbai". As per the requirement of research gap these objectives will provides way towards completion of this research work.

The major objectives of the present research are follows:

1. To understand the use of ICT in Higher Education.
2. To Analyse the Impact of ICT and their significant benefits in Higher Educational studies/Institution.
3. To identify the benefits of YouTube in Higher Educational Institutions.

**✚ Research Methodology & Data Sources**

The challenges of teaching and learning in higher education are centered around the diversity of students. YouTube is the central point of our investigation. As cited in the study of Everson, Gundlach, and Miller (2013), it has been used to facilitate learning in various courses such as cultural studies, health education, secondary education, communication ethics, and chemistry. Likewise, online videos on YouTube are one of the most common Internet-based tools used in lectures, assignments, and class presentations (Moran, Seaman, & TintiKane, 2011)

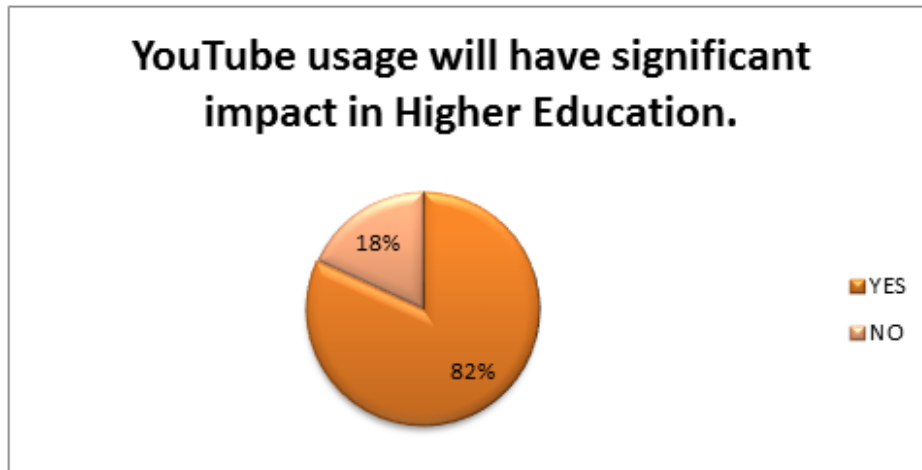
**a) Data Collection:**

This is a descriptive type of research that has been conducted to understand the use of ICT and Benefits of Youtube in Higher education on the basis of primary and secondary sources of data. The primary data was collected from 50 respondents from selected cities and states of India through online survey. The structured questionnaire was mailed to students and teachers to collect the data. The secondary data is collected through various sources like magazines, newspapers, journals, books; research papers, Ph.D. thesis, and internet etc are explored to collect secondary data. The data in this research is gathered and stored in database Google form, which the researcher evaluated and analyzed after receiving responses from all the respondents. After all the responses were collected, the data was analyzed using simple statistical tool percentage followed by a descriptive analysis, and then the results were interpreted in the discussion.

**b) Data Analysis**

The respondents were basic questions such as their Age, Gender, Occupation, YouTube and ICT. The collected data is presented in following Graph:-

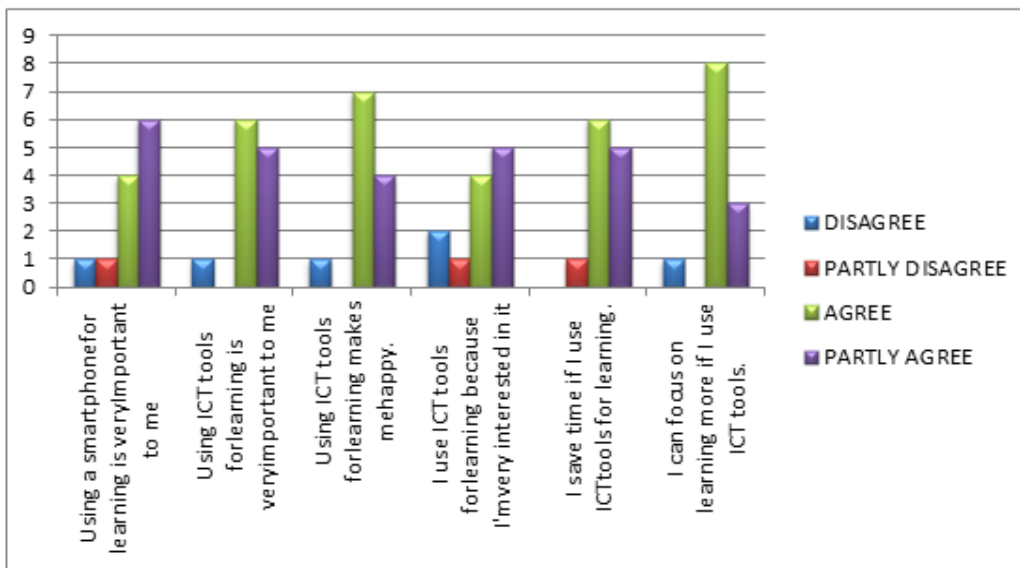
Graph- 1



The above Graph No.1 states at YouTube usage will have significant impact in Higher Education. Out of the total respondents 82% respondents said yes to above question, 18% respondents were said No to question respectively, the respondents positively agree to this question.

Graph- 2

Q. Please rate the following statements.

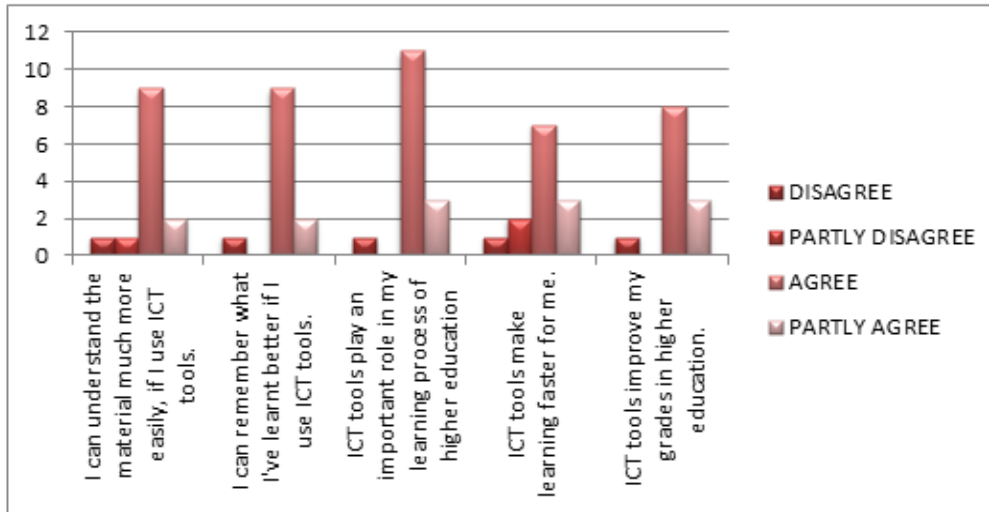


This set of questionnaire included one question consisting four alternatives where the participants were free to choose more than one options to determine the participants experience towards the usage of ICT in Higher Education that they have been facing in online teaching and learning. Graph 2 presents the participants' experiences towards the usages of ICT in teaching and learning at higher education of South Mumbai.



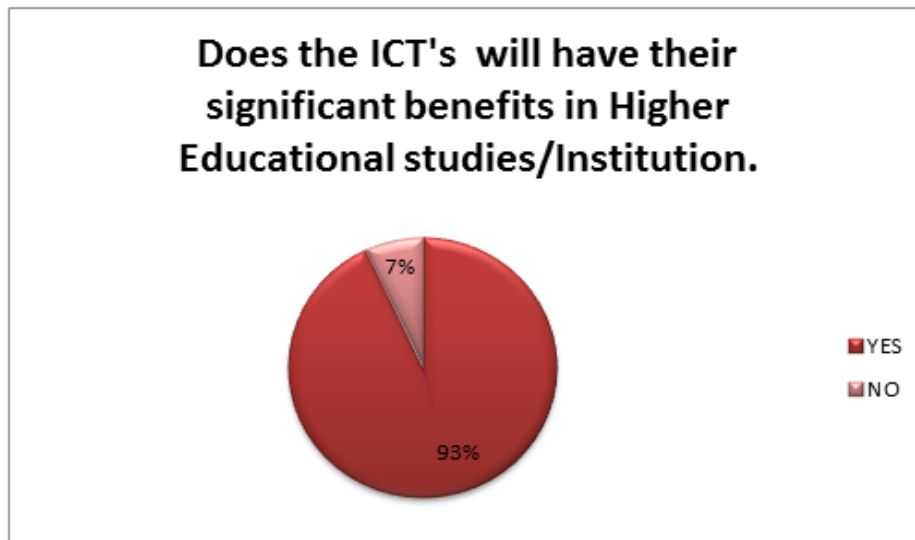
Graph - 3

Q. Please rate the following statements.



This set of questionnaire included one question consisting four alternatives where the participants were free to choose more than one options to determine the participants experience towards the analyse the impact of ICT their Significant benefits in Higher Education that they have been facing in online teaching and learning process.

Graph- 4



The above Graph No.4 states that the ICT will have their significant benefits in Higher Education. Out of the total respondents 93% repondents said yes to above question, 7% respondents were said No to question respectively, the repondents positively agree to this question.

**FINDINGS AND DISCUSSION**

Our findings reveal that there is a greater tendency of students to use YouTube, as it is characterized by more open access in acquiring content knowledge and skills in Higher Education on their own. To be specific, participants in this study underscored the effectiveness of using YouTube in searching, gaining, and synthesizing information, which is directly linked to literacy development and academic writing in particular. As shown in our findings, students from south Mumbai are adept at seeking and integrating relevant online resources gained from YouTube in order to develop their own proficiency and competence. This finding is consistent with previous research that highlights the pivotal role of YouTube for learners’ academic engagement and achievement. Our findings also reveal that YouTube enables students to clearly feel a sense of belonging and security in a wider community. For students, YouTube was seamlessly used as a venue of communication with people sharing diverse backgrounds in an interactive manner. Particularly, their learning preference for using YouTube was found to have tangible consequences in relation to positive attitudes toward and awareness

of cultural and linguistic diversity. To put it another way, there is evidence from the present study that the majority of the participants rarely had exposure to multicultural knowledge and skills in formal classroom settings in South Mumbai. Based on our findings, it is reasonable to assert that the use of YouTube is not simply for fun for students. It is at the heart of all aspects of their learning trajectories academically and culturally. Educational use of YouTube has the potential to enhance and expedite the quality of education in enabling students to engage in a more participatory culture of Higher education. In addition, our findings tell us that YouTube, as an interactive means of communication, is central to the access to more cross-cultural interactions and experiences.

## CONCLUSION

This study showed that overall, faculty who used YouTube in their courses were delighted with this new technology and found it to be an effective teaching and learning tool, with restrictions regarding the need to carefully screen videos for appropriateness and validity, and with recognition of the challenges related to the time involved in creating or finding the right videos for particular course applications. In addition, the study results suggest that faculty who have not yet used YouTube as an instructional tool – particularly those new to teaching and those who are older veteran teachers – appear to be interested in learning more about its potential in the classroom. We used YouTube as an example of social media site and examined students' usage behavior. The study results provided educators important insights on what drives students to use YouTube. Students from private HEIs were not significantly affected by Internet reliability and speed. The present study suggest that institutions should initiate or continue the use of YouTube in classrooms as there is no problem in the access and quality of Internet wherein there are under investments of ICT infrastructure. Basic ICT services should be given priority, such as subscribing to faster connection and maintaining ICT infrastructure and services (e.g. maintenance of computer laboratories and hiring of IT/computer technicians). One interesting feature of understanding behavior of students towards use of YouTube is that it is varied and complex. HEIs also use social media for other purposes, such as advertising (e.g. creating a Facebook page) (Roblyer, McDaniel, Webb, Herman, & Witty, 2010), Thus, other users of social media should also be given attention (e.g. alumni and the public). With these information, Institutions and university management, have better understanding of their students' behavior and have better planning of their resources to improve the welfare and learning of their students.

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**INNOVATION IN TEACHING LEARNING PROCESS****Prof. Kailassingh Pratapsingh Rajput**

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**ABSTRACT**

*The innovation word comes from the Latin word innovate which means “to create or develop something new or to change something or to alter or to add something new”. In the field of education, innovation means developing something new to make a healthier learning environment. In the teaching-learning process, the meaning is to develop new methods, personalized learning, project-based learning, asking open-ended questions, introducing ICT tools, brainstorming sessions etc.*

*The National Education Policy (NEP) 2023 in India heralds a transformative shift in the education landscape, placing innovation at the forefront of the teaching-learning process. Here I discuss some key points regarding innovation in education as outlined by NEP 2023 which reflect the teaching-learning process.*

*Keywords: Innovation, Latin, alternation, teaching-learning, transformative, landscape, regarding, reflect.*

**INTRODUCTION**

Innovation in teaching and learning is the creative introduction of new ideas, methods, or technologies to improve the quality and effectiveness of the educational experience for students.

In today's rapidly changing educational landscape, the concept of innovation in teaching and learning has gained paramount importance. As traditional teaching methods are continuously being reevaluated to meet the evolving needs of students and the demands of the modern world, innovation emerges as a crucial catalyst for transformation. This exploration delves into the diverse facets of innovation in education, from novel teaching techniques to cutting-edge technologies, all aimed at enhancing the quality and effectiveness of the teaching and learning process

**New Pedagogical Approaches:** Innovations in teaching-learning may involve adopting new pedagogical approaches, such as active learning, problem-based learning, flipped classrooms, or project-based learning. These methods encourage students to be more actively engaged in the learning process.

**Multidisciplinary and Flexibility:** It allows students to choose subjects across streams and fosters cross-disciplinary innovation. The flexible curriculum empowers learners to explore diverse knowledge areas. It allows students to choose the subjects concerning their interest which help to make them more creative in their respective field.

