



# Emerging Trends in Education



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*Prof. (Dr.) Mita Banerjee*  
*Dr. Liton Mallick*

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# Parental Attitudes Towards Children with Intellectual Disabilities: Socioeconomic and Regional Influences

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## **Introduction:**

Parental attitudes toward children with intellectual disabilities (ID) play a critical role in shaping their child's development, social integration, and access to resources. A child's experience with ID is heavily influenced by how their parents perceive, respond to, and advocate for them, making it essential to understand the psychological, social, economic, and regional factors that shape these attitudes.

Historically, intellectual disabilities have been poorly understood and stigmatized, leading to exclusion, discrimination, and lack of adequate resources for both children and their families. One of the earliest comparative studies on parental attitudes was conducted by Schild (1971), who examined differences in how parents viewed their children with and without intellectual disabilities. The study found that parents of children with disabilities exhibited higher levels of stress, emotional distress, and frustration, largely due to societal stigma, economic burden, and lack of access to medical and educational resources. However, Schild's research also suggested that when parents received professional guidance and community support, their attitudes improved significantly, highlighting the importance of education and structured interventions in shaping positive parental perspectives. Since then, numerous studies have expanded on these findings, demonstrating that parental attitudes toward intellectual disabilities are influenced by three key factors: education, financial stability, and geographic location. Parents with higher levels of education tend to develop more informed and accepting attitudes, as they have greater exposure to scientific explanations, medical interventions, and disability awareness

programs (Schulze et al., 2003). In contrast, limited education often reinforces stigma and misconceptions, preventing parents from seeking appropriate care and interventions for their child (Peshwaria & Menon, 1991). Economic factors also play a critical role in determining how parents respond to their child's disability. Families with higher incomes can afford specialized medical care, therapy sessions, and inclusive educational programs, which contribute to better developmental outcomes and more supportive parental attitudes (Tarihi, 2016). On the other hand, financial constraints increase parental stress, reduce access to essential services, and often lead to greater frustration and social isolation (Griffiths et al., 2004). Geographic location further amplifies disparities in parental attitudes, with urban parents generally having greater access to healthcare services, support networks, and inclusive education programs (Ravindranadan & Raju, 2007). In contrast, rural families often experience limited access to specialized care, stronger societal stigma, and cultural misconceptions about disabilities, leading to higher levels of stress and social exclusion (Hazarika et al., 2017).

This chapter explores the psychological, educational, economic, and geographical factors that shape parental attitudes toward intellectual disabilities. By examining how these influences intersect, it aims to provide a comprehensive understanding of the challenges parents face and the interventions needed to promote more inclusive and supportive environments for children with intellectual disabilities.

### **Psychological and Social Dimensions of Parenting a Child with an Intellectual Disability:**

The psychological impact of raising a child with an intellectual disability is profound and multifaceted. Parents often experience a range of emotions, from grief and denial to gradual acceptance and advocacy. This emotional trajectory is significantly influenced by societal attitudes, access to resources, and the presence (or absence) of coping mechanisms.

### **The Impact of Stigma and Social Isolation:**

One of the most challenging aspects of parenting a child with an intellectual disability is navigating societal stigma and discrimination. In many cultures, disabilities are still viewed as a sign of weakness, punishment, or burden, which can lead to social exclusion and emotional distress for parents. Wolfensberger (1983) examined how societal

perceptions of intellectual disabilities shape parental responses, arguing that communities that devalue individuals with disabilities create environments where parents feel ashamed, isolated, and unsupported. The psychological toll of stigma is well-documented. Hazarika et al. (2017) found that over 50% of parents raising children with intellectual disabilities in rural India reported feeling uncomfortable taking their child into public spaces due to fear of judgment. Many parents expressed anxiety over how others perceived their child, leading to self-isolation and reduced participation in community events. Additionally, Dunset & Leet (1987) emphasized that parents who experience chronic stigma are more likely to develop anxiety, depression, and stress-related disorders, making it harder for them to provide emotional support to their child. Friedrich & Friedrich (1981) also found that parents of children with disabilities reported higher levels of sleep disturbances, marital strain, and emotional burnout, highlighting the long-term psychological consequences of caregiving without adequate support.

### **Coping Mechanisms and Psychological Resilience:**

Despite these challenges, many parents develop adaptive coping strategies that help them navigate their child's needs. Lazarus et al. (1980) introduced the concept of positive emotions as coping strategies, suggesting that fostering joy, hope, and emotional resilience can help parents manage stress more effectively. Their research found that parents who engaged in support groups, therapy, and structured counselling programs developed greater acceptance and proactive caregiving behaviors. Building on this, Meichenbaum & Fitzpatrick (1993) explored cognitive-behavioral interventions (CBIs) as a tool for helping parents reframe their thought patterns and develop healthier emotional responses. Their study demonstrated that parents who underwent cognitive-behavioral training reported lower stress levels, improved coping skills, and a greater sense of empowerment. By teaching parents to challenge negative thoughts and focus on problem-solving techniques, CBIs helped them develop resilience and stronger emotional well-being. Additionally, Singer et al. (1999) found that parents who participated in peer support groups and structured disability advocacy networks were less likely to experience depression and emotional exhaustion. These findings suggest that community-based interventions and mental health support programs are essential in helping parents manage the psychological burden of caregiving.

### **The Role of Education in Shaping Parental Attitudes:**

Education is one of the most significant factors influencing how parents perceive and respond to their child's intellectual disability. Parents with higher levels of education are more likely to have scientific knowledge about intellectual disabilities, which reduces stigma and misconceptions. Conversely, parents with limited education may struggle with myths, misinformation, and cultural beliefs that contribute to negative perceptions of disabilities. A study by Schulze et al. (2003) found that parents with formal education were significantly more likely to seek medical intervention and enroll their child in special education programs. These parents were also more likely to advocate for inclusive policies and disability rights, as they had greater access to information and professional resources. This suggests that education directly influences how actively parents engage in supporting their child's development. In contrast, Peshwaria & Menon (1991) examined how low levels of education contribute to superstitions and misconceptions surrounding intellectual disabilities. Their study found that in some communities, intellectual disabilities were perceived as divine punishment or the result of ancestral sins, leading parents to avoid seeking professional help. Instead, they often relied on traditional healers or religious rituals, delaying access to proper medical and educational interventions. This highlights the need for disability awareness programs in low-literacy communities to challenge misconceptions and encourage evidence-based caregiving approaches. Furthermore, Allport (1954) proposed that education plays a crucial role in reducing prejudice, arguing that exposure to diverse perspectives and scientific knowledge fosters understanding and empathy. Applying this theory to intellectual disabilities, it becomes evident that parents who receive proper education about their child's condition are more likely to adopt supportive and proactive attitudes.

The implications of these findings emphasize the importance of increasing parental education through structured programs, public awareness campaigns, and school-based disability education initiatives. By ensuring that accurate information about intellectual disabilities is widely accessible, societies can reduce stigma and improve parental attitudes, ultimately benefiting both the child and the broader community.

### **The Influence of Socioeconomic Status on Parental Attitudes:**

Parental attitudes are also significantly influenced by financial stability, as raising a child with an intellectual disability often involves additional

expenses for healthcare, therapy, specialized education, and assistive technology. Families with higher incomes can afford these services, leading to more positive parental attitudes and better developmental outcomes for their child. In contrast, low-income families may experience financial stress, emotional exhaustion, and limited access to resources, which can contribute to negative attitudes and frustration.

Tarihi (2016) found that parents from higher-income backgrounds were more likely to accept their child's disability and actively seek professional support, as they had greater access to specialized schools, private therapy sessions, and assistive medical services. The study concluded that financial stability allows parents to focus on their child's abilities rather than limitations, fostering a more constructive and accepting outlook. On the other hand, Griffiths et al. (2004) found that economic hardship often leads to higher parental stress and negative attitudes. Their study showed that families in financial distress struggled to afford basic medical care and educational support, leading to frustration and feelings of helplessness. The study also highlighted that financial instability often increases the risk of social isolation, as parents may feel ashamed or excluded from disability support groups due to financial constraints. The financial burden of caregiving often affects parental mental health as well. Dunset & Leet (1987) found that parents experiencing economic instability reported higher levels of anxiety and depression, as they struggled to balance financial survival with their child's needs. The research emphasized that lower-income parents were more likely to experience emotional burnout, affecting their ability to provide consistent emotional and developmental support for their child.

These findings underscore the need for financial assistance programs, government-sponsored therapy services, and policies that ensure equitable access to disability support resources. Providing economic relief and subsidized therapy programs could help reduce parental stress and promote a more positive caregiving environment, ultimately improving both parental attitudes and child development outcomes.

### **Urban vs. Rural Disparities in Parental Attitudes:**

Parental attitudes toward intellectual disabilities also differ significantly between urban and rural environments due to variations in access to healthcare, education, and social acceptance. Urban parents tend to have greater exposure to disability awareness campaigns and professional

medical advice, while rural parents often struggle with limited resources, misinformation, and deeply ingrained stigma.

Ravindranadan & Raju (2007) conducted a study comparing urban and rural parental attitudes and found that urban parents were significantly more likely to enroll their children in therapy and special education programs. This was largely due to greater availability of professional services and stronger advocacy networks in urban areas. In contrast, the 2011 Census of India reported that 69% of individuals with disabilities live in rural areas, yet most disability-related resources remain concentrated in urban centers. This forces rural families to travel long distances to access medical care, which adds financial and emotional strain. Furthermore, Peshwaria & Menon (1991) found that in many rural communities, intellectual disabilities were linked to supernatural causes, reinforcing negative perceptions and reluctance to seek medical help. The stigma surrounding disability in these areas often results in social exclusion, emotional distress, and lack of early intervention. Hazarika et al. (2017) highlighted that rural parents are more likely to hide their child's disability due to fear of community judgment and rejection. The lack of special educators and trained professionals in these areas also contributes to misinformation and poorly informed caregiving decisions.

Addressing these disparities requires investment in rural disability services, mobile healthcare units, and teacher training programs to ensure that families in rural areas receive the same level of support as urban families. Expanding financial aid and awareness campaigns in rural communities can help reduce stigma and improve parental attitudes, ultimately fostering a more inclusive and supportive environment for children with intellectual disabilities.