**Technology Integration/ Usage of ICT Tools:** ICT tools, such as computers, tablets, and interactive whiteboards, provide access to a wide range of multimedia resources like videos, animations, and simulations. These resources make learning more engaging and interactive, helping students grasp complex concepts more easily. ICT tools can be used to create personalized learning experiences. Adaptive learning software can assess individual student progress and tailor lessons to their needs, helping students learn at their own pace. Online tools, such as video conferencing, collaborative documents, and learning management systems, enable students to work together on projects, even if they are physically distant. This promotes teamwork and cross-cultural collaboration. The policy emphasizes the integration of technology in education, enabling digital resources, online platforms, and e-learning tools. This facilitates personalized and interactive learning experiences

**Holistic Assessment:** It includes continuous evaluation of critical thinking, problem-solving, brainstorming sessions, organizing quizzes on the topics related to the syllabus & creativity. This innovation redefines the assessment paradigm.

**Teacher Empowerment:** The policy recognizes the pivotal role of educators in fostering innovation. It promotes continuous professional development, training, and pedagogical innovation among teachers. By arranging faculty development lectures, seminars or national and international conferences to foster the teaching process. Online courses, webinars, and forums provide opportunities for teachers to improve their skills and stay updated on the latest pedagogical trends.

**Experiential Learning:** Through internships, apprenticeships, field visits and practical experiences. This hands-on approach connects classroom learning with real-world challenges. This technique helps students to be most productive in nature and helps them to be future-ready or job-ready.

**Global Exposure:** National or International or institutional level collaboration, offering students exposure to global best practices and diverse cultural perspectives, thereby enhancing innovation through diverse experiences. With the help of collaboration, we can provide different types of courses related to their field of interest so that they can boost themselves more in their field. With the help of collaboration, we can also provide scholarships to needy students which help them in their academics.

**Inclusivity:** Addressing the unique learning needs of all students, fostering innovation in teaching methods to cater to diverse abilities. Identifying student's needs is necessary to develop new teaching methods. It provides an effective and healthy environment to the students which increases their learning experience. We can break down the barriers to learning and create a better environment for learning. Teachers can innovate new teaching methods for the students for their better understanding. We can prepare students for a diverse and interconnected world. By providing fair opportunities and resources among the students so that each individual has an equal chance to succeed. It aims to ensure that every student, regardless of their differences, feels welcome, supported, and able to fully participate in the learning experience.

**Cultural Activity:** The cultural activity enhances innovative teaching and learning by promoting cultural diversity, offering resources, and organizing events that expose students to various cultures. Through interdisciplinary studies, creative arts, and entrepreneurship opportunities, it encourages creative thinking and problem-solving ability. Additionally, it fosters global perspectives and cross-cultural communication skills, preparing students to approach projects and challenges innovatively in our interconnected world. For some students, involvement in cultural activities can lead to career opportunities in fields like arts, entertainment, cultural preservation, and education. Performing in front of an audience, whether it's a play, dance performance, or art exhibition, can boost students' self-confidence and self-esteem. Overcoming stage fright and receiving positive feedback can be empowering. In some cases, cultural activities involve the preservation and celebration of one's cultural heritage. This can help students maintain a strong connection to their roots and identity.

Overall, cultural activities enrich the educational experience by providing a holistic approach to learning that goes beyond textbooks and traditional classroom settings. They nurture a well-rounded individual who is culturally sensitive, creative, and equipped with a diverse skill set.

**Sports-related activity:** Playing sports at the institutional level the inter-collegiate level the university level or the inter-university level develops good physical as well as mental health. It teaches students to be disciplined and on time. It develops teamwork and leadership among the students. We can provide scholarships for those students that will help them in their academics. Students can develop a network of friends and mentors which will help them to provide future opportunities to represent themselves as well as the institute or college at different levels.

**Research Orientation:** A research-oriented teaching environment, fostering innovation by promoting inquiry-based learning, writing reviews on articles, literature writing, conducting research paper reading in various classrooms and the creation of a vibrant research ecosystem. Completing research projects can boost students' confidence in their abilities. This confidence can extend to other academic and personal pursuits. Some research projects have real-world applications. Students may contribute to solving practical problems or advancing scientific knowledge. Through research, students have opportunities to collaborate with professors, peers, and professionals in their field of interest, expanding their networks and learning from others. Research experience is valuable for students planning to pursue graduate or professional studies. It demonstrates their commitment to academic inquiry and their ability to conduct independent research. Research often involves finding novel solutions to problems. Students are encouraged to think creatively and explore new ideas, fostering innovation.

**Entrepreneurship and Skills:** Entrepreneurship and skill development, equipping students with the capacity to innovate, create, and adapt to changing economic landscapes. Entrepreneurship encourages students to think outside the box and come up with creative solutions to problems. They learn to innovate and find unique ways to address challenges. Entrepreneurship involves taking calculated risks. Students learn how to assess risks, make decisions under uncertainty, and manage potential outcomes effectively. Understanding finances is crucial for entrepreneurs. Students learn about budgeting, financial planning, revenue generation, and profit analysis. Entrepreneurship education cultivates leadership qualities as students take ownership of their projects, lead teams, and make strategic decisions. Successfully planning and executing entrepreneurial projects can boost students' self-confidence, empowering them to believe in their capabilities. Entrepreneurship comes with ups and downs. Students learn resilience and perseverance as they navigate challenges, setbacks, and failures. Entrepreneurial education introduces students to market research, helping them understand customer needs, preferences, and trends. Entrepreneurship has the potential to create job opportunities for others. Students learn

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about the impact of their ventures on the economy and society. Entrepreneurial education fosters a mindset of continuous learning, adaptability, and a willingness to embrace new challenges.

**CONCLUSION**

Innovation in the teaching and learning process involves the thoughtful innovation of new and creative approaches to enhance educational experiences and outcomes for both educators and students. It encloses a wide range of strategies, technologies, methodologies and practices that aim to address the evolving needs of learners in a rapidly changing world. As education continues to adapt to modern challenges and opportunities, innovation becomes a crucial factor in ensuring that teaching and learning remain effective, engaging and relevant. By embracing innovation, educational institutions can unlock new avenues for knowledge propagation, skill enhancement and personal growth.

Innovation in teaching-learning can make academicians adapt to change, increase the engagement of students through various activities, and personalize learning which helps students strengthen their interest in their field. With the help of global reach learning or using ICT tools we can introduce online learning, virtual classrooms, digital collaboration tools to break down geographical barriers, allowing students and educators from around the world to connect and share knowledge.

The National Education Policy 2023 in India positions innovation as the driving force behind a dynamic and student-centric teaching-learning process. The transformative potential of NEP 2023, shaping the future of education in India with innovation as its cornerstone.

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**ARTIFICIAL INTELLIGENCE IS A COMPUTER BRANCH TO DEVELOP INTELLIGENT MACHINES****Dr Kalpana Rathod**

Associate Professor, PG Coordinator, Chemistry Department, Satish Pradhan Dnyanasadhana College, Thane

**ABSTRACT**

*Artificial intelligence is an important branch of computer science in the creation of intelligent machines. In today's the world, technology play an important role in the communication of people around the world. It is necessary to create such systems that can be installed for the benefit of users. It is also called field of learning, field of research, branch of learning and knowledge. Rapid technological advances highlight the importance of incorporating AI learning into the curriculum to ensure that all students are prepared for their future learning.*

*Keywords: Artificial intelligence, communication, and knowledge.*

**INTRODUCTION**

An academic discipline or academic field is a subdivision of knowledge that is taught and researched at the college or university level. Disciplines are defined (in part) and recognized by the academic journals in which the research is published and by the learned societies and academic departments or faculties within the colleges and universities to which their experts belong. Academic disciplines are conventionally divided into the humanities, including language, art, and cultural studies, and the sciences, such as physics, chemistry, and biology; the social sciences are sometimes considered a third category. Individuals associated with academic fields are commonly referred to as experts or specialists. Others, who may have studied the liberal arts or systems theory rather than focusing on a particular academic discipline, are classified as generalists.

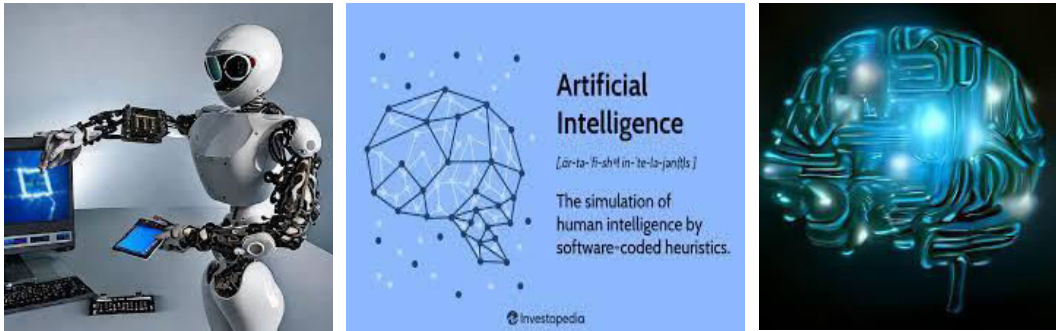
While academic disciplines are themselves focused in practices, scholarly approaches such as multidisciplinary, transdisciplinary and interdisciplinarity integrate aspects from multiple academic disciplines to address any problems that may arise from narrow concentration within specialized fields of study. For example, professionals may encounter communication problems across academic disciplines due to differences in language, specified concepts, or methodology.

In 1231, the University of Paris consisted of four faculties: theology, medicine, canon law and art. Educational institutions originally used the term "discipline" to catalog and archive the new and expanding body of information produced by the scientific community. Disciplinary designations originated in German universities at the beginning of the nineteenth century.

**MATERIALS AND METHODS**

As the twentieth century approached, these designations were gradually adopted by other countries and became recognized conventional objects. However, these designations differed from country to country. In the twentieth century, natural science disciplines included: physics, chemistry, biology, geology, and astronomy. Social science disciplines included: economics, politics, sociology, and psychology. Most academic disciplines have their roots in the secularization of universities in the mid-to-late nineteenth century, when traditional curricula were supplemented with non-classical languages and literatures, social sciences such as political science, economics, sociology and public administration, and the natural sciences. science and technology disciplines such as physics, chemistry, biology, and engineering.

Some researchers believe that academic disciplines may in the future be replaced by what is known as "post-academic science", which involves the acquisition of interdisciplinary knowledge through the collaboration of specialists from different academic disciplines. In the early twentieth century, new academic disciplines such as pedagogy and psychology were added. The 1970s and 1980s saw an explosion of new academic fields focused on specific topics, such as media studies, women's studies, and African studies. Many academic disciplines designed to prepare for careers and occupations such as nursing, hospitality management, and corrections have also emerged in universities. Finally, interdisciplinary scientific fields such as biochemistry and geophysics have gained importance as their contribution to knowledge has become widely recognized. Some new fields, such as public administration, can be found in more than one disciplinary setting; some public administration programs are associated with business schools (and thus emphasize the public administration aspect), while others are associated with the field of political science



Prior to the twentieth century, categories were broad and general, which was expected due to the lack of interest in science at the time. With rare exceptions, practitioners of science tended to be amateurs and were referred to as "natural historians" and "natural philosophers"—labels that date back to Aristotle—instead of "scientists." Natural history referred to what we now call life sciences and natural philosophy referred to the current physical sciences. The ability of smart applications to receive, store and process information and promote self-learning helps teachers consider differences between students, thereby improving study and good education. Artificial intelligence applications can retrieve, store and process information; They play a key role in creating and integrating student learning content, presenting research data in discussions, and helping to achieve clinical goals in line with girls' learning needs. AI offers many software programs ready for self-study or teacher training; this software can be used for discussion and communication, affecting the development of the entire educational process. Researchers have identified several ways machine learning is changing traditional science assessment and the needs it may have in the future (such as enabling personalized learning and changing educational decision-making). AI technology can revolutionize the measurement of science and change the future of education.

## CONCLUSION

Before the twentieth century, there were few opportunities for science as a profession outside the educational system. Higher education provided the institutional structure of scientific research as well as economic support for research and teaching. Soon, the volume of scientific information rapidly increased, and researchers realized the importance of focusing on smaller, narrower areas of scientific activity. Because of this narrowing, scientific specializations arose. As these specializations developed, so did modern scientific fields at universities. Ultimately, the identified fields of academia became the basis for scholars with specific specialized interests and expertise. As AI technology continues to advance, we expect to see further advancements in teaching math and science. One potential area of development is the use of artificial intelligence to enhance research and discovery. Also, artificial intelligence can help bridge the collaboration gap between different research fields and disciplines, allowing researchers to collaborate and share knowledge.

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**NEP 2020: SKILL DEVELOPMENT EDUCATION FOR SELFRELIABILITY OF COMMERCE GRADUATES****Dr. Smita R. Kuntay**

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**INTRODUCTION**

The University Grants Commission's (UGC) Learning Outcomes-based Curriculum Framework (LOCF) Committee submitted its recommendation on the curriculum of the B. Com. Programme to be implemented by Universities and Higher Education Institutions. The goal of the LOCF of Commerce Education is to help students enhance their abilities and become competent business executives who can contribute to nation-building. Commerce education is more than just knowing how to organize and apply skills related to business, trade, commerce, industry, and economy; it also pragmatically accelerates the process of thinking about nation-building and self-sufficiency through effective utilization of skills, resources, manpower, and one's abilities. One critical feature of LOCF is the development of a commerce graduate capable of meeting the present and future needs of industry and the economy. LOCF focuses on training competent individuals who can function as current and future industry and company leaders. The fundamental mission of LOCF is to cultivate an ideology that promotes a sustainable economic system and encourages eco-friendly fair business practices. There is a need to provide students with suitable skills and knowledge inputs that will enable them to work in a changing corporate environment.

**These are the highlights of the LOCF in B.Com.:**

- To prepare students psychologically to learn various courses/subjects in the realm of Commerce and Business.
- To assist students in gaining experiential learning in many domains of the Commerce discipline.
- To integrate courses from various domains such as Accounting, Management, Finance, Taxation, Law, Marketing, Human Resources, Economics, Statistics, Information & Communication Technologies, Entrepreneurship, and so on.
- To choose Commerce & management as a separate discipline with required academic understanding and practical exposure.
- To include a significant number of elective courses under Generic Elective (GE), Skill Enhancement Courses (SECs), and Discipline Specific Elective Courses (DSEs).

As a result, the suggested course structure includes a possibility for improving the employability of normal Commerce graduates.