### **Conclusion:**

Parental attitudes toward children with intellectual disabilities are shaped by a complex interplay of psychological, social, economic, and geographic factors. While education, financial stability, and urban infrastructure help foster positive and informed attitudes, low education levels, economic hardship, and rural isolation often reinforce stigma, stress, and misinformation. To improve parental attitudes and ensure better outcomes for children with intellectual disabilities, several key interventions are necessary. Increasing parental education through

awareness campaigns, providing financial assistance for disability-related expenses, and expanding healthcare access in rural areas can help reduce stress, stigma, and social exclusion.

Future research should focus on long-term studies examining how policy changes and intervention programs influence parental attitudes over time. Understanding the impact of structured support systems will be crucial in designing more effective strategies for disability inclusion and advocacy. A more inclusive society begins with changing parental perceptions, ensuring equal access to resources, and empowering families with the knowledge and support they need to provide a nurturing and accepting environment for children with intellectual disabilities.

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# Environmental Sustainability Mundari Sub-Caste in North 24 Paraganas: An Educational Review

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## Abstract

Awareness of opportunity of development by library and social attachment is a direction and social freedom of Mundari tribes. Multivariate relapse was utilized for additional investigation. The research uncovers that while the two gatherings of ladies had positive scores in the disposition educational gap as a topic “***Environmental Sustainability Mundari sub-caste in North 24 Paraganas : An Educational Review***” is connected with regulation that understudies accept their schooling at all prohibitive of tribal sub caste to implies cultural environment . for analysis **Inferential Statistics is used** in this research . Scale of Indian human development survey – II as per **National Council Of Applied Economic Research (NCAER)** is used for data collection and analysis. “**National Council of Applied Economic Research 08 December 2020**”. Scale of Self made & standardized questionnaire is used for data collection is used. Mundari Instructive and Environmental impact evaluation on attempts to arrange various highlights of ecce into organizations given by the anganwadi centers spread out under the organized youngster improvement organizations plan and to expand normalized by help of library and social awareness.

## Key words

Environmental Sustainability, Mundari sub-caste, social participation. Public library, cultural awareness.

## Introduction

The Mundatribes have various of customs to celebrate birth, demise, commitment and education. At the point when a male child takes birth

in munda family, they celebrate it as a worker for the family and when female child takes birth, they celebrate it as a family overseer. There are numerous different customs like, commitment function as community and giving a financial gift to fatherly gate keepers .Furthermore, among every one of these, Marriage is custom of extraordinary importance. At the point when somebody passes on in Munda clan, various students of history and analysts have various assessments over the presence of the Munda clan in India. Paul Sidwell, a scientist and expert in phonetics, spend significant time in Southeast Asian language history, trusts that around 4000 to quite a while back, Munda dialects showed up on the bank of Odisha from Southeast Asia. The Munda public at first spread from Southeast Asia, however blended broadly with nearby Indian populaces. Dalton, EdwardTuite. (2004). ‘Graphic Ethnology of Bengal’ is an elucidating work arranged which depends on different races and clans, particularly those normally called natives, as consumed by the creator. He has gathered various clans under nine classifications

### **Background of the study**

Education and Comprehensive training is the point at which all understudies, no matter what any difficulties they might have, are set in age-proper general schooling classes that are in their own local schools to get excellent guidance, mediations, and supports that empower them to meet outcome in the central subjects (Bui, Eccentricity, Almazan, and Valenti, 2010; Alquraini and Stomach, 2012), The school and homeroom work on the reason that understudies with handicaps are all around as essentially equipped as understudies without inabilities. Accordingly, all understudies can be full members in their homerooms and in the nearby school local area by public library and social participation . A significant part of the development is connected with regulation that understudies accept their schooling at all prohibitive of tribal sub caste to implies they are with their friends without inabilities to the most extreme degree conceivable, with general schooling the situation of best option for all understudies (Alquraini and Stomach, 2012).

### **Objectives of study**

1. To know the problems of social participation of Mundari tribal groups of various blocks inNorth24Paraganas,WestBengal
2. To know the role of public library for cultural awareness of Mundari tribal groups of various blocks inNorth24Paraganas, West Bengal.

## Hypothesis of study

**H<sub>0</sub>1** - Social Participation has no impact on Mundari Tribal Groups of various blocks in north 24 Paraganas, West Bengal

**H<sub>0</sub>2** - Public library has no impact on Cultural Awareness of Mundari tribal groups of various blocks in North 24 Paraganas, West Bengal

## Review of related literature

**Jebaraj, Priscilla (2020)**, An ancestral gathering controlled land and fields mutually and partitioned these among family according to its own standards. These gathering of ancestral individuals were tracked down in pretty much every district of the subcontinent.

**Jazaïry, Idriss; Alamgir, Mohiuddin; Panuccio, Theresa (2019)**, In this numerous areas of present-day Bihar and Jharkhand, Chero Chiefdoms had arisen by the twelfth hundred years. Nonetheless, they were quelled by the Mughal. The Mundas and Santhals were other significant clans that lived in these states and furthermore in Orissa and Bengal.

**Barbier, Edward B.; Hochard, Jacob P. (June 2018)**, Rural destitution implies conditions where people dwelling in non-metropolitan districts are in a state or condition of without the financial resources and basics for living. Of late, country improvement has expected overall thought especially among the non-modern nations. A country like India where bigger piece of the general population around 65% people live in provincial locales has exceptional significance.

**Edward B.; Hochard, Jacob P. (2018)**, The Kolis, Berads and various other lived in the Maharashtra good country, Karnataka, and Gujarat Further, there were enormous ancestral populaces of Koragas, Vetars, Maravars and numerous others in South. Across the western and focal India which is timberland and the ripe land, the ancestral gathering of Bhils was spreading.

**Bodhi, SainkumarRanee; Darokar, Shaileshkumar S. (2023)**, Contemporary Voice of Dalit is a select, multi-disciplinary, peer-examined journal on Dalit studies. It is disseminated by-each year in June and November consistently. Its electronic first version is available early, much going before its print structure.

**Kukreti, Ishan.(2020)**, The Mundari tribal group esteem correspondence profoundly and have no authority chiefs. For them it

is an ethical commitment to give what you have without assumption for return. Assuming you have more private belongings than you have prompt need for, you ought to share them.

**Scheduled People group: A social Improvement profile of SC/ST's (Bihar, Jharkhand and West Bengal)"(2020)**, The noninterventionist model wouldn't be a lot of significant today in the face to quick changes in Indian culture. Regardless of immense changes occurring in India, ancestral cognizance has been reinforced primarily to extend clans as unmistakable parts of Indian culture. Industrialisation in Jharkhand, for instance, has advanced both ancestral awareness and combination with the non-ancestral areas in the locale. **Ministry of rural developments of events,(2020)**, Clans are janas or people groups, very much like the people groups of other territorial and social districts of India. Clans or janas contrast from different networks as far as the financial arrangement of jati to which non-ancestral Hindu people group have a place. Beam expresses: "Jati isn't standing nor is it simply a socio-strict framework; it is likewise a financial framework, genetically and progressively coordinated by bunches enrolled by birth". There is a sharp differentiation among 'joining' and 'integration'.

**Scheduled Standings and Planned Clans,(2019)**, Almost 80% of the total populace is subject to native meds for essential medical services. Ancestral medication is a well established arrangement of medical services rehearsed by aboriginals in far off towns and woods. Ancestral cures comprising of basic techniques for treatment created by experimentation hold a significant spot in practically all social orders.

### **Methodology of research**

Descriptive statistical analysis involves collecting, interpreting, analyzing, and summarizing data to present them in the form of charts, graphs, and tables. Rather than drawing conclusions, it simply makes the complex data easy to read and understand. The standard deviation ( $s$  or  $SD$ ) is the average amount of variability in your dataset. It represents on average, how far each score lies from the mean of tribal development. The larger the standard deviation, the more variable the data set. The variance is the average of squared deviations from the mean. Variance reflects the degree of spread in the data set. The more spread the data, the larger the variance is in relation to the mean. **Inferential Statistics is used** in this research; inferential statistics are divided into two categories:

**1. Hypothesis testing 2. Regression analysis.** Scale of Indian human development survey – II as per **National Council of Applied Economic Research (NCAER)** is used for data collection and analysis. “**National Council of Applied Economic Research 08 December 2020**”. Scale of Self made & standardized questionnaire is used for data collection (2 point liker scale).

### Population and Sample

A Stratified sampling selected and typically smaller subset of the population intended to represent it logically. This can be done by understanding the population’s background by selecting a sample that portrays those variations. 600 Sample has been taken for survey and data collection in 24 north paraganas district as a population.

### Table of sample

Name of block	Sample amount of Mundari sub-caste	Sample amount of Non-tribal group
Bagdah	100	100
Bangaon	100	100
Gaighata	100	100
	Total Sample - 600	

### Analysis and interpretation

**Hypothesis -  $H_0$ 1** - Social Participation has no impact on Mundari Tribal Groups of various blocks in north 24 paraganas, West Bengal

Statement	Agree (%)	Disagree (%)
Mundari sub-caste has a phobia on social participation	72.32	13.64
Mundari community never belong to cultural society	71.21	14.21
Mundari workers are involved in social participation	22.21	72.36
Mundari community involved in ICDS programme	23.21	63.21
Mundari community involved in SSK education policy	23.21	65.21

ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	3653.76	3653.76	1.430319	0.0317621			

Residual	4	10218.03	2554.508					
Total	5	13871.79						
	Co-efficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Agree (%)	0.55477	0.46387	1.195959	0.29776	-0.73314	1.84268	-0.73314	1.84268

SUMMARY OUTPUT	
Regression Statistics	
Multiple R	0.51322
R Square	0.263395
Adjusted R Square	0.013395
Standard Error	50.54214
Observations	5

t-Test: Paired Two Sample for Means		
	agree (%)	disagree (%)
Mean	68.432	17.726
Variance	27.91142	21.73403
Observations	5	5
Pearson Correlation	-0.15373	
Hypothesized Mean Difference	0	
df	4	
t Stat	14.98916	
P(T<=t) one-tail	5.77E-05	
t Critical one-tail	2.131847	
P(T<=t) two-tail	0.000115	
t Critical two-tail	2.776445	