Keeping in mind the objectives and learning outcomes specified in each course, great care has been made to provide practical activities for each unit in a course so that students obtain hands-on experience (learning by doing) in addition to textbook-based theoretical knowledge. Methods of conducting business research and project work has been presented as a discipline-specific course including the application of knowledge in exploring/analysing/solving real-life challenges.

Faculty members are encouraged to apply ICT-based teaching learning andragogy, as well as numerous interactive teaching and learning approaches such as case studies, simulation, role play, and so on, to improve student involvement and the teaching-learning process. It is also intended that for character development of students, holistic personality development, values and ethics should be a primary priority in the teaching-learning process so that they become excellent global citizens.

**Skills for Graduates in Commerce & Management Education: Disciplinary Knowledge:**

The capacity to execute thorough knowledge and comprehension of one or more business disciplines.

**Communication Skills:**

Ability to express long-standing unsolved difficulties in business and to demonstrate the relevance of trade as a precursor to numerous market developments since the dawn of civilisation.

**Critical Thinking:**

Ability to participate in reflective and independent thinking by grasping concepts in all areas of Commerce and Business, as well as the ability to assess the results and apply them to diverse problems in various branches of Commerce and Business.

**Problem-Solving Skills:**

Capability to deduce a business problem and apply classroom learning to offer a solution, abilities to analyse and synthesize data and derive inferences for a valid conclusion, and comprehension of solutions to problems originating in diverse management areas such as Finance, Marketing, Human Resources, and Taxation.

**Research Skills:**

Ability to search for, locate, extract, organize, assess, use, or present information related to a specific issue, as well as detect advancements in various sectors of Commerce and Business.

**Digital literacy & ICT Skills:**

Capability to explore, analyse, and utilise information for business goals utilizing various technological ICT tools (such as spreadsheets).

**Self-directed Learning:**

Capability to work independently on a variety of tasks and ensure a thorough understanding of all aspects of Commerce and Business.

**Moral and Ethical Awareness/Reasoning:**

Ability to detect unethical activity, falsification, and manipulation of facts, as well as ability to manage oneself and other social systems.

**Life-Long Learning:**

Self-paced and self-directed learning targeted at personal improvement and improving knowledge/skill development.

**REVIEW OF LITERATURE**

- According to Geddam (2022),<sup>4</sup> to develop a comprehensive understanding of NEP 2020 philosophy and ideology intended for national development, researchers examine the conceptual, socio-political, and philosophical (logical, values-based) objectives of India's educational policy from the pre-British, British, and post-Independent India periods. The analysis posits that key ideas of NEP 2020 are access, equity, quality, affordability, and accountability.
- Arun et al. (2022)<sup>2</sup> focused on how college students in India perceived NEP, 2020's challenges, such as curriculum overload, a lack of infrastructure and transportation options, a focus on regional languages, and a disparity in manpower and educational quality between rural and urban areas.
- Shukla et al. (2022)<sup>10</sup> studied the functions of a holistic approach and interdisciplinary education for student placement and orientation to the demands of stakeholders. Experts recommended for intensive career counselling at the institutional or university level to stabilize students' psychological and emotional wellness when they transit from high school to colleges or universities.
- Jain et al. (2021)<sup>6</sup> investigate Indians Perspective about the Status of National Education Policy 2020. It is clear that NEP 2020 provides a fresh start and new chance to Indian schools and international colleges. It also aids in increasing the participation of overseas colleges.
- Devi and Cheluvvaraju (2020)<sup>3</sup> investigate National Education Policy 2020's impact on management and commerce disciplines and on stakeholders in general. A comparative study between prior education policy and NEP 2020 identified the problems of prior education policy that were limiting the development of the Indian economy and prevented young people from achieving their dreams.
- Kalyani (2020)<sup>7</sup> investigates the National Education Policy 2020 and its implications for stakeholders. He attempted to gain a better grasp of National Education Policy 2020 and its potential future implications. The educational system's emphasis has switched from what the system wants students to study to what individuals want to learn based on their preferences and choices.

**OBJECTIVES OF THE STUDY**

- To study educators' and teachers' planning to use an interactive and comprehensive strategy for optimum skill development learning.



- To investigate the vision of higher education in organizing transdisciplinary activities to promote students' learning ability and self-reliance.

**Hypotheses of the Study**

**H01:** The learning outcomes of planned courses are more useful for learners to have experiential skill learning in many areas of commerce and management discipline.

**H02:** The capability of self-paced and self-directed learning targeted at enhancing knowledge/skill development and re-skilling in all sectors of commerce and management in order to become self-reliant.

**Research Methodology and Pedagogy for Teaching Learning Outcome**

The research was conducted utilizing both primary and secondary data. Structured questionnaires were used to collect primary data. While secondary material on the subject has been gathered through numerous papers, magazines, journals, and so on for an in-depth study with the aims in mind. Various statistical tools, such as mean percentage and standard deviation procedures software, were employed to test the hypothesis and analyse the data.

For the B. Com learning-based programs, the goal is to disseminate current information, develop students' ability to use ideas and information, and enable them to test those ideas and evidence.

Furthermore, the courses are intended to promote students' personal growth as well as their capacity to plan and manage their learning. To ensure that the required learning outcomes for each of the commerce courses are reached, innovative teaching methods and pedagogical tools must be implemented in place of traditional teaching strategies.

**Assessment Outcome Measurement Methods**

Summative assessments, which include case study analysis, internship report evaluation, report assessment, tests, quizzes, and some other marked classroom assignments, are used to assess student performance. Formative assessment refers to any approach by which pupils receive messages and instructive information on their respective performance to aid in improvement. It can be delivered verbally during working hours, in writing on assignments, through rubrics, and through emails. The level of learning outcome(s) for each course should be evaluated using a variety of direct and indirect methods based on the methodologies and assessment tools discussed above. It also comprises exams given in class.

**Table 1:** NEP 2020 Teaching Learning Outcome Assessment

Teaching Learning Outcome	Strongly disagree	Disagree	Agree	Strongly Agree	Total	Mean	SD
Disciplinary Knowledge	5	6	24	30	65	1.8051	1.5187
Communication Skills	7	3	30	25	65	1.8805	1.5856
Critical Thinking	9	8	25	23	65	2.0467	1.7888
Problem-Solving	6	7	26	26	65	1.8987	1.6084
Research-Related Skills	4	6	22	33	65	1.7220	1.4288
Information and Communication Technology (ICT) Digital Literacy	3	9	30	23	65	1.8857	1.5306
Self-directed Learning	5	13	30	17	65	2.0987	1.7477
Moral and Ethical Awareness/ Reasoning	13	8	20	24	65	2.1376	1.9191
Lifelong Learning	14	16	24	11	65	2.5246	2.2062

**Source: (Authors Computed)**

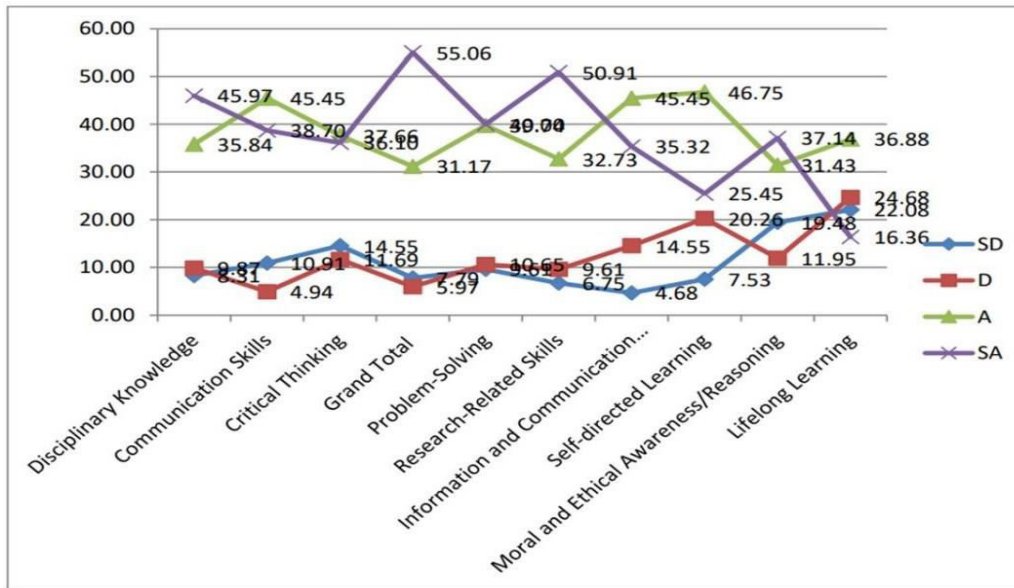


Figure 1: NEP 2020 Teaching Learning Outcome Assessment

Source: Authors (Self Computed)

From the above Table:1 and Figure:1, it is stated that NEP 2020 Teaching Learning Outcome Assessment responses received from the respondent who is a student of B.Com. out of that 34 students are boys while 31 students are girls. The first question was on disciplinary knowledge 30 strongly agree while 24 agree while 5 strongly disagree and 6 disagreed with this objective. The mean value is 1.8051 and the standard deviation is 1.5187. The second question was on communication skills 30 agree while 25 strongly agree while 7 strongly disagree and 3 disagreed with these objectives. The mean value is 1.8805 and the standard deviation is 1.5856. The third question was on critical thinking 25 is agreed while 23 strongly agree while 9 strongly disagree and 8 disagreed with this objective. The mean value is 2.0467 and the standard deviation is 1.7888. The fourth question was based on problem-solving, strongly agree and agree, both are 26 while 7 disagree and 6 strongly disagree with this objective. The mean value is 1.8987 and the standard deviation is 1.6084. The fifth question was based on research-related skill, 33 strongly agree while 22 agree while 6 disagree and 4 strongly disagree with this objective. The mean value is 1.7220 and the standard deviation is 1.4288. The sixth question was based on Information and Communication Technology (ICT) Digital Literacy, 30 agree while 23 strongly agree while 9 disagree and 3 strongly disagree with this objective. The mean value is 1.8857 and the standard deviation is 1.5306. The seventh question was based on Self-directed Learning, 30 agree while 17 strongly agree while 13 disagree and 5 strongly disagree with this objective. The mean value is 2.0987 and the standard deviation is 1.7477. The second last question was based on Moral and Ethical Awareness/Reasoning, 24 strongly agree while 20 agree while 13 strongly disagree and 8 disagreed with these objectives. The mean value is 2.1376 and the standard deviation is 1.9191. The final and last question was based on Lifelong Learning, 24 agree while 11 strongly agree while 16 disagree and 14 strongly disagree with this objective. The mean value is 2.5246 and the standard deviation is 2.2062. It shows that NEP 2020 teaching learning outcomes are very useful for graduate students. In the future, it will be a landmark change in higher education.



**Figure 2:** Program Outcomes

### **Core (C) Courses**

In core courses, all the subjects are there for program outcomes number (as mentioned in Chart 1) 2, 4, 5, 6, 7, 9, 10, 12, 15, 16, 17, 18, 19 and 20.

### **Generic Elective (GE) Courses**

In generic elective courses, all the subjects are there for program outcomes number (as mentioned in Chart 1) 2, 4, 5, 6, 7, 10, 12, 15, 17, 18, 19 and 20.

### **Discipline Specific (DSE1) Courses (A)**

In Discipline Specific Courses (A), all the subjects are there for program outcomes number (as mentioned in Chart 1) 2, 7, 10 and 12.

### **Discipline Specific (DSE3) Courses (B)**

In Discipline Specific Courses (B), all the subjects are there for program outcomes number (as mentioned in Chart 1) 2, 4, 6, 7, 9, 10 and 12.

### **Skills Enhancement (SEC1) Courses**

In skills enhancement courses, all the subjects are there for program outcomes number (as mentioned in Chart 1) 2, 4, 5, 6, 7, 9, 10, 12, 15, 16, 17, 18, 19 and 20.

## **SUGGESTIONS**

### **1. Outcome-Based Education & CBCS**

- Implement outcome-based education at the graduate level.
- Incorporate a choice-based credit system (CBCS).
- Define Program Educational Objectives (PEOs), Program Objectives (POs), and Course Objectives (COs).
- Evaluate student progress based on their achievement in these areas.

**2. Comprehensive Curriculum Structure**

- Design a CBCS Curriculum with Core Subjects, Electives (including Open Electives), Specialization Electives, and Internships.
- Encourage a balance between theory and practical knowledge.
- Introduce students to relevant tools and software programs.

**3. Diverse Electives and Problem-Based Learning**

- Offer diverse open elective courses to broaden students' knowledge.
- Promote a comprehensive education with key topics from various functional areas.
- Incorporate problem-based learning to enhance understanding of business and commerce concepts.

**4. Integration of MOOCs**

- Integrate Massive Open Online Courses (MOOCs) into the curriculum.
- Supplement traditional classroom instruction.
- Enable students to learn from professionals across institutions.
- Government support for course design and availability on online platforms.

**5. Industry-Driven Curriculum Development**

- Allow undergraduates to major in specializations like Accounting, Financial Markets, Marketing, and more.
- Offer international accounting certifications (e.g., ACCA, CIMA) within the curriculum.
- Involve industry partners in curriculum conceptualization and development.
- Provide industry-specific training to professors.

**6. Interdisciplinary Approach and Practical Application**

- Promote an interdisciplinary approach to commerce and management education.
- Encourage practical application of theoretical principles.
- Facilitate industrial internships to familiarize students with real-world operations.
- Enhance academic flexibility with credit transfers between institutions.

**7. Holistic Education and Exposure to International Business**

- Foster holistic education by exposing students to diverse educational backgrounds.
- Incorporate field-based projects and professional skills courses.
- Collaborate with student organizations like AIESEC and AIESTE for international business exposure.
- Implement bridging courses on societal issues and corporate challenges.

**CONCLUSION**

With the NEP 2020 in mind, commerce, management, and other discipline education may require continuing curriculum revision and revamping to promote each person's creative potential and generate new opportunities for professional progress based on altering industrial and societal needs. The role of ICT is more significant in the growth of classroom teaching among students. So that students can experience the futuristic educational environment system. To reflect evolving stakeholder expectations and guarantee that the curriculum meets current educational policy criteria, the curriculum must be reviewed on a regular basis by curriculum conclaves comprised of a variety of stakeholders. To summarize, the NEP 2020 vision for higher education is to organize multidisciplinary activities that promote students' learning ability and self-reliance.