*As per p value 0.000577 and p value of two tail is 0.000115 and Significance level is 0.005, so the hypothesis is rejected and it is significance that, Social Participation has an impact on Mundari Tribal Groups of various blocks in north 24 paraganas , West Bengal*

Ancestral social orders are much of the time thought about libertarian, particularly rather than the various levelled position society. Nonetheless, ancestral social orders are not homogeneous, as both matrilineal and patrilineal clans exist in India. This study looks at whether matrilineal ancestral ladies from Meghalaya are more engaged than patrilineal ancestral ladies from Assam. Utilizing NFHS 2015-16 and 2019-21, an updated review based ladies' strengthening record (SWPER) is made to quantify strengthening in four spaces: disposition to viciousness, opportunity of development, navigation and social freedom. Multivariate relapse was utilized for additional investigation. The research uncovers that while the two gatherings of ladies had positive scores in the demeanour to viciousness area, patrilineal Mundari women, were more enabled in this space. Conversely, matrilineal ancestral ladies were more engaged in opportunity of development and dynamic power. Be that as it may, in friendly autonomy, ladies from the two social orders were inadequately engaged and the circumstance was more awful for ladies from patrilineal society. Subsequent to adapting to other segment and financial factors, cultural ancestry structure became unimportant in opportunity of development. **Bagdah, Bongaon, Giaghata, Swarupnagar, Minakhan, Sandeshkhali - II, and Hingalganj**, in Mundari Ancestral social orders are many times thought about libertarian, particularly rather than the progressive position society. Nonetheless, ancestral social orders are not homogeneous, as both matrilineal and patrilineal clans exist in India. This study inspects whether matrilineal ancestral ladies from Meghalaya are more engaged than patrilineal ancestral ladies from Assam. Utilizing 2015-16 and 2019-21, a re-examined overview based ladies' strengthening file is made to quantify strengthening in four spaces: demeanour to savagery, opportunity of development, direction and social freedom. Multivariate relapse was utilized for additional investigation. The examination uncovers that while the two gatherings of ladies had positive scores in the disposition to brutality space, patrilineal ancestral ladies were more enabled in this area.

**Hypothesis - H<sub>0</sub>2** - Public library has no impact on Cultural Awareness of Mundari tribal groups of various blocks in North 24 paraganas, West Bengal

	Agree (%)	Disagree (%)
Statement		
Mundari community do not know about public library	89.32	3.31
Few NGO work in Mundari village	52.32	33.21
Local area need public library	57.32	25.32
Social awareness programme organized by public library	64.32	39.32
Social awareness programme organized by NGO	62.42	34.42

SUMMARY OUTPUT	
Regression Statistics	
Multiple R	0.915885
R Square	0.838845
Adjusted R Square	0.588845
Standard Error	13.68202
Observations	5

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	3897.624	3897.624	20.82089	0.019738
Residual	4	748.7909	187.1977		
Total	5	4646.415			

	Co-efficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Agree (%)	0.437663	0.095916	4.562992	0.010315	0.171358	0.703968	0.171358	0.703968

t-Test: Paired Two Sample for Means		
	Agree (%)	Disagree(%)
Mean	65.14	27.116
Variance	204.562	202.3435

Observations	5	5
Pearson Correlation	-0.82279	
Hypothesized Mean Difference	0	
df	4	
t Stat	3.121975	
P(T<=t) one-tail	0.017729	
t Critical one-tail	2.131847	
P(T<=t) two-tail	0.035459	
t Critical two-tail	2.776445	

*As per p value 0.017729 and p value of two tail is 0.035459 and Significance level is 0.005, so the hypothesis is rejected and it is significance that, Public library has an impact on Cultural Awareness of Mundari tribal groups of various blocks in North 24 paraganas, West Bengal.*

Families engaging to make scarcely enough. Sending youths to school takes an optional library when perseverance transforms into a need. The necessity for young people to add to family pay, joined with confined monetary entryways, powers kids during the time spent labour at an early age. The library is taking on a comprehensive methodology to dealing with the hardships those familial organizations in the districts istanding up to. Preparing can't exist in a vacuum; it ought to be weaved with the neighbourhood, culture, and objectives. The library drives turn around inclusivity, social responsiveness, and neighbourhood — the three marks of help for a really encouraging future time. It achieves this by arranging a socially relevant instructive program that reflects the neighbourhood and settings. This approach grants youths to find shared trait and significance in their outlines, making advancing truly enamouring and huge. To ensure that teachers appreciate the exceptional necessities of tribal children, public library outfits them with getting ready. These teachers are learned in the instructive program and significantly handle the organizations' social nuances and challenges. This approach develops a positive learning environment, which is useful for progress. The public library similarly sees that preparing goes past course books. They offer proficient planning that outfits genealogical young people with sensible capacities. This approach is fundamental as it opens up open entryways for business and pay age, breaking the example of desperation Besides, school and public library really attracts with the familial organizations in route and program execution. This

approach creates trust, ensures ownership, and makes the drives pragmatic for a really long time.

### **Findings of the study**

- To direct crucial and applied research chips away at financial condition , language, life , culture and legacy of the Mundari tribes and to direct/propose different Govt. organizations in definition of arranging and dynamic connected with the advancement of the tribes of Mundari in social participation .
- To help tribal students in leading social works connected with the Mundari clans of west Bengal.
- To embrace assessment work on advancement plans taken up for the advantages of the clans.
- To advance Ancestral culture like ancestral society of library, society must develop through library of State Institute of Ancestral Culture subsidiary to Mundari and other tribal sub-caste.
- To arrange fairs and celebrations of various clans of the state to unfurl the rich and different social legacy of the native individuals of the state and to advance fraternity and social communication.
- To arrange State and Public Level Workshop on Ancestral life, culture and language.
- To sort out studio/preparing connected with improvement of ancestral Socio-Economic assessment Tribal Development.

### **Conclusion**

Mundari Instructive and Environmental impact evaluation on attempts to arrange various highlights of ecce into organizations given by the anganwadi centers spread out under the organized youngster improvement organizations plan and to expand normalized organizations, including pre-school regions associated with schools of Mundari ancestral gatherings of Bagdah , Bongaon , Giaghata , Swarupnagar , Minakhan , Sandeshkhali - II , and Hingalganj block in north 24 paraganas , west Bengal, have achieved critical extension in the amount of young people getting pre-school preparing for educational and social awareness . the amount of posterity mature enough 3 to 5+ years who got pre-school preparing under the icds plan extended

from 16.7 % in 2001-02 to 35.3% in 2012-13 in bagdha block as an ancestral region. Available data shows that the full scale enrolment in pre-fundamental tutoring programs has extended from 13.9 % in north 24 paraganas , 41.3 % in 2020. In the 24 north paranganas, of bagdah block, the central program for universalisation of fundamental preparation is the SarvaShikshaAbhiyan (SSA). Study Block gauges the convincing lavishness in a general population, considering of births as well as of the way that not all women imagined will get by to their own regenerative in Mundari ancestral gatherings of Bagdah , Bongaon , Giaghata , Swarupnagar , Minakhan , Sandeshkhali - II , and Hingalganj block in north 24 paraganas , the Talented Put together Mindfulness with respect to Limited scope Industry is the ordinary number of lady of conceptive age in ancestral region , that a woman would have expecting she experienced over her lifetime the normal age-unequivocal speeds of extravagance by public library and social awareness programme .

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# A Comprehensive Profile of Online Learning Platforms: Challenges and Prospects with Special Reference to National Education Policy 2020

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## Introduction

India is a vast country with diverse cultures, languages and heritage. So, there must be a lot of diversity in the education sector as well. Just like India has a Gurukul system of education, it also has a modern technology-oriented educational institute. So, to make the content of similar quality education available to learners of all levels, the Online Learning Platform has emerged (*Joshi & Dewangan, 2021*). The Online Learning Platform has a long history. It was first broadcast on Doordarshan & All India Radio and then in 1994, for the very first time, ISRO set up one-way video and two-way audio communication for learners over the phone at IGNOU's headquarters in Delhi (*Mazumder, M. 2020*). Since then, with the help of various Govt. and Non-Govt. Organizations' Online Learning platforms have been gradually expanding their reach in the field of Indian education.

Nowadays the use of technology has increased drastically, almost every sector is using technology for the betterment of their previous scenario and the impact of technology on the education sector has not gone away. Educational technology has ushered a new era in the educational sector and these online learning platforms are the most special segment of educational technology, which helps in maintaining the continuity of learning even in the face of adversity. Many times, adverse conditions such as epidemics, traffic jams, and monsoons make it impossible to reach the classroom physically, then also these online learning platforms also play a huge role by providing quality learning material online. Recently the outbreak of COVID-19 has disrupted the whole teaching-learning process and approximately 32 crore students

have been affected by the pandemic (*Sharma, K. 2020*). Consequently, the education sector has to be shifted from physical classroom teaching-learning to online mode. Because all the authorities should take responsibility that even if the educational institutions are physically closed, the learners must not stop learning (*UNESCO IESALC, 2020*). The demand for online learning platforms has grown exponentially and in this crisis, these platforms act as a ray of hope in the darkness of the Indian educational sector.

Online and digital education has also been given special importance in *National Education Policy 2020* and the policy mentions that various agencies like NIOS, NETE, CIET, IGNOU, IITs, NITs, etc. have been given the responsibility to evaluate the benefit of integrating education with online education by a pilot study. In addition, the policy further mentions that various existing Online Learning Platforms like DIKSHA, SWAYAM, SWAYAMPRAKASHA, etc. will be utilized to create virtual labs so that students of every stratum must have the opportunity to gain experience through hands-on experiments.

Although the education sector is facing new challenges every day in this pandemic situation it is said that every bad situation must have an opportunity. Therefore, in order to keep the education sector active in any hurdle and to provide education to learners, it is necessary to have an idea about Online Learning Platforms, so that students can be taught online in addition to physical classrooms. This study aims to learn about the various online learning platforms available in India and to identify the challenges and Prospects of Leveraging Online Learning Platforms.

## **Methodology**

The study is purely based on a comprehensive literature review. To achieve the objectives of the present study, the researchers have employed analytical methods. For that purpose, various secondary sources available over the internet like e-articles, e-journals, online newspapers, websites etc. were reviewed.

## **Discussion**

### **Various Online Learning Platforms**

In today's era, conventional classroom learning is no longer the only means of the teaching-learning process, rather it somehow complexifies

the whole process. The current generation of so-called 'click-generation' wishes to do everything with one single click, somehow, the traditional teaching-learning process makes them stand in front of many complications. Then the current COVID-19 pandemic situation left no way for traditional classroom teaching-learning and disrupted the whole education process. But this time some online learning platforms have become the saviour, which has been able to alleviate some of the damage done to the education sector as a result of the recent pandemic. E-learning platforms provide a complete live experience of learning with innovative learning methods & practical vision and the best part is not only students but parents, teachers and working professionals can learn through these apps and choose the courses as per their interest. Both Government and Non-Government organizations are contributing to the field of e-learning.

Here are a few such online learning platforms initiated by the Government of India:

**SWAYAM** (Study Webs of Active-Learning for Young Aspiring Minds) is an initiative under the Digital India campaign of the Government of India, launched on 9th July 2017. It is a free online education platform that was designed to provide quality education from class 9 to post-graduation level, accessible by anyone irrespective of time and place. This platform offers free study materials, discussion forums, video lectures and online tests for about 1600 courses. To get the course completion certificate students have to pay a minimum token of fee, which varies from course to course. Learners can simply register in Swayam through their email ID, Facebook or Google Plus account; after downloading the application from the Google Play Store or App Store or they can access the web version at [swayam.gov.in](http://swayam.gov.in). The Swayam portal is acknowledged by various credible organizations like NCERT, AICTE, UGC, IGNOU, NIOS, NITTTR, CEC, and IIMB. (<https://www.swayam.gov.in>)

**DIKSHA** basically stands for Digital Infrastructure for Knowledge Sharing. It is a government initiative taken by MHRD and NCERT, launched in September 2017 to facilitate quality digital learning for school teachers. This online educational platform is mainly designed for teacher education, where teachers can access various training courses, lesson videos, worksheets, and assessment tests for teachers

and curriculum but this platform provides an online library facility for school students also, where students from class I to class XII can access more than 80,000 eBooks in multiple languages. Students and teachers across the country can download the Diksha application from Google Play Store or App Store, else they can simply register at the official website at [diksha.gov.in](http://diksha.gov.in). This online educational platform currently supports various courses in NCERT, SCERT and CBSE. (<https://www.diksha.gov.in>)

**SWAYAM PRABHA** is an initiative by the Government of India that consists of a group of 34 DTH channels that is dedicated to telecasting school and higher-level high-quality educational content on a 24x7 basis with the help of GSAT-15 satellite. All the channels are designed to cover higher education, school education (class 9 to 12), assist higher secondary students to prepare for competitive examinations and curriculum-based courses to promote lifelong education for Indian citizens in India and abroad. Every day the channel will telecast a new content of at least 4 hours duration which will be repeated 5 times in the same day so that the students can choose the time to watch the programs as per their convenience. The course contents are provided by NCERT, NPTEL, UGC, IITs, NIOS, CEC and IGNOU. All the channels are uplinked from BISAG-N, Gandhinagar and the web portal is maintained by INFLIBNET. Interested students can visit the official website of Swayam Prabha which is [www.swayamprabha.gov.in](http://www.swayamprabha.gov.in) for details regarding the free installation of a set-top box and other required information. (<https://www.swayamprabha.gov.in>)

**NPTEL** (National Programme on Technology Enhanced Learning) is a Government of India project, which is funded by MHRD and initiated by the Institute of Science, Bangalore and 7 IIT institutes (Bombay, Delhi, Kanpur, Madras, Kharagpur, Roorkee & Guwahati) collectively in 2003. This online repository offers more than 2300 courses in engineering, science and management at undergraduate and postgraduate levels. Courses in NPTEL are free of cost, however, certification exams will cost only 1000 rupees per course. Students can visit the online web portal at [nptel.ac.in](http://nptel.ac.in) for details information about the courses offered by IITs. (<https://www.nptel.ac.in>)

**e-PG PATHSHALA** is an online learning platform for post-graduation courses, which was started by the MHRD under the National Mission on Education through ICT(NME-ICT) being

executed by the University Grants Commission (UGC). This platform offers approximately 700 e-books with high-quality text content, videos, illustrations, documents, tutorials etc. in over 70 post-graduation courses, absolutely free of cost. This platform also offers distance learning and offline courses for postgraduate students. Interested students can get the required information from the web portal at [epgp.inflibnet.ac.in](http://epgp.inflibnet.ac.in) (*epgp.inflibnet.ac.in*).

Besides these above-mentioned platforms, there are a few more platforms founded by the Government of India, that are genuinely contributing to the online learning process, named, e-ShodhSindhu, National Digital Library of India (NDLI), **Virtual Labs and more**.

Non-governmental organizations are not far behind in this case. These organizations are also trying their level best to enhance and uplift the online teaching-learning process. Some private online learning platforms are:

**BYJU's** is a very popular well-funded and well-managed online learning app in India. This app primarily focuses on school students but also includes courses for competitive exams such as IIT-JEE, CAT, NEET, UPSC, GMAT and GRE. Though these courses are paid, starting at INR 3500 but they provide free counselling and demo classes. Free access to content is limited to 15 days after registration. There is also a scholarship programme for 4<sup>th</sup> to 12<sup>th</sup>-grade students. BYJU's provide online classes basically for conceptual understanding, personalised learning and clearing doubts with individual attention from the mentors. Students can simply register in BYJU's after downloading the application from the Google Play Store or App Store or they can access the web version at [byjus.com](https://www.byjus.com) (*https://www.byjus.com*)

**UNACADEMY** is one of the best online education apps in India which has helped learners to improve their skills, and abilities and enhance their knowledge. Unacademy provides more than 2400 video lectures and courses on all kinds of competitive exams like UPSC, JEE, SSC, IBPS, NEET etc. by some great educators, which have benefited more than 300000 students from all over the country. All the course contents are available in 12 languages. Unacademy has some unique features like live test series, practice sections, quizzes, weekly mock tests and more with scorecard features. Unacademy is a paid platform, with prices ranging from INR 1000 up to INR 30000 but there are a few free

courses available as well. Students can register in the Unacademy online learning app by downloading the app from the Google Play Store or App Store (<https://www.unacademy.com>).

**VEDANTU** is an Indian online tutoring company started by three IITian friends. This app is primarily focused on school students to provide the best quality online education to them. Students from LKG to Grade 12 can join the classes. Vedantu also includes preparation and live classes for JEE, NEET and NDA exams. It has the facility to attend both individual and group classes, two-way audio, video & whiteboarding tools where both students and teachers can see, hear, write and interact in real-time. Co-curricular courses are the added advantage of this platform. Vedantu offers a paid package of various ranges that comprises live online teaching, assignments, tests, crash courses and more. Though students can access the free classes and contents. To register in the Vedantu app students can download the application from Google Play Store or App Store or they can access the web version at [vedantu.com](https://www.vedantu.com) (<https://www.vedantu.com>).

**COURSERA** is an online learning app that provides more than 1000 courses developed by almost 140 best colleges and universities across the world. It helps to master subjects from web development and Python programming to music and creative writing. With the help of Coursera, one can learn and continue education while pursuing the career. Learning through videos in Coursera is unpaid but to access graded assignments or earn a certificate they charge INR 49 per month. Learners can register in the Coursera app through the official website, which is [coursera.org](https://www.coursera.org) or they can download the application from the Android or iOS operating system (<https://www.coursera.org>).

**KHAN ACADEMY** is a non-profit online educational platform founded by an American educator named Salman Amin Khan in 2008. The major goal of Khan Academy is to provide free and world-class education to everyone irrespective of time and place. Online videos of Khan Academy cover subjects ranging from science and finance to art and history. The best feature of this platform is that they translate the materials into the world's most spoken languages including Hindi. All of Khan Academy's standard-aligned videos, library, practice questions and lessons are completely free for those who want to use them. Khan Academy has collaborated with institutions like MIT, NASA and The Modern Museum for Art to empower learners with some specialized

content outside the traditional classroom. The official website of Khan Academy is [khanacademy.org](https://www.khanacademy.org) or learners can download the application from the Google Play Store or App Store. (<https://www.khanacademy.org>)

**edX** was founded by scientists from Harvard and MIT in May 2012. It is a non-profit open-access online learning platform that provides free courses to universities around the world. edX offers more than 3000 courses on Computer Science, Data Science, Language, Engineering, Business, Management and more with 160 partners around the globe. edX courses are free but they charge for their verified certificates. Interested learners can register through [edx.org](https://www.edx.org) or can download the edX app (<https://www.edx.org>).

Besides these many more non-governmental platforms are working tirelessly to improve the online learning process smoother, named, Toppr, DoubtNut, LinKedin, Udemy, Upgrad, Udacity, Simplilearn, Tynker, Meritnation, my CBSEGuide, Vidyakul, Drmentors Medical PG app, CAclubindia, Indigolearn, GradeUp, Jigsaw Academy, Duolingo, MasterClass, Datacamp, Study.com and many more.

### **Challenges in Utilizing Online Learning Platforms**

In India, the digital divide makes online learning extremely difficult and exacerbates educational disparities. Access to the internet is not good all over, particularly in rural regions. So, many students from rural areas face difficulties in accessing online resources and are unable to participate in discussion forums of online learning platforms.

Digital literacy is another significant issue for online learning in India, where just 38% of the population is digitally literate. Urban areas have a greater rate (61%), whereas rural areas have a lower rate of 25% (Dattopant Thengadi National Board for Workers Education & Development, 2024). This inequality inhibits access to and effective use of online learning platforms that limit overall learning outcomes.

Some subjects or courses of study, including science and performing arts, cannot be taught in the digital education setting. Furthermore, it is a screen-based learning approach that limits students' ability to carry out practical tasks (Dhamija, 2020).

A lack of face-to-face interaction may reduce students' active involvement and motivation. Students might have difficulty with self-

discipline to stay focused on long recorded videos and to effectively manage their time. (Meijuan, et al., 2024). It is also challenging for teachers to understand and address each student's needs in this asynchronous learning on online platforms. Online courses typically accommodate a huge number of students, which can make it difficult for teachers to provide individualised attention.