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**A STUDY ON ADOPTION AND EXECUTION OF NATIONAL EDUCATION POLICY (NEP) 2020 PERCEIVED BY PROFESSORS OF MUMBAI AND THANE REGIONS****Mrugaya S. Gaikwad<sup>1</sup>, Ms. Prachi K. Waghmare<sup>2</sup>, Dr. Manoj S. Wagh<sup>3</sup> and Pravin K. Tiwad<sup>4</sup>**<sup>1,4</sup>Assistant Professor, Satish Pradhan Dnyanasadhana College, Thane (Arts, Science and Commerce)**ABSTRACT**

*The National Education Policy (NEP) 2020 is a comprehensive framework for the development of education in India. It was approved by the Government of India in July 2020 and aims to bring about significant reforms and improvements in the education system from the school level to higher education. This research focuses on Adoption and Execution of National Education Policy (NEP) 2020 Perceived by Professors of Mumbai and Thane Regions. The research highlight Professor's awareness regarding the NEP 2020, its perceived impact on teaching and assessment, their openness to change, to identify challenges and opportunities in the execution of NEP 2020. The researcher used the primary and secondary data collection methods. In Primary the structured open ended and close ended questions were formed to address the objectives of research. In total 19 samples responded. The professors believe that NEP 2020 has scope for their professional growth and development. They seek support from the management in terms of proper training, infrastructural facilities, motivation & recognition, job clarity, etc. However, the research summed up with suggestions that Training, or workshop can be arranged, Guidelines should be shared, Reduce corruption in education, recruitment of permanent staff, etc.*

*Keywords: Reforms, Adoption, Execution, NEP, Perceived, awareness, teaching, assessment, openness to change, challenges and opportunities, structured, infrastructural, motivation & recognition, job clarity, recruitment, Training, Corruption.*

**INTRODUCTION**

The National Education Policy (NEP) 2020 is a comprehensive framework for the development of education in India. It was approved by the Government of India in July 2020 and aims to bring about significant reforms and improvements in the education system from the school level to higher education.

The implementation and perception of the NEP 2020 among professors in Mumbai and Thane regions, as in any other region, could be influenced by several factors which are mentioned below:

**Awareness:** Professors' perceptions may be influenced by their level of awareness and understanding of the NEP 2020. Those who are well-informed about its provisions and goals may have a more nuanced perspective.

**Institutional Context:** The extent to which individual educational institutions and universities in Mumbai and Thane have adopted and implemented the NEP 2020 may vary. Professors' experiences could be shaped by the policies and practices within their own institutions.

**Curriculum Changes:** The NEP 2020 emphasizes changes in curriculum design and pedagogical methods. Professors might have varying views on the implications of these changes for their teaching and research.

**Autonomy and Flexibility:** The policy promotes greater autonomy for educational institutions. Professors may have differing opinions on the extent of autonomy granted and the impact on academic freedom.

**Access and Equity:** The NEP 2020 places a strong emphasis on access, equity, and inclusion in education. Professors may evaluate the effectiveness of these provisions in their region.

**Teacher Training and Development:** The policy highlights the need for teacher training and professional development. Professors may have experienced or observed changes in this regard.

**Assessment and Evaluation:** Changes in assessment and evaluation methods are proposed in the NEP 2020. Professors' perceptions may be shaped by how these changes are implemented and their impact on students.

**Infrastructure and Resources:** Implementation of the NEP 2020 may require investment in infrastructure and resources. Professors might consider the availability of these resources in their institutions.

**SCOPE OF STUDY**

The success and implementation of the NEP 2020 can vary from region to region and it also depends on various factors, including the readiness of educational institutions, infrastructure, and the perception of teachers.

The adoption of NEP 2020 is highly impacted by teachers' perspectives in Mumbai and Thane, two dynamic cities with diverse educational environments.

**OBJECTIVES OF STUDY**

1. To assess the awareness among professors regarding the NEP 2020.
2. To understand the perceived impact of NEP 2020 on teaching and assessment.
3. To find out the Professors flexibility. (Learning new skills, Pedagogy, Change, Approach, etc)
4. To identify challenges and opportunities in the execution of NEP 2020.

**LIMITATIONS OF STUDY**

1. NEP 2020 is wide in nature requires lot of time to study and understand its applicability.
2. There may be respondents bias or fear to express their frank opinion. Therefore, researchers have lacks access to real information.

**REVIEW OF LITERATURE**

**(Dr. Jyoti Singh, etal. 2003)** The authors researched the teacher's psychology towards adoption of National education policy in Management Institutes. The researchers adopted cross-sectional method and the study was quantitative in nature. The data was collected through online questionnaire. It reveals some positive perceptions as well as some challenges.

**(Pawan Kalyani, 2020)** The study concluded that there was need for a change in education system after 34 years of education. It also analysed the effects of NEP, 2020 on all stake holders by asking series of questions though social media.

**(Ansari, I., & Haider, A. 2022)** The author studied the Teacher Educators 'perception About Implementation of Nep-2020 In Teacher Training Institutions. Dr. Imran Ansari, The data was collected from teacher educator with help of questionnaire (open ended and closed ended). The data was analysed both qualitative and quantitative method. The author conclude that teacher role is very important in NEP implementation, the NEP 2020 is a new reform and teachers required proper training to understand new subjects, content, skill for betterment of their students.

**(Pranesh Debnath 2022)** This study seeks to provide an overview of the current state of the online education system during the COVID-19 pandemic as perceived by instructors in higher education institutions. Additionally, it aims to investigate their opinions regarding the effective implementation of the National Education Policy (NEP) - 2020. The study relies on primary data obtained through a structured questionnaire. Despite the challenges posed by the pandemic, educators express a positive outlook regarding the online education system's role in aligning with the objectives of NEP-2020. Furthermore, the majority of survey respondents express support for various aspects of the policy, such as flexibility in subject selection, the promotion of education in regional languages, adopting a multidisciplinary approach, proposed changes in the school system, and the incorporation of online education as part of these reforms.

**(Ambuj Sharma, etal. 2021)** The primary aim of this study was to investigate the attitudes of university instructors towards the inclusion of students with disabilities in both public and private universities across India. The research explored how various factors such as age, gender, educational background, years of teaching experience, and the frequency of interactions with individuals with disabilities influenced instructors' perspectives on the inclusion of students with disabilities within academic institutions. The findings of this research indicate that inclusive educational approaches have a substantial positive impact on the academic and social outcomes of students with disabilities. The study also suggests the need for further research in this area to better understand and promote inclusive practices within academic institutions. Data for this study were collected using a digital questionnaire distributed to faculty members in both public and private universities located in Pune, India. The study's target population consisted of full-time university teachers across undergraduate, postgraduate, and doctoral programs in Pune. A total of 309 university instructors participated in the survey. The research employed descriptive statistics, independent sample t-tests, and ANOVA to analyse the collected data.

**(Ritimoni Bordoloi, 2021)** studied the perception towards online/blended learning at the time of Covid-19 pandemic. In the context of 21st-century India, blended learning stands out as a potential solution for delivering education. Unlike traditional education, open education has expanded the horizons of learning, embracing the principle of "Bring your own device" for the purpose of education.



**DOCUMENT**

**National Education Policy (NEP) 2020 Overview:** The Indian government has published a comprehensive policy statement called the National Education Policy 2020 with the goal of updating and transforming the nation's educational system. It establishes a vision for the future of education in India and is a key turning point for the field of education.

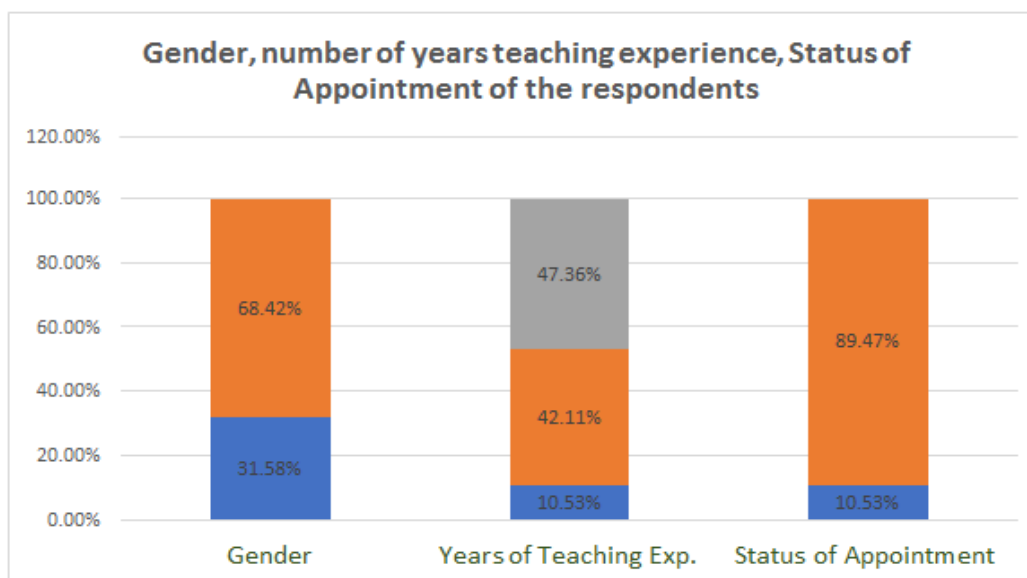
**RESEARCH METHODOLOGY**

Type of Research Method	Basic Research
Research Universe	Professors of Degree College, Thane Region
Sampling Method	Convenience Sampling non-probability methods were used.
Research Area	Mumbai, Thane Region
Sample Size	19
Method of data collection	Primary and Secondary
Primary Data collection Methods	Structured open ended and close ended questionnaire was designed & circulated through google forms. Interview methods was also used.
Secondary Data Collection Methods	Books, Research Papers, Magazines, Websites, Newspapers articles and social media sited such as Facebook, Instagram, What's app.
Data Analysis Techniques	To analysis and interpret the data percentage and graphs are used.

**Data Analysis & Interpretation**

**1. Gender, number of years teaching experience, Status of Appointment**

Gender		Number of Teaching Experience			Status of Appointment	
Male	Female	0 to 5 years	5 to 10 years	Above 10 years	Permanent	Temporary
06	13	02	08	09	02	17



**Interpretation:** From the above graph, it is clear that out of total respondents (i.e.19) 68.42% were female professors and 31.58% were male professors.

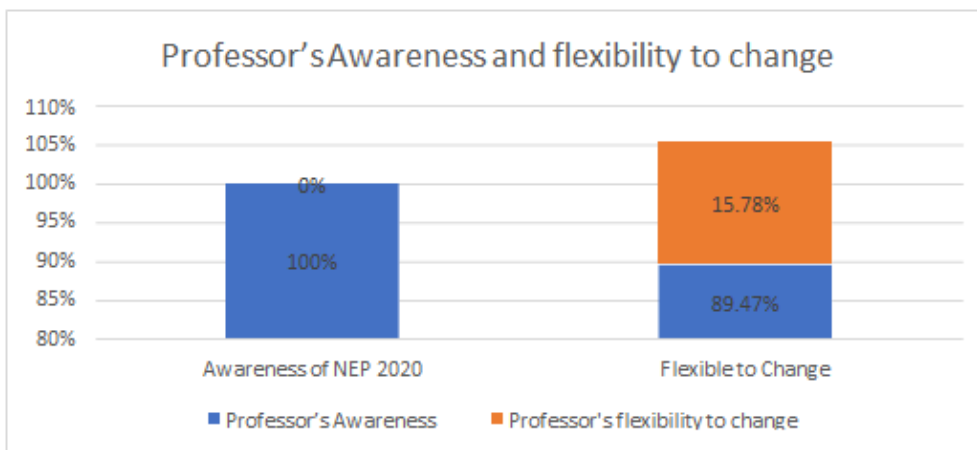
10.53% has the experienced of 0 to 5 years, 42.11% has the experience of 5to 10 years and 47.36 % has the experience of above 10 years.



10.53 % professors are permanent faculties and 89.47% are working temporary in nature.

**2. Professor’s Awareness and flexibility to change.**

Awareness of NEP 2020		Flexible to Change	
Yes	NO	Yes	NO
17	00	17	03



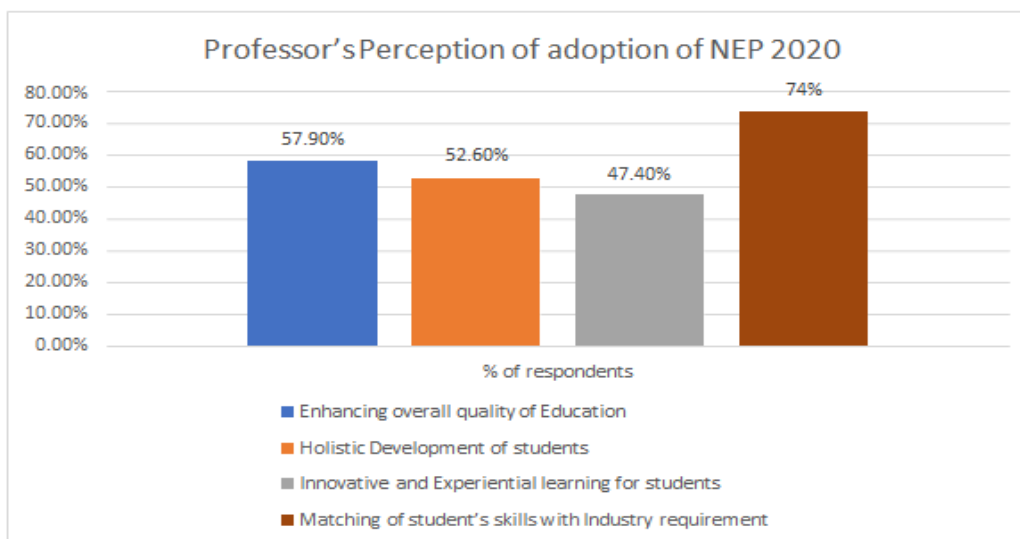
**Interpretation:** All the respondents are aware about NEP2020, However, 89.47 % are open to change and upgrade themselves & 15.78% were resisting the change.