Most online learning platforms primarily offer course materials and video lectures in English, with limited availability in regional languages. This may prevent non-native English speakers from receiving quality education, posing serious obstacles to learning for a large number of pupils.

Ahmad Faza et al. (2024) observed in their study that teachers encountered many challenges when teaching online, such as a lack of options for interaction, trouble running practical classes, tracking student engagement, and choosing suitable forms for assessments. Individual obstacles, such as a lack of technology skills, health issues, and exhaustion, as well as technological challenges regarding availability, integration, resources, and network issues during online learning, were also emphasised by Ahmad Faza et al. (2024).

### **Prospects of Leveraging Online Learning Platforms**

Despite the above-mentioned challenges, online learning platforms provide an opportunity for learners to gain access to massive open online courses (MOOCs). This learning is much more reflective and engaging with a student-centred approach. Some of the online learning platforms make freely available Open educational resources (OER). Online learning platforms have prospects for efficiency of time, adaptability, individual growth, innovative teaching methods and collaboration with external field experts (Ahmad Faza et al., 2024).

The National Education Policy (2020) emphasised holistic, multidisciplinary, and skills-based education. Online platforms provide an extensive number of courses across multiple disciplines, enabling students to choose their preferred fields of study. Many online platforms provide courses aimed at developing practical skills, allowing students to build industry-oriented competencies that will prepare them for the workforce marketplace. Online learning platforms employ adaptive technologies to deliver individualised learning experiences. Students can learn at their own pace.

Students can access education using online learning platforms, regardless of where they live. Compared to traditional programs, the learning opportunities on these platforms are more adaptable, enabling students to maintain a balance between studies and work. Learning could occur anywhere, at any time.

Students can take more affordable courses on online learning platforms compared to face-to-face learning. Online courses often have lower tuition fees compared to traditional classroom settings. There are fewer overhead costs for institutions. It lowers transport expenses, and expenses for physical infrastructure and governance.

The NEP (2020) aims to make education inclusive and accessible to all. Students from different backgrounds, especially remote or underserved places, can now access high-quality educational resources through online learning platforms. Online platforms often collaborate with accredited institutions and hire qualified teachers. This ensures that the content provided is of the highest standard, and relevant to the global standards.

The National Education Policy (2020) emphasizes the importance of Academic Credit Banks and the provision for multiple entry and exit points in academic programmes. This framework allows students to retain and transfer credits earned across various programmes including the credits earned by completing various short-term courses on some of the online learning platforms like SWAYAM.

Online learning platforms offer lifelong learning opportunities for both students and teachers. National Education Policy (2020) highlights the importance of continuous professional development of teachers. These online platforms make professional development easier for teachers. Teachers may acquire innovative pedagogical knowledge and enhance their teaching skills at any time during their careers.

Some online learning platforms include gamification techniques, such as leaderboards, badges, and point systems, to encourage students and make the learning process more dynamic and interesting.

## **Conclusion and Recommendations**

This paper highlighted the comprehensive profiles of various government and private online learning platforms. However, there are significant challenges associated with using online learning platforms, such as the

digital divide, digital literacy, teaching practical and lab-based subjects, quality online assessment, an inadequate supply of course materials and mode of instruction in regional languages. Despite the challenges education through online learning platforms has several promising prospects aligned with the implementation of NEP 2020 particularly the integration of technology, holistic, multidisciplinary, skill-based education, innovative pedagogy, continuous professional development of teachers, personalised learning experiences, Academic Credit Bank, and the goal of making education more inclusive and accessible to all. In conclusion, it can be stated that collaboration between the government, policymakers, and educational institutions will be required to effectively use online learning platforms and provide high-quality education. This includes lowering the cost of digital tools, enhancing internet access in underserved areas, enhancing skills, setting up virtual labs, and creating more course materials and video lectures in regional languages.

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# Enhancing Teacher Quality through Education and Professional Development: A Critical Review

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## **Abstract**

Teacher quality is universally acknowledged as one of the most significant determinants of student success. The improvement of teacher quality, particularly through education and professional development, has become a critical focus of educational policy and research globally. This paper critically reviews the various approaches to enhancing teacher quality, examining the role of formal education, continuous professional development (CPD), and teacher evaluation systems. The review highlights both the benefits and limitations of current practices and proposes recommendations for fostering an environment that supports effective teaching and ongoing teacher growth.

## **Keywords:**

*Teacher quality, professional development, teacher education, continuous professional development, teacher evaluation, instructional effectiveness.*

## **Introduction**

Teacher quality is a key factor in determining student outcomes and overall school effectiveness. A robust body of research supports the notion that effective teaching not only improves student learning but also reduces the achievement gap between different socio-economic groups. However, achieving and maintaining high levels of teacher quality is a complex challenge, influenced by factors such as teacher preparation, ongoing professional development, and evaluation systems. This paper seeks to explore how education and professional development initiatives contribute to enhancing teacher quality. Through a critical review of existing literature, this paper will examine the efficacy of various educational and training models aimed at improving teaching practices, the impact of professional development on instructional skills, and the influence of teacher evaluation systems on teacher performance and student achievement.

## **Theoretical Framework**

Teacher quality can be understood through several theoretical lenses. The constructivist theory suggests that teachers are learners who construct their own professional knowledge through experience, reflection, and continuous learning. Human capital theory, on the other hand, emphasizes investment in teacher education and professional development as a means to improve teaching quality and ultimately enhance student outcomes. These theories underscore the importance of both initial teacher education and continuous professional growth.

## **Defining Teacher Quality**

Teacher quality is a multifaceted concept that includes pedagogical knowledge, subject matter expertise, classroom management, and the ability to foster critical thinking and problem-solving skills in students. While there is no single, universally accepted definition of teacher quality, effective teachers are generally characterized by their ability to promote significant student achievement gains.

## **Enhancing Teacher Quality through Education**

### **Initial Teacher Education (ITE)**

The foundation of teacher quality begins with initial teacher education (ITE), which provides future educators with the theoretical and practical knowledge necessary for effective teaching. However, ITE programs vary significantly in quality and effectiveness across different countries and educational systems. High-performing systems such as those in Finland and Singapore place a strong emphasis on selective teacher recruitment, rigorous teacher preparation, and practical, classroom-based training. These programs integrate theory with practice, ensuring that prospective teachers not only understand educational theory but also know how to apply it effectively in diverse classroom settings.

One of the key criticisms of many ITE programs, particularly in the United States and parts of Europe, is that they often fail to adequately prepare teachers for the realities of classroom teaching. Critics argue that many programs place too much emphasis on abstract educational theories while neglecting essential practical skills such as classroom management, differentiated instruction, and assessment strategies.

### **Pedagogical Content Knowledge (PCK)**

A significant aspect of teacher education is the development of pedagogical content knowledge (PCK). Coined by **Shulman (1987)**, PCK refers to the blending of subject matter expertise with the pedagogical skills necessary to teach that content effectively. Teachers with high levels of PCK can tailor their instructional strategies to meet the needs of diverse learners, thus improving student outcomes.

### **Limitations of Initial Teacher Education**

While ITE is critical to setting the foundation for effective teaching, it is not sufficient for ensuring ongoing teacher quality. Research has shown that the skills and knowledge acquired during initial teacher preparation tend to diminish over time, especially in the absence of structured professional development. Furthermore, new teachers often face a steep learning curve during their first years in the classroom, as they adjust to the complexities of the teaching profession.

### **Continuous Professional Development (CPD) and Teacher Quality**

#### **Importance of CPD**

Continuous professional development (CPD) plays a crucial role in enhancing teacher quality by providing educators with opportunities to update their knowledge and skills throughout their careers. Effective CPD programs are ongoing, collaborative, and aligned with both teacher needs and student learning goals. CPD can take many forms, including workshops, peer coaching, online courses, and action research projects.

Research suggests that high-quality professional development is associated with improved teaching practices and better student outcomes. A study by **Desimone (2009)** found that teachers who participated in sustained, content-focused professional development reported significant changes in their instructional practices and had students who performed better on standardized assessments.

#### **Models of Professional Development**

There are several models of CPD, including:

**\*\*Workshops and Seminars\*\*:** These are the most common forms of professional development but are often criticized for their one-size-fits-all approach and lack of follow-up support.

**\*\*Coaching and Mentoring\*\***: Coaching involves one-on-one or group support for teachers, typically focused on specific areas of need. Research shows that coaching can lead to significant improvements in instructional practices and teacher confidence.

**\*\*Professional Learning Communities (PLCs)\*\***: PLCs involve groups of teachers working collaboratively to improve their practice. PLCs encourage reflective practice, peer learning, and the sharing of best practices.

**\*\*Action Research\*\***: Teachers engage in systematic inquiry into their own teaching practices with the goal of improving their instruction. Action research is highly effective as it fosters critical reflection and empowers teachers to take ownership of their professional growth.

### **Barriers to Effective CPD**

Despite its potential benefits, CPD is not always implemented effectively. Common barriers include lack of time, insufficient funding, and inadequate support from school leadership. Additionally, many teachers report that CPD programs are not tailored to their specific needs or are disconnected from their classroom realities. For CPD to be truly effective, it must be sustained, collaborative, and embedded in the teachers' work context.

## **Teacher Evaluation Systems and Professional Development**

### **Role of Teacher Evaluation**

Teacher evaluation systems play a critical role in ensuring teacher accountability and guiding professional growth. Effective evaluation systems provide teachers with constructive feedback on their teaching practices and help identify areas for professional development. However, poorly designed evaluation systems can undermine teacher morale and create a culture of fear and compliance, rather than one of continuous improvement.

### **Challenges in Evaluation**

One of the main challenges in teacher evaluation is balancing accountability with support for professional growth. High-stakes evaluations that rely heavily on student test scores are often criticized for narrowing the curriculum and encouraging "teaching to the test." Furthermore, such systems may fail to capture the full complexity of

teaching, which includes not only subject knowledge but also the ability to foster critical thinking, creativity, and socio-emotional learning in students.

### **Towards Formative Evaluation**

Research suggests that formative, rather than summative, evaluation approaches are more effective in improving teacher quality. Formative evaluations focus on providing ongoing feedback and support to teachers, helping them improve their practices over time. Such approaches are typically more collaborative, involving self-assessment, peer observations, and reflective practice.

### **Conclusion and Recommendations**

Enhancing teacher quality is essential for improving student outcomes and closing achievement gaps. Both initial teacher education and continuous professional development play a vital role in building and maintaining teacher quality. However, there is no one-size-fits-all solution. To effectively enhance teacher quality, educational systems must adopt a holistic approach that integrates rigorous teacher preparation, ongoing professional development tailored to teacher needs, and supportive, formative evaluation systems.

### **Recommendations**

1. **Strengthen Initial Teacher Education:** Programs should integrate theory with practice more effectively, ensuring that teachers are well-prepared for the realities of classroom teaching.
2. **Prioritize High-Quality CPD:** Professional development should be sustained, collaborative, and closely aligned with both teacher needs and student learning goals.
3. **Adopt Formative Evaluation Systems:** Evaluation systems should focus on providing constructive feedback and supporting teachers' professional growth, rather than solely holding them accountable for student test scores.

By addressing these areas, educational systems can better support teachers in developing the knowledge, skills, and confidence needed to foster student success.

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# **An analysis of the Kothari Commission's recommendations on women's education and equality in education and a review of the progress of women's education in the current National Education Policy 2020**

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## **Abstract**

After independence, the Government of India realized the importance of women's education and opportunities in the field of education in order to improve national education. For which the Central and State Governments form different commissions and committees at different times. Even at the time of independence, the Indian social system was plagued with various bad practices, child marriage, caste discrimination, anti-religious practices. Women were confined within the four walls of the house, abused and tortured in various ways by the men, even they were denied the right to touch the school premises. The female education rate was so low that India lagged far behind in the educational competition with other countries, which subsequently became a major hindrance to India's national education level. The Kothari Commission was formed in 1964 to address the problems of various levels of education in India. The purpose of this study is to shed light and critically analyze the recommendations made by the Commission on Women's Education and Equity in Education and to discuss the programs undertaken by the Government of India in the after math of the Opal Commission for Women's Education and Equity in Education and to review the progress in the literacy rate. Before and after the Kothari Commission, various commissions and committees were formed in India at the initiative of the Indian government, such as S.S Bhatnagar Committee 1940, Indian

University Commission 1948, Indian Education Commission 1952, Kothari Commission 1968, aimed at changing the progress of education in India. Since the adoption of the policies adopted by the above-mentioned commissions and committees, the education rate of men and women in India and the education rate of boys and girls belonging to socially disadvantaged and poor backward caste communities have increased to a large extent. Government of India undertakes various programs and schemes to improve women's education, future education and overall quality of education. India's population and female literacy rates and the gap between male and female education rates increased rapidly from 1971 to 2011. The Operation Blackboard 1986-87 program undertaken by the Government of India to improve the quality of India's first primary education system resulted in an 8.6 percent increase in the all-India education rate from 1981 to 1991. The education rate increased by 12.6% between 1991 and 2001 with the aim of focusing students on education through the establishment of primary schools in the district, provision of meals to students in each school and universalization of teachers, which had the effect of increasing the total population from 34.9 % in 1971 to 39.9 % increase to 74% in 2011. The female literacy rate in India was 21.9% in 1971 but with the establishment of Gandhi Balika Vidyalaya, model schools, other girls' schools adopted by the government, the female education rate increased by 43.6% to 65.5% in 2011.

### **Key word**

*Kothari Commission, Women Education, Equality Education and National Education Policy 2020.*

### **Introduction**

The future of the country is education, so education is recognized as a fundamental right of the constitution. The woman is a part of the society by which the future of the country is strengthened. Raja Rammohan Roy, Swami Vivekananda, Vidyasagar, Derozio and other philosophers and thinkers felt the need for women's education and for which they raised various protests. From the pre-independence era, women have been living in the society like foot dust due to child marriage, polygamy, sati-immolation and abandonment of female children in the Ganges. Regarding education, Swami Vivekananda said that education is the full development of the inner being of man. Hari education is possible only

when the right methodology and content for the country is adopted and it is properly implemented in the education sector. Education is the backbone of the nation but the purpose of education in subjugated India was to produce some Quranic workers who knew English language. The way of education was opened for the people of all strata of the society with the constitution of independent India. It is said to uphold the principle of equality in India's education system, rising above the distinctions of rich-poor, high-low, class, caste, caste etc. Wood's Educational Despatches of 1854 first reformulated and revised the education system in British India. At the time of independence, the Indian constitution gave various conservation orders for the development of education for the backward communities in the society. Programs adopted by the government like S.S Bhatnagar Committee 1940, Radhakrishnan Commission 1948, Godalia Commission 1952, National Education Policy 1986, National Literacy Mission 1988 etc. are effective enough to improve the quality of education. On July 14, 1964, Dr. D. S. Kothari and a total of 17 members formed this commission and presented the report of the commission under the title of Education and National Development. The report made recommendations on the structure of school education, the structure of higher education, the curriculum of primary, primary, secondary education, women's education, opportunities in education and many other issues. Education can play a key role in changing the social status of girls in the country. National education increases to sustain and develop the positive aspects of women power. Female education helps in reducing gender inequality in the country as it makes every woman self-reliant. In order to increase the rate of education, reduce child labor and secure the right of every child to his own education, the constitution talks about equal opportunities in education. As a result of which development of human resources and quality of life of people is possible in the country.

### **Review of literature**

Various research papers and other contemporary books have been reviewed to complete the study. All those books, journals, articles have been reviewed, they are summarized below.

- 1) Commission and Committee on Technical Education in Independent India: an appraisal by Sameer Kumar Saha and Sangeeta Ghosh published in Indian Journal of History of Science in 2012. Discussed in detail about various commissions and committees,

highlighted the recommendations made by the commissions on the subject of scholarship education.

2. Policies and recommendations of women education in the context of modern Indian history research paper written by Shampa Burman was published in International Journal of Applied Research in 2015. Gave information about various commissions. Preamble to the Constitution, analyzed the current state of education in various democracies through tables. He stated that the school enrollment rate of students increased by 2013.
3. A Situational Analysis of Women Education in India by Nisha Roy was published in March 2010. This book reviews the progress of women's education and the relevance of women's education today. Barriers at each level of education in India and state-wise male education rates are presented in bar graphs.
4. The research paper "Swamiji's Women's Education in the Voice of Viveki Kanthswar" written by Munmun Dutt was published in the International Journal of Humanities and Social Sciences in 2017. Quotations on Womens Education, shed light on the need for women's education according to Swamiji's view.
5. The research paper Right to Education of Equality of Educational Opportunities written by Kishore Singh was published in Journal of International Cooperation in Education in 2014. Kiru highlights some of the fundamental rights of education for equality and the barriers to education for equality and the changes in education for opportunities.
6. Jandhayal B. G. Tilak, N.V. Varghese paper Resources for Education for All was published in 1990 in the Journal of Education and Social Change. Researched the current state of India's education expenditure, universality of education from primary level to higher education and access to education through various statistics.

## Objectives

1. To shed light on the recommendations of the Kothari Commission regarding women's education and equality in education.
2. Critical analysis of the recommendations made by the Fraudulent Mission on women's education and equality in education.

3. To review the progress of male female literacy rate in the next decade of Kothari Commission.
4. To discuss the programs taken by the Government of India after the Kothari Commission for women's education and equality of education.
5. To review the programs adopted for women education in the National Education Policy 2020.

## **Methodology**

Realizing the barriers of education for women education and equality of education in the society, the analysis of the recommendations of women education and equality of education mentioned by the Kothari Commission and the review of the progress of women education at present has been selected. Keeping in mind the objectives of this study, qualitative data were analyzed to carry out the study. Various data have been collated with the help of textbooks, intranets, catalogues, reports and journals and statistical tables and bar graphs have been used to present the data accurately.

## **Analysis**

E.1) Kothari Commission's recommendations on women's education discussion-

In order to rapidly expand women's education, the Commission agreed with the National Committee on Women's Education and gave some significant recommendations. The Commission not only made recommendations on women's education, but also looked into the examination system, teacher monitoring, adult education, vocational education and other issues to properly manage the entire education system in India. Below are the recommendations on women's education.

1. Prior to 1964, India's female education rate was so low that it lagged far behind other countries. But men were more advanced in education than women, while the education gap between men and women was much wider. In order to reduce this gap, the recommendation says that the difference in the education rate of men and women should be reduced in the next few years and it is also said that the education rate of women and men should be equalized as soon as possible.

2. For the purpose of improving the education of girls, the necessary plans should be taken up and the government will provide financial support for the money spent on this plan.
3. The ratio of women to men at the higher education level should be reduced considering the number of educated women in various fields. Instead of educating one woman out of every four men, one woman out of every three men should be educated.
4. Male and female courses should be abandoned. Girls should be given opportunities for education in science, arts and not just housework. Home science, nursing, scholarship and technical education etc. should be encouraged.
5. Scholarships are called for so that girls do not drop out of education due to extreme poverty, so that they can bear all the expenses of their own education.

E.2) Kothari Commissioned discussion of recommendations on equality in education—

If we want to bring equality in education in the country, all the backward castes, poor people, and people with extreme poverty, scheduled castes, tribes in India should be brought under education. Because these people are deprived of various opportunities of education and all of them are far behind in educational qualifications. To bring equality in the education of these people, Dr. D.S. Kothari and 17 other members presented some recommendations to the government. The recommendations are discussed below.

1. Those students who are lagging behind in education should be enlightened in the light of education through special measures.
2. So that every child in the country is focused on receiving minimum education, the commission recommends making primary education free of charge and if any student is active in receiving higher education in addition to primary education, then the government will support as much as possible.
3. There are many such families in India. Those who are unable to buy textbooks, school clothes for children due to financial problems, to avoid such problems, the government should distribute free textbooks and school clothes from class I to VIII.

4. To all students from primary education level to higher education level. Scholarship is said to be given. It is said that schools should reserve seats for scheduled caste, tribal, minority students and provide special education to educate them well. is spoken For this, the commission ordered to start common school system.

### **Critical Analysis of Kothari Commission Recommendations on Women's Education**

Kothari Commission realized the importance of women's education and stressed on expansion of women's education. Commissioned recommendations take some positive and negative roles in the field of women's education. Briefly discussed.