**3. Status of your college and status of NAAC accreditation of your institute.**

Status of your college			Status of NAAC Accreditation		
Affiliated to University of Mumbai	Autonomous	Others	Yes	No	Not yet eligible for NAAC
19	0	0	14	4	1

**4. Professor’s Perception of adoption of NEP 2020**

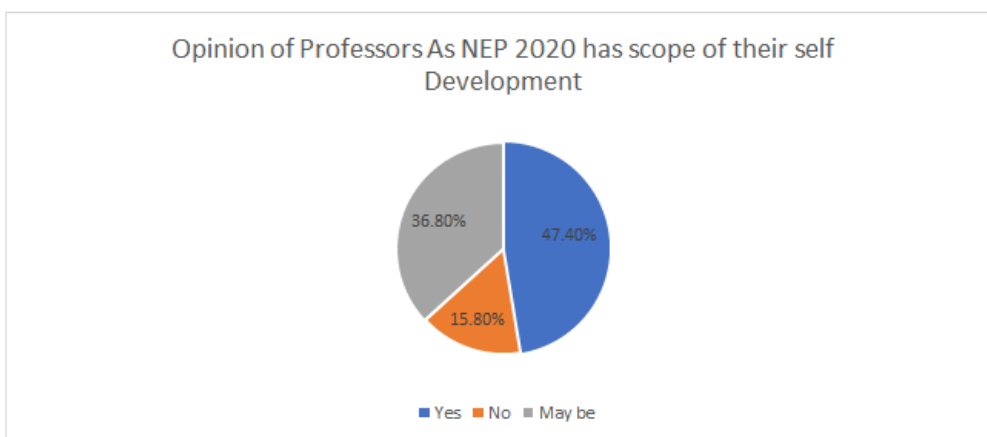
Professor’s Perception	Enhancing overall quality of Education	Holistic Development of students	Innovative and Experiential learning for students	Matching of student’s skills with Industry requirement
No.of respondents	11	10	9	14
% of respondents	57.9%	52.6%	47.4%	73.7%



**Interpretation:** According to 74% professors NEP2020 is an effort to match student’s skills and industry requirements, 57.90% will enhance the overall quality of education, 52.60% it will lead to holistic development of students and 47.40% it will provide innovative and experiential learning for students.

**5. Opinion of professors as NEP 2020 has scope for their professional growth and development.**

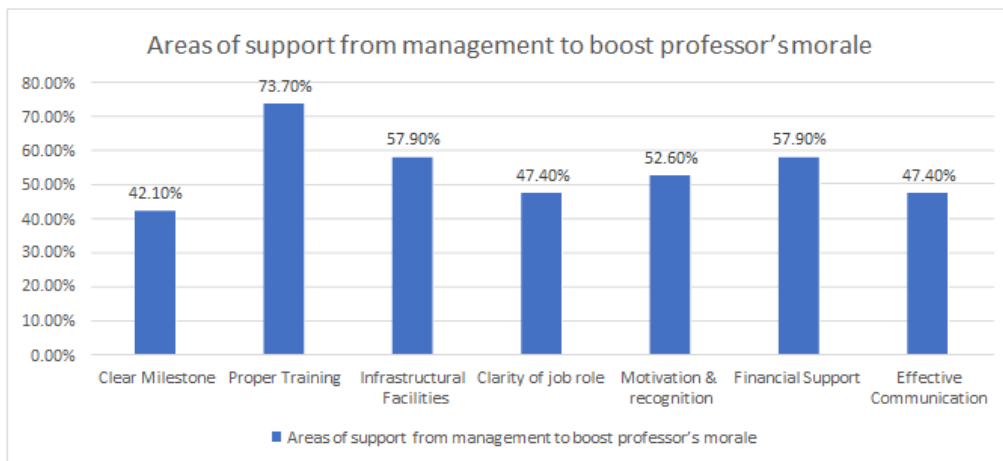
Opinion of Professors	Yes	No	May be
% of respondents	47.4%	15.8%	36.8%



**Interpretation:** According to respondents 47.4% feel that NEP 2020 will create the ways for their professional growth and development. However, 36.8% are unsure about it.

**6. Areas of support from management to boost professor’s morale.**

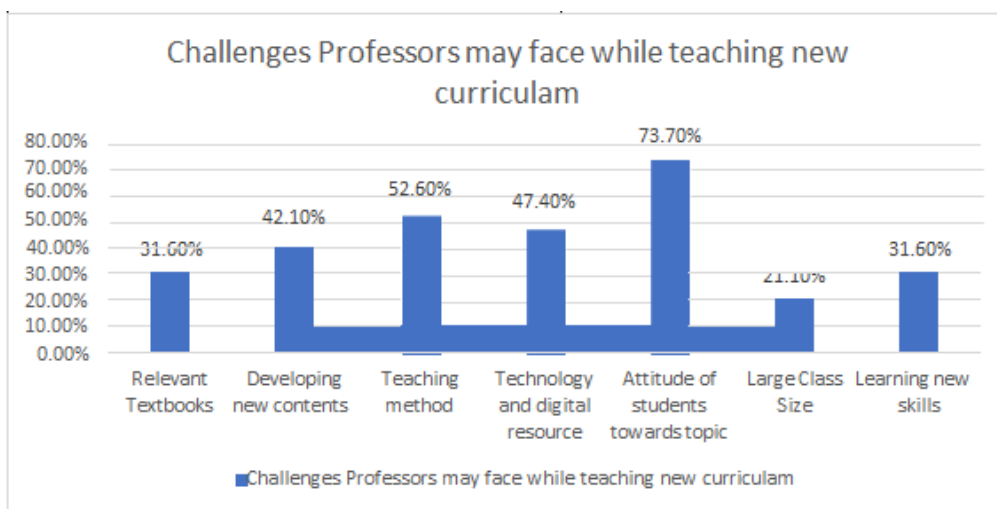
Support	% of respondents
Clear Milestone	42.1%
Proper Training	73.7%
Infrastructural Facilities	57.9%
Clarity of job role	47.4%
Motivation & recognition	52.6%
Financial Support	57.9%
Effective Communication	47.4%



**Interpretation:** Majority of professors requires proper training, infrastructural facilities, motivation & recognition, job clarity, objectives to be achieved, etc support from the management.

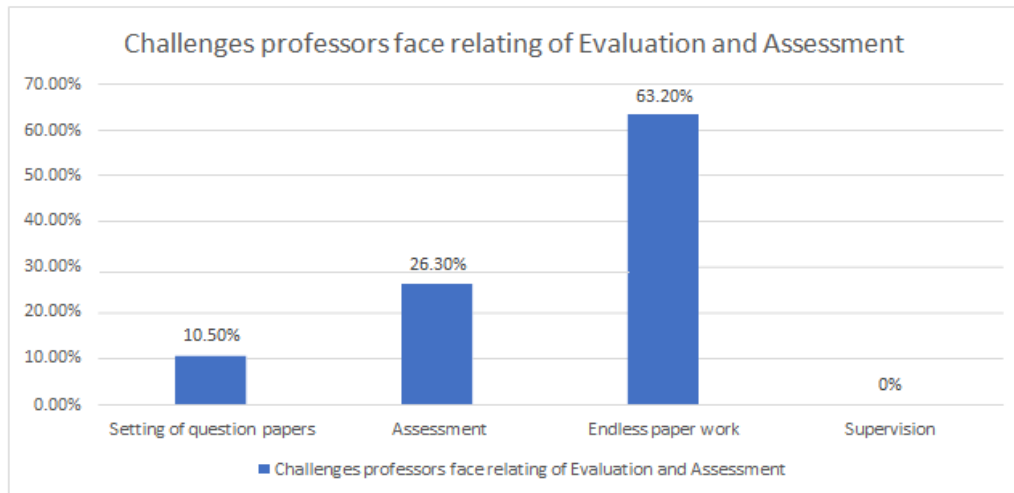
**7. Challenges Professors may face while teaching new curriculam.**

Challenge	% of respondents
Relevant Textbooks	31.6%
Developing new contents	42.1%
Teaching method	52.6%
Technology and digital resource	47.4%
Attitude of students towards topic	73.7%
Large Class Size	21.1%
Learning new skills	31.6%



**8. Challenges professors face relating of Evaluation and Assessment.**

Challenge	% of respondents
Setting of question papers	10.5%
Assessment	26.3%
Endless paper work	63.2%
Supervision	0%



## FINDINGS

Among the total respondents, which numbered 19, 68.42% were female professors while 31.58% were male professors. In terms of teaching experience, 10.53% had 0 to 5 years, 42.11% had 5 to 10 years, and 47.36% had over 10 years of experience. Additionally, 10.53% of the professors held permanent positions, while the remaining 89.47% worked in temporary roles. It's worth noting that all the respondents were aware of NEP2020, with 89.47% being open to embracing and upgrading themselves, while 15.78% were resistant to change.

According to 74% of the professors, NEP2020 was viewed as an initiative aimed at aligning students' skills with industry requirements. Furthermore, 57.90% believed it would enhance the overall quality of education, 52.60% thought it would lead to the holistic development of students, and 47.40% expected it to provide innovative and experiential learning opportunities for students. In the eyes of the respondents, 47.4% believed that NEP 2020 would pave the way for their professional growth and development, although 36.8% remained uncertain.

The majority of professors expressed the need support from the management in the form of proper training, improved infrastructural facilities, motivation, recognition, job clarity, and clear objectives to be achieved.

## CONCLUSION

This research has access to specific information from individual professors and provides real time and personalised data. Many professors have praised the NEP 2020 for its focused on holistic and multidisciplinary education, skill development, vocational education, experiential learning and aims to make students more employable. They believe it is step after 34 years of change in education pattern from rote learning towards promoting critical thinking.

However, it has also been seen from the data that professors also have concerns and criticisms about its implementation like lack of clear roadmap, centralization of education policy making, the three-language formula is also matter of concern, etc.

Also, using digital device and access to quality education particularly in rural areas.

Teachers of Mumbai and Thane regions have the mixed perception about the implementation and success of NEP 2020. Whereas, some has positive perceptions and others has concerns about its implementation.

## SUGGESTIONS AND RECOMMENDATIONS

It is important to implement the NEP 2020 involves collaboration between the central government, state governments, and educational institutions.

Colleges and universities may need to adapt and align their practices with the policy's principles and guidelines to improve the quality of education and provide students with a more holistic and flexible learning experience.

- i. Awareness and Training/workshops/Seminars for Educators should be taken into consideration at all levels of institution.
- ii. Guidelines should be shared to teachers before commencement of new academic year Training
- iii. Workshops and seminars should be conducted for implementation.

**SUGGESTIONS TO OUR EDUCATIONAL SYSTEM**

- 1) Reduce corruption in education there is lot of corruption in education system
- 2) Hier permanent staff especially teaching staff through proper channel without corruption
- 3) Provide proper help desk to Stop exploitation of teachers by educational institutions

**SCOPE OF FUTURE RESEARCH**

1. To study Opportunities, Challenges and Issues for India's NEP 2020 as seen by professors.
2. To investigate the proposed impact of the National Education Policy (NEP) 2020 on the enhancement of students' emotional intelligence.
3. Learning with light in NEP 2020: Teachers' Perceptions of Blended Learning in the Changing Dynamics of Teaching

**CITATION IN APA STYLE**

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**DOCUMENT**

National Education Policy 2020 (pdf)

**WEBSITES**

- View of Teachers' Psychology Towards the Adoption of National Education Policy (NEP) 2020 - With Reference to Management Institutes (jrtd.com)
- Microsoft Word - JMEIT\_Vol\_7\_Issue\_5\_OCT\_2020 (researchgate.net)
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Teacher's Perception in adoption and execution of NEP 2020   Last edit was made 2 hours ago by Mrugaya Gaikwad

Questions Responses **19** Settings

### A Study on Adoption and Execution of National Education Policy (NEP) 2020 Perceived by Professors of Mumbai and Thane regions.

Please share your views NEP 2020.

1. Gender \*

Male

Female

Prefer not to say

2. Area \*

Mumbai

Thane

3. E-mail ID \*

Short answer text

4. Number of Teaching Experience \*

Short answer text

Teacher's Perception in adoption and execution of NEP 2020   Last edit was made 2 hours ago by Mrugaya Gaikwad

Questions Responses **19** Settings

5. Status of Your College \*

Affiliated to University of Mumbai

Autonomous

Others

6. Is your institute is NAAC Accredited? \*

Yes

NO

Yet Not Eligible for NAAC

7. Status of your Appointment. \*

Permanent

Temporary



8. How do you perceive adoption of NEP 2020? \*

Enhancing overall quality of education

Holistic Development of students

Innovative and Experiential learning for studnets

Matching of students skills with Industry requirement

Teacher's Perception in adoption and execution of NEP 2020   Last edit was made 2 hours ago by Mrugaya Galikwad

Questions Responses **10** Settings

8. How do you perceive adoption of NEP 2020? \*



- Enhancing overall quality of education
- Holistic Development of students
- Innovative and Experiential learning for students
- Matching of students skills with Industry requirement

9. Do you feel NEP 2020 will bring the opportunity for professional growth and development of professors? \*

- Yes
- No
- Maybe

10. Support boosts your morale for smooth implementation of NEP 2020. \*

- Clear Milestone
- Proper Training (eg Subject, Pedagogy,etc.)
- Infrastructural Facilities
- Clarity of Job Role
- Motivation & Recognition
- Financial Support

Teacher's Perception in adoption and execution of NEP 2020   Last edit was made 2 hours ago by Mrugaya Galikwad

Questions Responses **10** Settings

11. Select the challenge you may face while teaching new curriculum. \*

- Relevance of textbooks
- Developing Content
- Teaching Material
- Technology and Digital resource
- Attitude of students towards topic
- Large class size
- Learning New Skills

12. Challenges relating of Evaluation and Assessment. \*

- Setting of Question papers
- Assessment
- Endless Paper work
- Supervision

13. Suggestions for smooth implementation of NEP. \*

Long answer text

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**A REVIEW OF RECOMMENDATIONS AND CHALLENGES OF TEACHER EDUCATION IN THE LIGHT OF NEP 2020****Prof. (Dr.) Vinay Bhole**

Professor and Former Principal, Model College Autonomous, Dombivli

**ABSTRACT**

*A review of recommendations and challenges of teacher education in the light of NEP 2020 has become talk of the town for the teachers across the nation. On 29<sup>th</sup> July, 2020 Union Cabinet of India with a great majority approved National Education Policy 2020 popularly known as, 'NEP 2020'.*

*For the review and study of the existing education system in 2014 a committee was formed by the Ministry of Human Resource Development (MHRD). The former Chairman of ISRO Dr. Kasturirangan was the chairman of the said committee. He and his team defined the pathway of India's New Education System with the name 'National Education Policy'. The NEP is focused on basic challenges in current education system such as accountability, access, equity, affordability and quality.*

*Before the policy was finalized recommendations, suggestions and opinions given by all the stakeholders were taken into account. The basic draft of the policy is sub-divided into four segments. These segments are school education, higher education and crucial area of focus and implementation. The researcher in this research paper has attempted to focus on teachers' education. This has been considered by the NEP 2020 under higher education. Researcher here wants to review the recommendations and challenges of NEP 2020 regarding teachers' education.*

*The present research study is of qualitative in nature. The secondary data is collected from educational journals, reports, print media and Govt. websites. The research study finally ends with the concluding remarks that, NEP 2020 consists of an important element of teacher education. Implementation of NEP 2020 will certainly enhance quality of teacher education. It will be able to raise the standard of Indian education to the level of world class education. The paper also studies new openings, suggestions and recommendations.*

*Keywords: Education Policy, National Education Policy – NEP 2020, Teachers' Education, Opportunities and Challenges.*

**INTRODUCTION**

Indian education from ancient times was the center of attraction at Universal level. Hiuen Tsang has written about the same. Nalanda, Takshashila and many more were the world famous universities. India in those days became destination for the students all over the world. For centuries Indian education has offered a large number of choices in ayurved, philosophy, art, culture, construction, navigation, literature and so on. India was considered as 'Land of Learning'. But after the arrival of Shakas, Kushans, Hoons, Mughals and Britishers the basic education remained the same. The pattern once accepted before centuries was not updated at all as per the changes in the outside world. In the beginning of 19<sup>th</sup> Century Lord Macaulay's minutes had deep rooted impact on Indian education, but it was not positive in nature. In each and every stage of development in education the aspect of quality was given due importance. The idea was to provide quality education to Indian learners.

In the process of development in education, the National Policy on education 1968 and the further reforms in 1986 and 1992 efforts were made to make Indian education professional and aligned with current scenario.

After a long time gap Govt. of India introduced third education policy i.e. National Education Policy 2020 (NEP2020) on 29<sup>th</sup> July, 2020. This policy emphasizes on comprehensive view of Indian education system. It takes into account pre-primary to higher education in consideration. Govt. of India has target year i.e. 2030 to completely implement recommendations of the policy.

The fundamental idea is to provide quality education to all the aspirants across the nation. It also aim at to make Indian education as a world class education.

NEP 2020 intends to transform all Teachers' Education Institutes (TEIs) into integrated ITEs i.e. Institutions of Teacher Education. The target for the above transformation is 2030. To achieve this goal a complete planning project for teacher education is developed. According to this project, colleges and universities dedicated to ITE will plan their work accordingly.

Teachers give direction to their students and directly as well as indirectly contribute to the development of society. Teaching is an important social and educational drive inside and outside the school. Teachers bring



changes in the society, therefore, teachers play the role of reformers. The quality of education depends upon ability of teachers. The quality of teachers depend upon teachers' education programme. Teaching is an art. The quality of teachers depend upon inborn talent. It can be nurtured through training. It requires attitude, knowledge, ability, morality, willingness, infrastructure and finally planning. Therefore, all govt. policies give stress on teachers' education.

All the draft policies, recommendations, suggestions, views, opinions about education policy do contain element of teacher education. To enrich the depth of the policy the idea of 'Teacher Training' is replaced by 'Teacher Education'. The term 'Training' has its own limitations, however, the term 'Education' is exhaustive and all-pervasive. The concept of teachers' education has become a worldwide term. As per the recommendations given by NEP 2020, the central and state govt. will come together to enhance the quality of education. It will certainly bring development, involvement and upliftment in teacher education. Thus, NEP 2020 is the pathway to bring all round development in teacher education.

**OBJECTIVES OF THE STUDY:**

1. To provide formative suggestions on teacher education.
2. To analyse, study and discuss challenges of teacher education in NEP 2020.
3. To study the role of the teachers in the light of NEP 2020.
4. To review the recommendations of NEP 2020 regarding teachers' education.

**RESEARCH QUESTIONS OF THE STUDY:**

1. What are the fundamental recommendations of NEP 2020 regarding teacher education?
2. According to NEP 2020 what is the role of teachers?
3. What are the challenges of teacher education according to NEP 2020?
4. What are the general suggestions for the actual implementation of NEP 2020?

**RESEARCH METHODOLOGY**

The present study is based on secondary data. It is purely a documentary research. It is theoretical in nature. The researcher has used the method of content analysis. The entire research work is based on documentary evidence provided by MHRD. It also covers evidences like govt. websites, e-books, research journals, research articles, websites, conference proceedings and published data.

**Analysis of NEP as per its Objectives:** The analysis of NEP as per its objectives can be done as follows:

**1. NEP 2020 recommendations for Teacher Education:** The following are the recommendations of NEP 2020 on teacher education:

- a) Teacher education is a significant core area of entire education system.
- b) Teacher education is a pool of teachers teaching at school level that can certainly shape future generations.
- c) Teacher education gives importance to tribal traditions, values, languages, ethos, culture, spirituality, ethics and humanity.
- d) Teacher education has given utmost importance to multidisciplinary approach.
- e) Improvement in quality of teacher education.
- f) Measures required to stop and restrict commercialization of education in the area of teacher education.
- g) Emphasis to be given on SWAYAM / DIKSHA platforms to support in service teacher education.
- h) To support in service continuous professional development of teachers teaching at College and University level.
- i) All Ph.D. candidates will have to take credit based courses in teaching.
- j) Ph.D. students will have to undertake such courses (above mentioned) during their doctoral training period.
- k) The HEI's who provide 4 year integrated B.Ed. program for the students and have completed bachelor's degree in a specialized subject.
- l) Those who have received 4 year undergraduate degree can join one year B.Ed. program.

- m) For the faculties teaching at Dept. of Education, research experience will be valued at a higher rank.
- n) Teacher education is based on multidisciplinary contents. Therefore, all teachers' education programs to be conducted by multidisciplinary institutions.
- o) To increase and maintain quality of education entrance exams for the admission of students are to be introduced for teacher education.
- p) While implementing the NEP 2020 educational institutions have to improve infrastructure.
- q) By 2030 the 4 year B.Ed. program to become minimum qualification required for school teachers.
- r) Integrated teacher training to be given due importance and emphasis.

The general study and analysis indicates that, all the recommendations given in NEP 2020 on teacher education will certainly help to enrich quality of teacher education. Multidisciplinary approach will be introduced in all HEIs. This approach will definitely help teachers' education. This will surely open new opportunities in the segment of teacher education. This type of education will help to inculcate Indian values and culture. Special stress must be given on research and publication in the area of teacher education. Rather teacher education has to be linked with the process of nation building.

TEIs i.e. Teacher Education Institutions will have to maintain faculty profile of such HEIs. These elements of such profile must maintain experienced, expert research faculty with diversity, multi-disciplinary ability, competent nature. All the recommendations in the NEP 2020 on Teacher Education will certainly support the quality of teacher education.

**2. Role of Teachers as per NEP 2020:** Teacher is the most important factor in the education system. The modern education has become student centric, however, earlier it was teacher centric. The position of a teacher is always irreplaceable. The entire process of teaching and learning have undergone drastic changes. The effectiveness of teaching and learning depends upon skill of a teacher. The teacher always encourages and motivates students to make progress in life. The NEP 2020 has following expectations from teachers:

- a) **Progressive Nature & Attitude:** Society does not remain static. It changes every now and then. With the changes in society a teacher has to change his / her mindset and always try to keep it progressive. The changes in the society, human ideology and at the national and international level at large are to be coped up by the teachers.
- b) **Passionate & Motivated:** To develop and nurture required interest in education, students need to be motivated in an appropriate manner. To make teaching and the subject itself more interesting and understandable a teacher can motivate the students while teaching a topic. The inspiration given by a teacher can ignite the flame of urge for education and interest in understanding the topic.
- c) **Research Oriented Mindset:** The teacher is expected to keep co-ordination with the speed of happening new things around him. Teachers are also expected to grab new knowledge. He / she is expected to motivate his students in their endeavors.
- d) **Awareness about Multi-Cultural and Multi-Language Scenario:** A teacher must keep in mind that students from different cultures, language groups, religions and with different mindset learn in a common classroom. Therefore, a teacher must adjust the equilibrium with multi-language and multi-cultural scenario.
- e) **Multi-Disciplinary Knowledge:** A teacher has to be specialized in his own subject. In addition to that, he / she must be aware of other subjects too. In addition, to thematic knowledge a teacher must know at least basic concepts in other subjects. NEP 2020 focuses on multi-disciplinary education that can ensure overall development of a students.
- f) **Knowledge of Teaching Methods:** A teacher may be a good student but teaching is an art and an individual when understands in depth pedagogy, subject knowledge, classroom teaching methodology. But out of several methods a teacher must make the learning enjoyable. Before selecting the method he / she must ensure that what are the needs and requirements of students as well as their abilities.
- g) **Technical Knowledge:** Modern technology, ICT, development of IT and social media influence the entire education. A teacher needs to gain complete knowledge to remain up-to-date with technology. The NEP 2020 has made recommendations regarding implementation of technology in education.

**3. Challenges of Teacher Education in NEP 2020:** The NEP 2020 has taken into account challenges that come in the way to teacher education. They are:

- a) **Lack of Innovation & Creativity:** For any person while doing any job creativity and innovation is required. But while training teachers under the scheme of teacher education the important factor of creativity and innovation are completely ignored.
- b) **Absence of Basic Facilities:** Many of the education colleges always have bad financial conditions. They do not have basic and minimum facilities like laboratories, library, hostel, ventilated well-equipped classrooms, gymkhana, staffrooms and so on. In some cases, education colleges are run in rental premises.
- c) **Lack of Life Skills:** For personal development and growth, life skills are required. These are required while dealing with difficulties in life. The chronic problem is, teacher education is purely memory based and there is no wholehearted involvement of students. It does not make development of life skills amongst them.
- d) **Quality Issues:** Teacher education does not get established with the requisite standards. Most of the teachers are unable to think in a critical manner. They find it difficult to solve problems related to contents in syllabus to be taught, teaching methods and techniques. Sometimes, teachers only study problem solving techniques in classroom but they do not apply the same in actual practice.
- e) **Trained Teachers:** NEP has introduced multi-disciplinary mode of education. This will need well qualified and trained teachers. Those who teach teachers i.e. educators, must find specific groups and provide education in an expected manner.
- f) **Change in Technology in Teaching - Learning Style:** To deal with the different age groups of students, NEP has recommended and suggested different unique, novel and updated methods of teaching to be made applicable from pre-primary level to higher education. There is a possibility of confusion and problem when there will be a paradigm shift from old methodology to new one. Lack of adequate methods and resources may result into burden for the students.
- g) **Course Duration:** Many experts have criticized one year teacher education programme. It is difficult for any educator to teach and a teacher to grasp practical and theoretical elements. The National Curriculum Framework published and incorporated in 1998 also speaks about need for two years teacher education. But it was difficult to implement the same in reality.
- h) **Limitation of Teaching Practice:** As per the one year teacher education policy teaching practice cannot be conducted properly. It has limitation of adequacy. The student teachers do not take into account the teaching practice seriously. Many a times, school management feels such lessons taken by teacher students is a waste of time and hurdle in the way to completion of curriculum.
- i) **Absence of Control on Teacher Education Institutions:** To control and regulate teacher education institutions NCTE (National Council for Teacher Education) is an apex body. NCTE controls the quality of education. But in last few years a number of such teacher education institutions have increased to a large number. Now it is difficult to monitor all of them. It is noticed that a few institutions for the purpose of donations and paid seats set aside quality aspect.

**4. Concrete Suggestions for the Improvement of the conditions of Education:** In the present paper, the researcher has propounded with a few suggestions for the smooth conduct of teacher education:

- a) A stipulated time frame has to be fixed for the improvement and upgradation of private teacher education bodies.
- b) For the improvement in infrastructure and teaching aids, funding and adequate time must be provided to them.
- c) Govt. wants all teachers to be well trained, well-versed with modern techniques and student friendly. Teachers need to develop knowledge and understanding of the subjects. They are expected to develop new methods of simple learning for the students.
- d) The new techniques must replace complete dependency on teachers by self-learning. Teacher students will be able to develop their own skill sets accordingly.
- e) Teacher must know the facts that how students learn best and what are the strategies to be made applicable for smooth learning.

- f) The entire curriculum to be revised. It must be updated as per the present needs.
- g) The curriculum revision has not taken place since 1990. With the constant upgradation teachers need to be moulded to cope up with these changes.
- h) Teachers should not be biased in thinking. To maintain cordial relations and to take critical decisions teachers are expected to think from both the sides of coin. They must be trained properly.
- i) Nowadays, students face problems like social problems, feeling of isolation, pressure created by parents, peer pressure etc. to overcome these elements teachers can help them. In that process, teachers are to be trained to cope up with stress management.
- j) Teacher education programme are to be framed in such a way that, teachers are well trained for various functions related to new techniques.

### CONCLUSION

Education is the basic need of human life. It plays vital role in nation building as well as in the life of an individual. Therefore, teachers are rightly called as, 'Nation Builders'.

In India a lot of importance is given to teachers' education. Different Universities and educational institutions have developed a number of courses on teachers' education. But still there are a number of limitations in the teacher education system and methodology.

The NEP 2020 has given an opportunity to teachers to convert their dreams into reality. Teachers are now expected to grab this opportunity. NEP 2020 has potential to take the present education system to greater heights. It has latent capacity to improve and maintain quality of education. It will be able to maintain the standard once raised and taken to outstanding level.