#### **Positive aspects of the recommendations for women's education**

1. The recommendations say about the creation of employment for women abroad which is helpful for women's education and the development of society. Likewise, there will be a change in the standard of living, which will increase the total national income of the country; therefore, with the help of this recommendation, a positive role will be created in the Indian society.
2. The social security aspect of every girl in the society will be much more secured as the recommendation calls for establishment of separate schools for girls. As a result, girls get an opportunity to study in school or college with fearless dignity and the chances of crime against girls in the country will be reduced.

(3) The ratio of women and men in higher education is 1:4, the ratio should be increased to 1:3 considering the needs of educated women in various fields. As a result, the literacy rate of women will increase significantly and the gap in education between men and women will be reduced, which will play an important role in gender inequality.

(e) 3.2) Negative aspects of the recommendations for women education:-

1. The commission said to provide full-time employment for girls as soon as they reach the age of marriage, this recommendation of the commission failed because the government did not take any important steps in this regard in almost every country in our country. Two-thirds of the women in the district are currently engaged in handicrafts and domestic work in their homes part-

time. As a result, the government has not provided old-time jobs in any way, which has an impact on unemployment in the country.

2. In the report of the commission, there is one more recommendation about women's education, the curriculum of boys and girls cannot be differentiated, although this recommendation has some good qualities, later one more thing is said about the curriculum of women's education, home education, nursing education, social service etc. Emphasis should be given after teaching the subject. Which indirectly indicates in this recommendation that it is necessary to give domestic education, nursing education to girls, but nowhere in the recommendation is it mentioned that this education should be applied to men, so it is clear from this that there has been discrimination in the education of men and women. It has indicated a boundary line regarding the rights of women and men, which is bad for women. Falling over
3. The recommendation mentions the establishment of technical education institutions for technical education of girls. As India is the second most populous country, the number of primary schools is very less and it is irrelevant to think of setting up new technical education institutions there. Even if it is possible in some cases, some political anarchy hinders the establishment of institutions. So it is understood that this recommendation is for women education. Development is not accurate.
4. Critical discussion of equality issues – Kothari Commission realized the importance of equality in education and tried to bring equality in education. The recommendations made by the commission have some positive and negative aspects which are discussed below.

### **Positive Aspects of Equity in Education**

1. To eliminate inequality in education, the fourth five-year plan calls for making primary education free, which is one of the significant positives of the recommendation because even if not every student in the country can be educated in higher education, they will receive primary education. can be included and the literacy rate of the country increases as a result of which the people of the country will have minimum education. Achieving the objective of this recommendation is made easier by making the primary education

system free. Those who are not financially well off in India also get the opportunity to come under this education system. As a result, the inequality of education in the country is reduced.

2. This recommendation calls for the provision of scholarships for students at all levels of education. As a result, every student in the country is included in education by receiving support. It is said to give an increase as much as the education is spent at the level, so it is possible to prevent economic wastage in the education sector and no student of the country is deprived of the opportunity to receive scholarships, equality prevails in the education of the fruitful country. This proposed augmentation system is very relevant to Indian education.
3. The commission recommended introduction of “Common School System” in schools to create equal opportunities in education. Through this, students of every national religion of the country can receive the same school, the same education. As a result, there is no caste discrimination problem in the school environment. As a result, this recommendation creates a positive direction in the field of Indian education.

### **Negative aspects of opportunity in education**

1. Within the implementation of the five-year plan, the recommendation is to make lower secondary education free of charge in government and government-recognized private schools. For the minimum salary and the relevant cost of schooling are charged. Most of the government recognized private schools in India are given the opportunity to study on salary. As a result, this recommendation is failing and negative aspects are being observed for some people in the society to fulfill their own interests.
2. The recommendation is to create book frogs and improve libraries with the aim of bringing educational opportunities to secondary schools and colleges. It is almost impossible to follow specific rules and regulations in schools and colleges of countries like India. In most cases, it is seen that there are not enough books available in schools and colleges and the number of new books is very less. Some laziness of the management can be noticed in the libraries. Many times the tradition of libraries is getting dusty due to the

lack of awareness of the students about the library. In some cases, discriminatory behavior in libraries hinders access to education, the recommendation said.

3. Special steps are taken for the education of the rural backward people and the students belonging to the backward communities in order to provide educational opportunities. Most of the people in India spend their days in financial straits due to which they involve their children in work and have no regard for education, most of the parents are unable to understand the importance of education. Although the government has taken special steps in this regard, the recommendation has repeatedly failed due to the apathy of the parents.

### **Progress Review of Male and Female Enrollment Rate in Post-Kothari Commission Audience**

Before independence, women were far away from the boundaries of education, at that time various education commissions were launched, but little progress was made in the field of education, but far-reaching progress was not possible. After the implementation of the Commission's recommendations, a paradigm shift is beginning in the Indian education sector. Day by day the difference in literacy rate between men and women is becoming more and more evident in India which we can also call the gender literacy gap. After the Kothari Commission recommendations, as the enrollment rate of men and women has increased manifold in India from 1971 to 2011, the literacy gap between men and women has reduced to a large extent, as shown in the table below.

**Table-1: India Literacy Rate**

YEAR	TOTAL (%)	MALE (%)	FEMALE (%)	The Literacy Gap between Men and Women
1971	34.4	45.9	21.9	23.9
1981	43.6	56.4	29.8	26.0
1991	52.2	64.1	39.8	24.8
2001	64.8	75.3	53.7	21.6
2011	74.0	82.1	65.5	16.6

Source- Census of India, 2011

## **Discussion of the programs taken by the Indian government after the Kothari commission to bring equality in women's education and education:-**

The Indian government is very interested in increasing the literacy rate of India, increasing the female literacy rate, as well as increasing the demand for secondary and higher secondary education. It became secondary education and to develop the rate of female education and to improve the quality of education. Secondary education is an important level in the Indian education level, with the aim of accelerating and universalizing the spread of female education rate in the society, how many projects are launched by the central state government. The projects are discussed below :-

### **(1). Operation Blackboard, 1987-**

This program was adopted as per the National Education Policy 1986, one of the objectives of this program was to expand and improve the quality of education. This program was started by the central government in 1987. In this program every primary school is supposed to provide minimum facilities. Two hall rooms with separate toilets, balconies for students are said to be provided with necessary usable blackboards, maps, toys and other materials. Around 91% of primary schools across India have adopted the programme.

### **(2). District Primary Education Programe, 1995-**

1995 This program was adopted by the central government from 1995-1996 AD. This program is made up of certain objectives. All children from first class to fifth class should be given an opportunity to study in schools. The number of students should be less than 10%. The success rate of literacy should be increased by 25 percent. In this program it is said to train teachers. Block resource centers are being formed to train teachers in this program initiative.

### **(3) Mid Day Meal, 1995-**

Another name of the Mid Day Meal project is National Program of Nutritional Support to Primary Education. This program was launched in 1995. The main objective of this initiative is to provide food for the nutrition of all children at the primary level. The program's efforts to increase school enrollment by reducing the hunger of normally hungry children is building relationships among all ethnic and

religious communities and creating healthy children and employment opportunities for women.

**(4). Sarva Shiksha Abhiyan, 2001-**

Sarva Shiksha Abhiyan is a community service initiative dedicated to providing quality education with the aim of human capacity development. It is a central government scheme. The real objective of this program is to bring all children under school education till the age of 14 years. It is the preparation of a District wise Early Education Plan.

**(5). National program for education of girls at elementary education (2003)-**

This project was started in 2003. In all parts of the country where girls are not enrolled in school, the emphasis is on enrolling children in school. Girls are asked to provide essential items such as school dress, books, etc. One of the aims of this project is to eliminate gender inequality. Through this program children are given quality education.

**(6). Information communication technology project (2004)-**

It was launched in the month of December 2004 with the help of the central government. One of the objectives of this project is to teach students through ICT, to turn every Navodaya school into a smart school, to keep 80 computers in every smart school.

**(7). Rashtriya Madhyamik Shiksha Abhiyan (2009) –**

Rashtriya Madhyamik Shiksha Abhiyan was launched in March 2009 by the Ministry of Human Resource Development, Government of India, to develop public school secondary education across India, bringing all secondary education schools up to standard and focusing on educating girls across the country.

**(8). State Higher Education Campaign (2013) –**

This scheme is a central scheme started in the month of October 2013. The project primarily concerns the low enrollment ratio of higher education in India. RUSHA aims to encourage Indian states to improve higher education in India. RUSHA aims to increase the enrollment ratio of higher education institutions in India to 30 percent by 2020.

### **(9). Support to Training and Employment Program for Women (STEP) 2014-**

The STEP project aims to provide skills that provide employment to women or enable women to engage in self-employment. This project is targeted to benefit women aged 16 years and above across the country.

### **(10). Beti Bachao Beti Padhao (2015) –**

It was launched in 2015 as an initiative of the Central Government. One of the objectives of this program is to protect and provide security to girls from anti-social activities. The main objective of this project is to reduce female feticide in the society, by making every person in the society aware about female education.

### **Programs for Women Education in the National Education Policy 2020.**

The government has taken several steps to improve the quality of education for girls and women. The new UGC rules for free and distance education have given women students the opportunity to get admission in reputed institutes of the country. Self-Portal – Using ICT technology to provide maximum educational opportunities to all categories of women including the underprivileged. More educational institutions have been opened for women students with the financial help of the Centre. State governments have been encouraged to open open educational institutions through the State Higher Education Campaign. This initiative has been taken so that female students can get equal opportunities and excel in higher education. Several vocational programs have been taken up to cover the cost of education. As per the recommendations of the National Education Policy 2020, all female students have been provided free accommodation in hostels. Even the Central Government will set up a Gender Inclusion Fund so that all female students can get quality and equitable education. This fund will ensure 100 percent enrollment of girls in schools and record participation rate in higher education. Besides, according to the National Education Policy, it has been asked to provide special scholarships for women, transsexuals, and disabled people.