The main hitch is, when and how at different levels the said policy will be implemented. It is also necessary to study the comparative lacunas in the earlier education pattern and how NEP is able to overcome these limitations. Let us think positively and accept the new, vibrant and dynamic policy into reality.

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Khan, M. R., Islam, A. F. M. M., & Das, D. (1886). A Factor Analytic Study on the Validity of a Union Commitment Scale. *Journal of Applied Psychology*, 12(1), 129-136.

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- **Electronic sources should include the URL of the website at which they may be found, as shown:**

Sillick, T. J., & Schutte, N. S. (2006). Emotional intelligence and self-esteem mediate between perceived early parental love and adult happiness. *E-Journal of Applied Psychology*, 2(2), 38-48. Retrieved from <http://ojs.lib.swin.edu.au/index.php/ejap>

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Central Bank of India (2005). *Income Recognition Norms Definition of NPA*. Retrieved August 10, 2005, from <http://www.centralbankofindia.co.in/home/index1.htm>, viewed on

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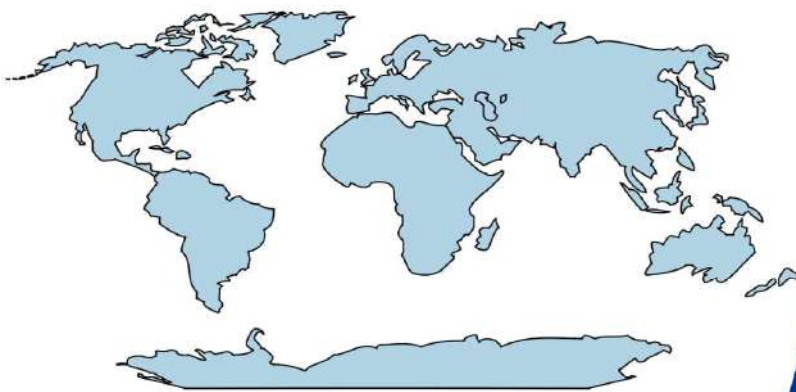
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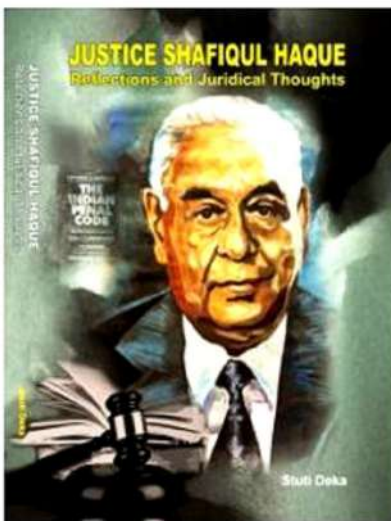


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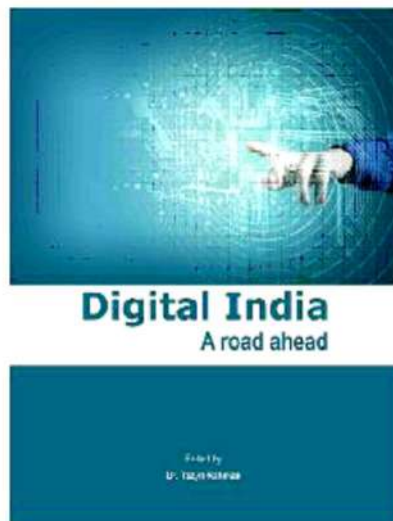
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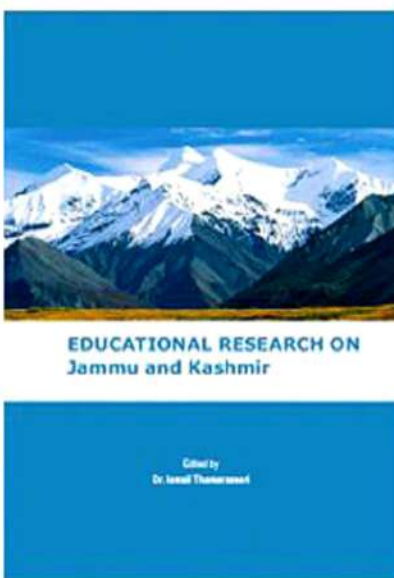
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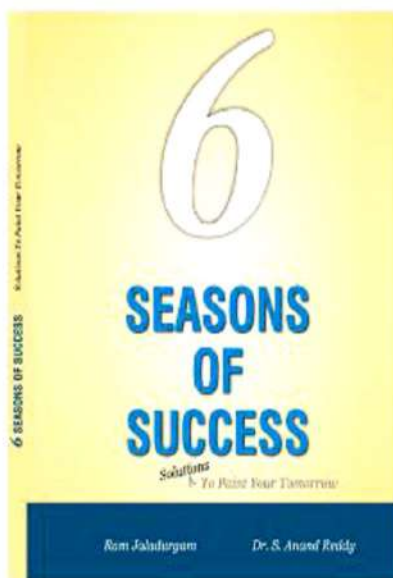
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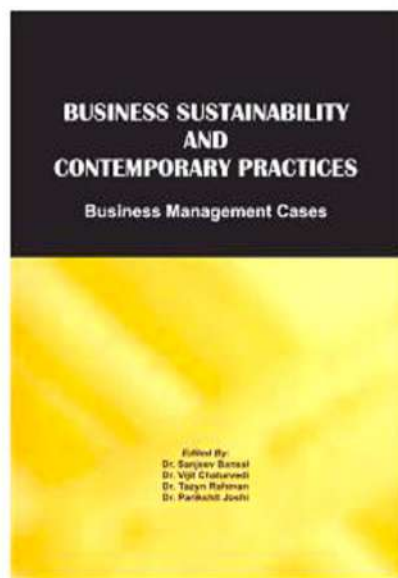
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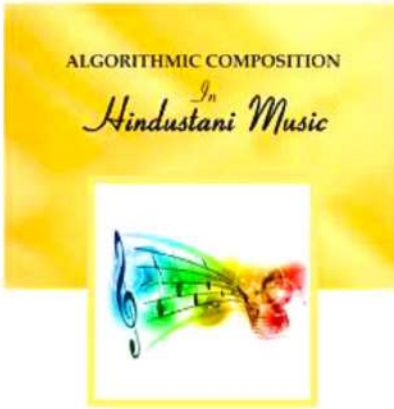
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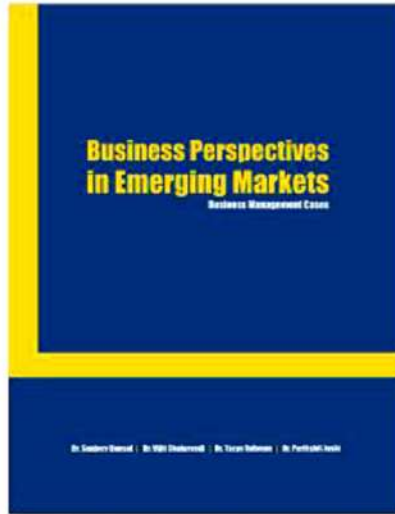
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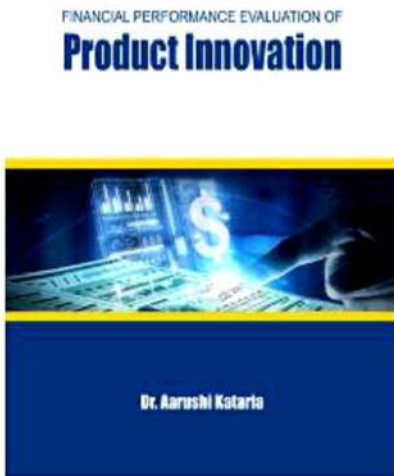


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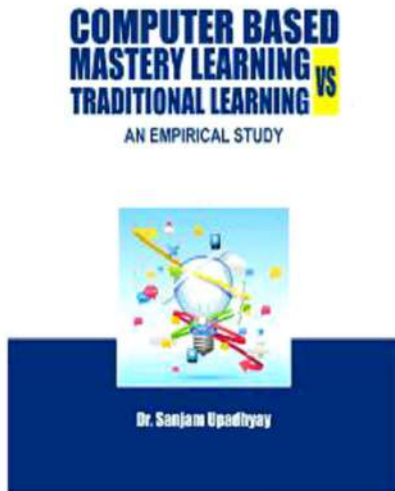
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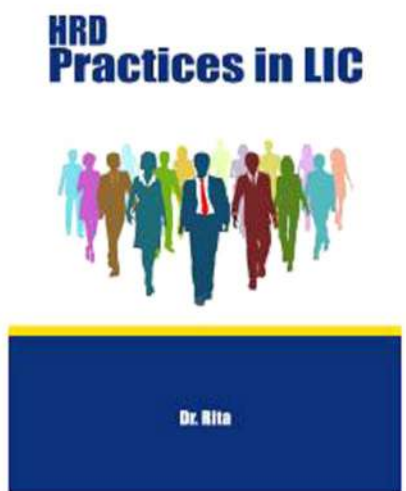
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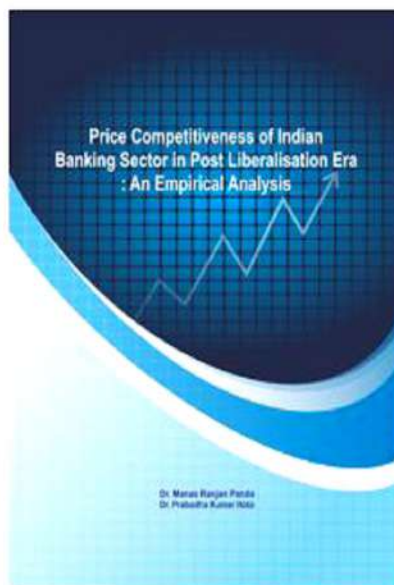
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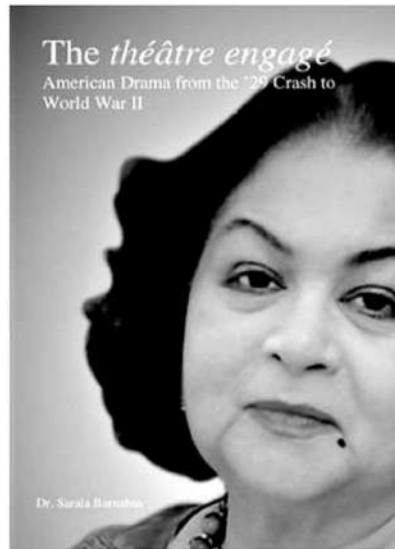
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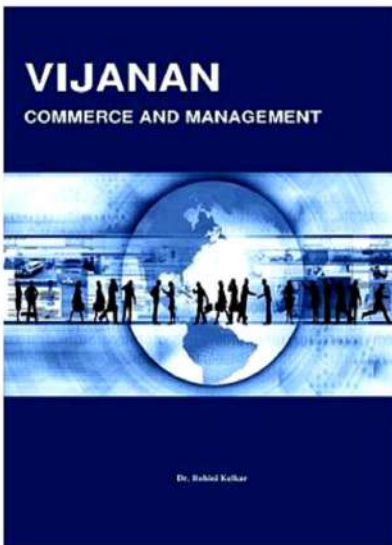
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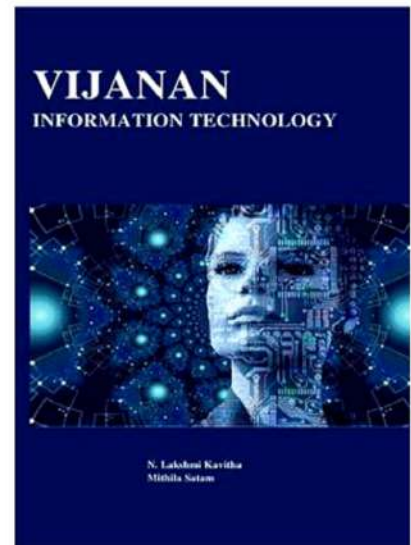
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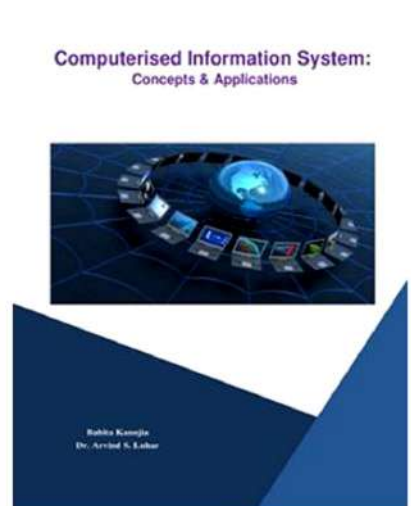
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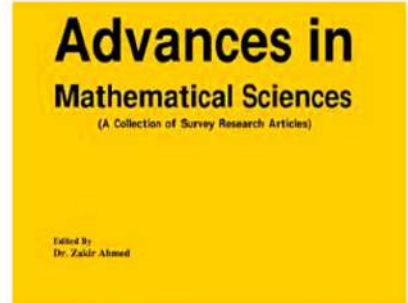
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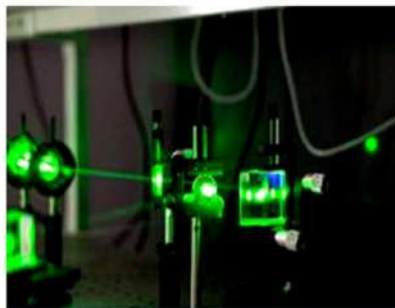


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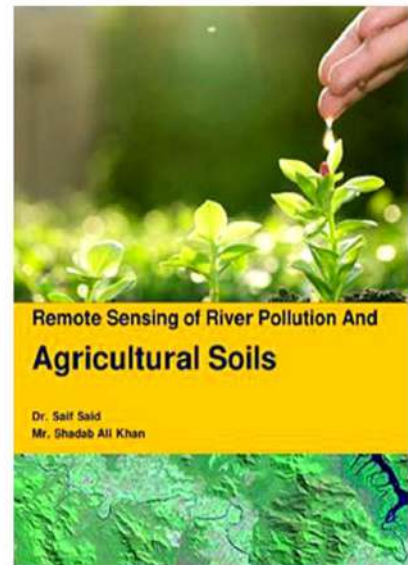
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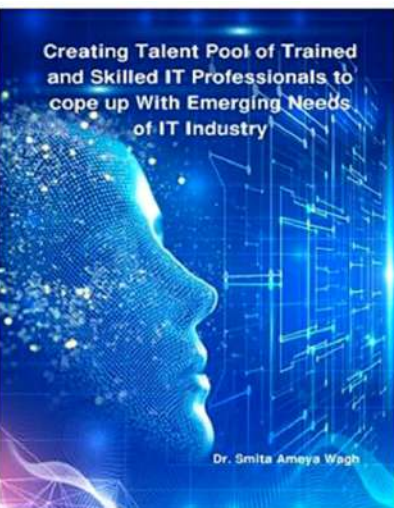
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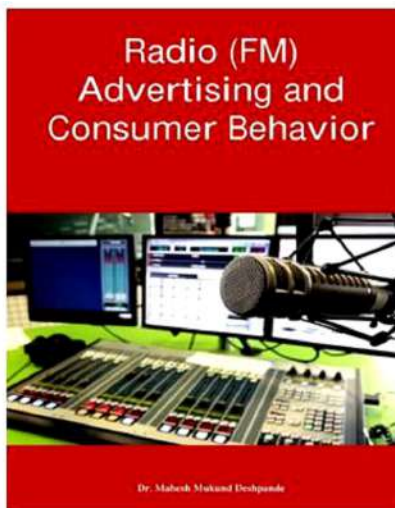
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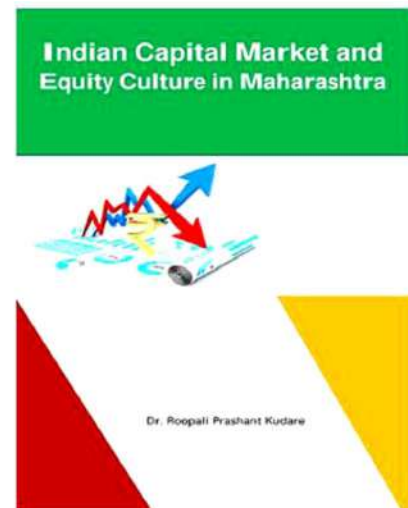
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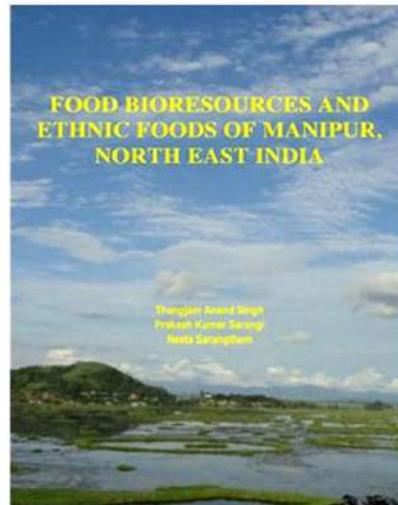




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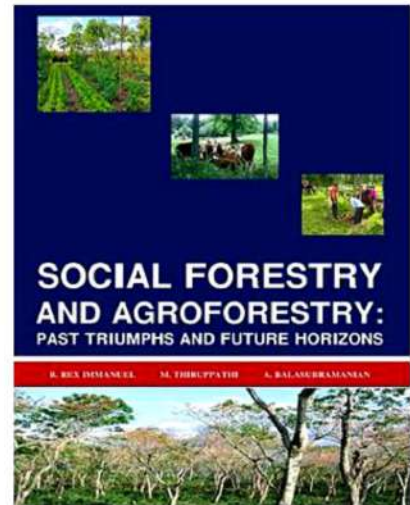
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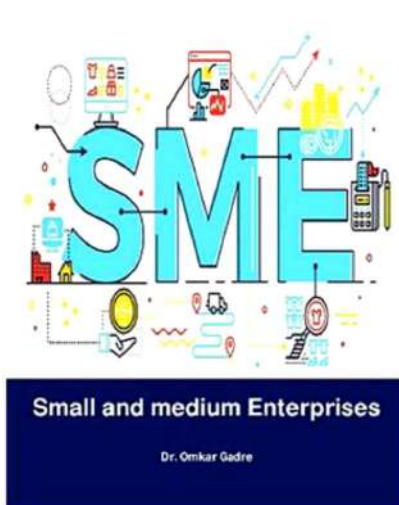
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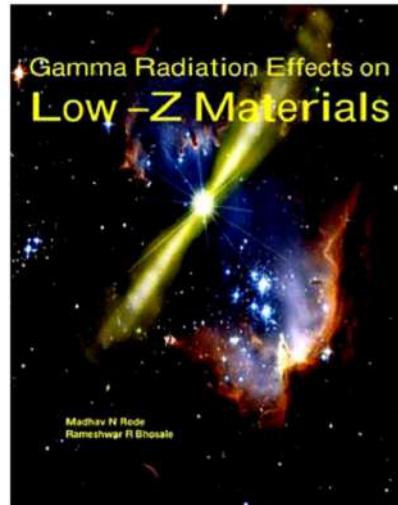
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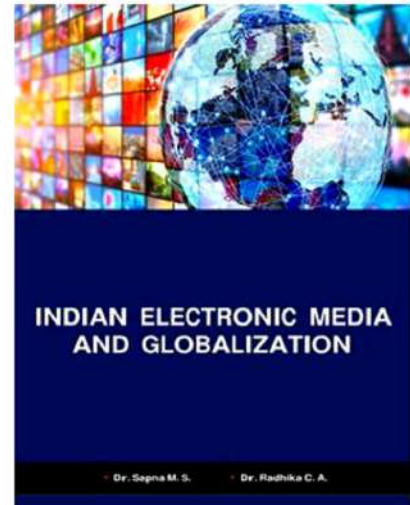
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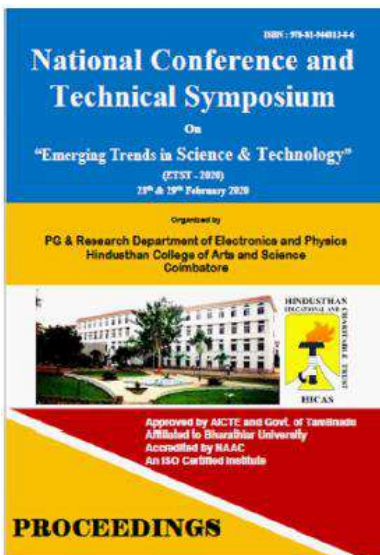
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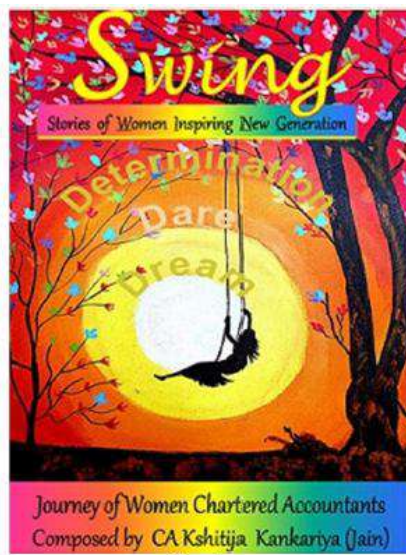
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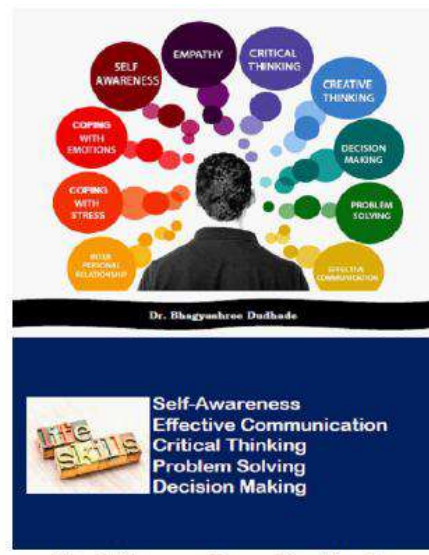


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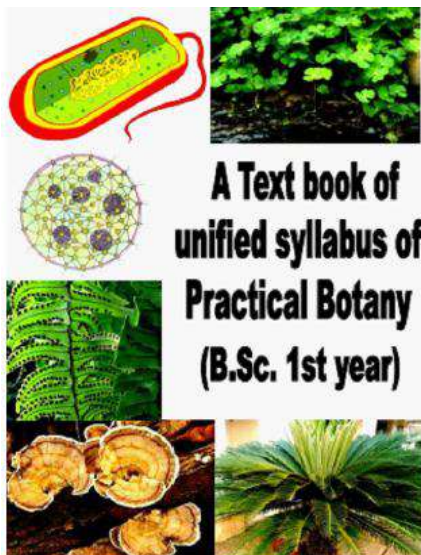


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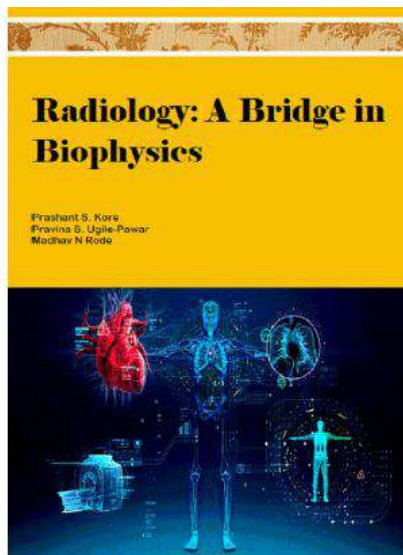
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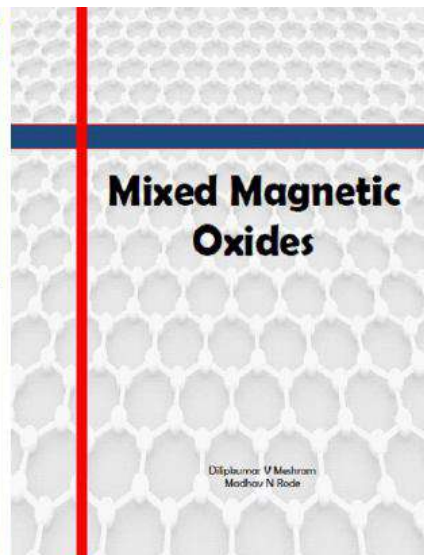
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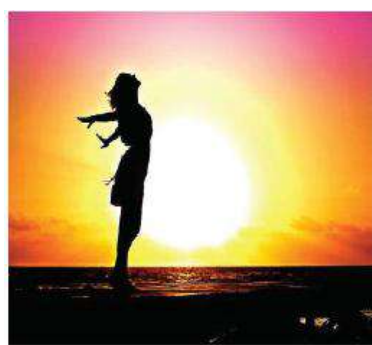
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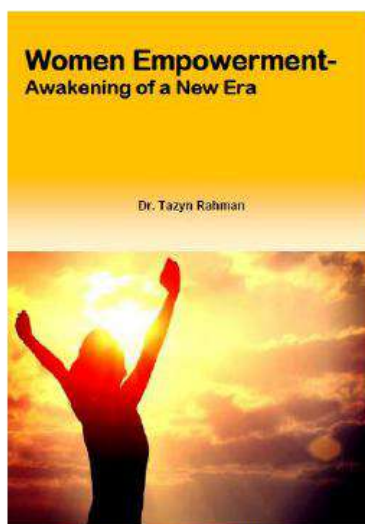
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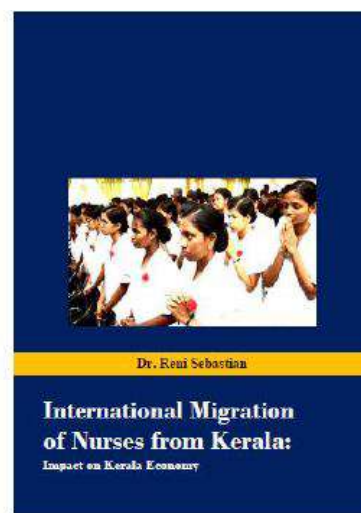
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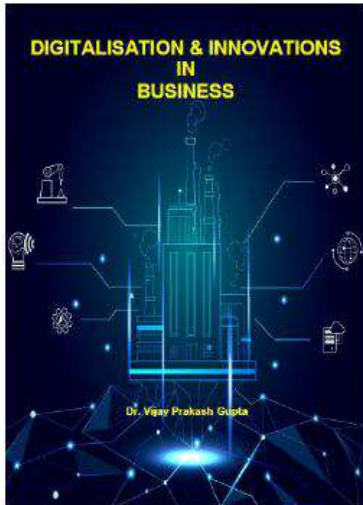
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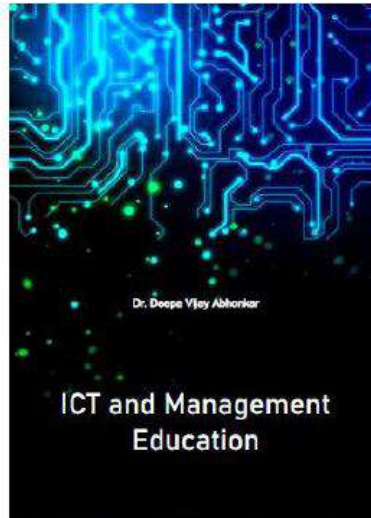


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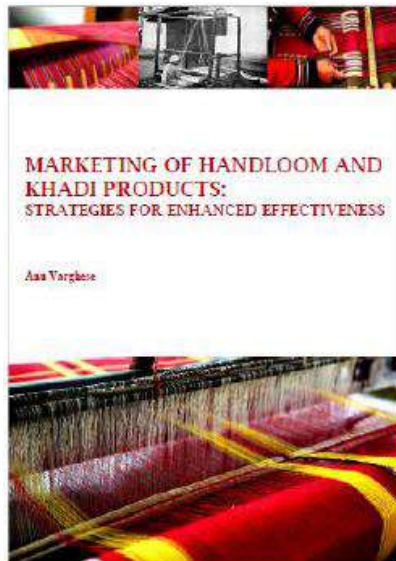
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