### **Conclusion**

Women are the bearers and bearers of society. Almost half of India's huge population is women, so if women do not develop, our country's

future will not be long, as a result, the country's development will be hindered. The effectiveness of Kothari Commission's recommendations in the advancement of women's education is evident. As the mentioned recommendations bully has some positive aspects as well as some negative aspects also exist, if the problems of these negative aspects can be eliminated, the recommended goals will be able to be met. However, it cannot be denied that the number of students at primary, primary and upper primary levels of education has increased by taking various important programs like Operation Blackboard, Sarva Shiksha Abhiyan, Beti Bachao Beti Padhao, District Primary Programme, etc. Decreased the female literacy rate has almost tripled since 1971. In 1971, the female education literacy rate was about 21 percent, which is 65% in world 2011. In addition to female education, the school enrollment rate of Scheduled Castes and Scheduled Tribes children has increased. Finally it can be said that if Indian government and administrative organizations increase the quality of women education and strive to empower women then the country will develop at social, economic and political and national levels.

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# Unraveling Mathematics Anxiety: The Impact of Gender and Academic Motivation in Adolescents

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## Abstract

Anxiety in mathematics would be a negative emotional reaction toward problems related to mathematics. As concerns the overall performances of adolescents, very little is paid to how much academic motivation might have an effect on mathematics anxiety in adolescents within a school context. While such a study targeted the role played by the gender in moderating the mathematics anxiety effect on mathematics achievement among adolescents with regard to attitude toward mathematics, interaction with teachers, and mathematics instruction, little attention is paid to how academic motivation might affect mathematics anxiety in adolescents within a school context. To address this gap, the researcher has taken up the issue which will specifically focus on gender differences in explaining the effects of different facets of academic motivation on reducing the mathematics anxiety. Descriptive survey approach has been applied in this investigation. 'Mathematics Anxiety Scale (MAS)' (Zakariya, 2018) and 'Motivated Strategies for Learning Questionnaire (MSLQ)' (Pintrich & De Groot, 1990) had been administered as per the directions provided in the manual of the tools for gathering t data for this study. The participants of this study were 240 adolescents from Anglo-Indian Secondary / Higher Secondary schools from Hooghly and Purba Barddhaman. Descriptive as well as deducible statistics were employed to determine the comparison and association between independent and dependent variables. Much contrast was not found in Academic motivation but female adolescents were found having more mathematics anxiety. Test anxiety and self- regulation were found potent to predict Mathematics Anxiety for both genders.

## Keywords

*Gender, Mathematics Anxiety, Academic Motivation*

## Introduction

“Mathematics anxiety” is a sense of unease and apprehension that is a barrier to solving numerical and mathematical problems in academic environments and in day-to-day situations. In academic settings and multiple occasions, students’ poor performance in mathematics is but mostly because they are anxious about it according to studies. Many studies have looked at whether or not mathematics anxiety is different for men and women, and some of those studies have revealed that women do, in fact, have higher levels of mathematics anxiety. While some research has found no consistent gender gaps in mathematics anxiety, however, this finding is yet to be confirmed.

When an individual has mathematics anxiety, he/she reacts negatively to mathematics circumstances or activities, and this can negatively affect his/her performance and motivation. Numerous researchers have examined whether or not men and women report differing levels of mathematics anxiety, with some coming to the conclusion that women do. In this response, we intend to look at the relationship between gender and study motivation and mathematics fear.

For example, in a study by (Hembree, 1990) female students were more affected by mathematics anxiety than male students, and the effects were apparent in both areas of academic performance. The results are still subject to debate between factors of socialization and inherent differences, but undoubtedly, boys excel in mathematics and participate more in the study of mathematics. It has been thought for a long time that the reason girls have low achievements in mathematics is due to the fact that they lack spatial vision skills. Reasons given supporting this notion include the superiority of males on spatial tests and the greater rates of reading difficulties and attention deficit problems in boys. Thus, the gender disparity in achievement has often been attributed to biological differences. According to a 1992 study by the American Association of University Women, gender bias and the resulting decrease in girls’ self-esteem are to be blamed for the gap in academic performance between the sexes. (Hanna,2003;”type”:”article-journal”,”uris”:[“http://www.mendeley.com/documents/?uuid=c2f3286d-249d-412e-9724-d46b7df417db”]”},”mendeley”:{“formattedCitation”:(Hanna, 2003Collins & Kimura, 1997; Amponsah, 1998)

## **Mathematics Anxiety**

A lot of research findings imply that “mathematics anxiety” and “test anxiety” have stronger connection than the one between “mathematics anxiety” and some aspects related to academic achievement. The relationship between “mathematics anxiety” and “test anxiety” has been reported by different research papers and is rated at 0.3-0.5. Generalized anxiety might be occurring when one is afraid of mathematics but its interaction with math anxiety brings complexity to this situation. Mathematics anxiety appears to be particularly connected with one’s self-rating of one’s aptitude for mathematics. Anxiety is more prevalent among people who feel they are not good at mathematics. Almost all studies linked with mathematics anxiety have a negative impression of one’s mathematics abilities. (Dowker et al., 2016)

Many people appear to have trouble grasping the ideas that underlie studying many branches of mathematics, despite the fact that certain people have mild to severe specialized learning challenges in mathematics topics. Yet, not all numerical difficulties are brought on by cognitive problems. Several people, both young and elderly, are affected by mathematics anxiety, which can have a terrible effect on learning and finishing mathematics tasks by making people avoid mathematics-related activities and overtaxing and weakening working memory when performing mathematics tasks. There are presently little gender differences in real mathematics ability in countries where boys and girls have equal access to school, women of all periods are more prone than men to underestimate their own arithmetic skills and suffer anxiety when it comes to mathematics. In countries where boys and girls have equal access to school, there are presently few gender differences in actual mathematics ability, with women of all ages underestimating their numeracy and suffering from mathematics anxiety more often than men. (Wigfield & Meece, 1988; Ma & Kishor, 1997)

## **Academic Motivation**

According to (K. Kandavel, 2022) Academic motivation is the desire, effort and tenacity lead students to succeed academically. Academic motivation helps students succeed in their academic endeavours, reduces academic failures, and has a significant impact on how well they perform in the classroom. Students need to be motivated so that they continue to study and improve their academic performance. (Naeghel

et al., 2012) a questionnaire measuring recreational and academic reading motivation based on self-determination theory. The study clarifies the relation among reading motivation, reading self-concept, reading behavior (i.e., engagement and frequency) concluded that intrinsic motivation is crucial in the classroom since it boosts productivity. Academic motivation, hence, aims at the students' creativity, learning skills, satisfaction with school, attendance in a class, and completion of homework. The overall motivation has a complex non-cognitive psychosocial structure. Their performance depends upon the quality of their training in cognitive, behavioural, and emotional skills. (Vallerand et al., 2008)

People's attitude and experiences at work greatly impact their level of motivation. Students want to participate actively in the classroom because they see themselves as partners in the learning process. This is an outcome that the educator should strive for. It is imperative that teachers are aware of their students' individual learning styles and objectives. When a student is placed in a hostile learning environment, he is more likely to act out and do poorly. A better learning environment can be established if the individual student's educational requirements are known. (Baba, 2006)

An individual's level of drive to learn is the single most influential determinant of their level of learning achievement. A richer comprehension of motivation helps teachers and students identify what causes high or low academic success. (Pintrich & De Groot, 2003)

### **Rationale of the study**

This study provides data to assess relationships between various dimensions of Academic motivation and Mathematics anxiety with respect to Gender. **Knowing the cause of mathematics anxiety of adolescents, the researcher will be able to recommend in creating a study environment to nurture high and moderately anxious students, and thus developing their ability on mathematics problem solving.**

### **Literature Review**

According to (Wahid et al., 2018) the stress associated with learning mathematics and the methods of instruction are two factors that

contribute to mathematics' reputation as a challenging subject. The aim of the research was to find out performance differences between men and women in schools and also to establish how math anxiety affects academic achievements in students. 326 college students made up the sample for the study. An interview schedule and a questionnaire were both used to collect information. Using structural equation modelling, the researchers found that arithmetic anxiety was inversely related to performance in school. Yet, the results showed that women, suffered more from the effects of performance anxiety than males. This study revealed that reducing students' arithmetic anxiety and improving their motivation and self-confidence resulted superior mathematics performance.

(Hart & Ganley, 2019) found that arithmetic anxiety is not limited to children and students in the United States, but also affects adults. In order to evaluate the characteristics of arithmetic anxiety within this group 1000 people were enlisted. With a mean somewhere between "some" and "moderate," mathematics anxiety followed an approximately normal distribution. Mathematics anxiety was inversely related to both mathematics aptitude and familiarity with probability, while test anxiety was positively related to generalised worry. Mathematics anxiety was reported by more women than men. Those who had completed graduate school or who worked in a STEM sector reported much lower levels of mathematics anxiety.

As per study of (Van Mier et al., 2019), it is crucial to develop one's mathematics skills if one wants to excel in school, at the workplace, and in daily life. Research shows that arithmetic anxiety negatively impacts both mathematical ability and learning. Since female students typically experience arithmetic anxiety more severely than male students, it is imperative to take gender into account when researching on the topic. Younger children have received much less attention than teens in studies on the gender gap in arithmetic anxiety and performance. This research tried to address this void by contrasting the mathematics worries and abilities of first-grade boys and girls. A total of 124 students in grades II and IV were evaluated for mathematics anxiety and mathematics skills (67 girls and 57 boys). Although the performance of both genders on the arithmetic problem was comparable, both had high mathematics anxiety, the females' relationship between anxiety and performance proved

significant. In girls, mathematics anxiety significantly predicted second-grade mathematics performance. These results show the importance of considering gender differences when looking at how much anxiety people feel about math. They found that from second grade onwards there was a significant negative relationship between girls' anxiety levels about math and their achievement in the subject. This suggests that it is necessary to detect and deal with mathematical anxiety among females early enough. (Sangwan, 2019) investigated on parents' mathematics worries affected how often they helped their first-graders with arithmetic homework. Also, it was examined how children's mathematics performance was impacted by their mathematics fear. Children's physiological responses to animal circles comparison questions, and narrative listening were monitored using electrodermal analysis (EDA) to read skin conductance.

(Szczygieł, 2020) studied that although arithmetic anxiety has been linked to improved mathematics performance, little is known about its characteristics in youngsters. Students' gender, general anxiety, and mathematics anxiety was tracked throughout the period. The findings first demonstrate that there are various types of mathematics anxiety that contribute to the gender gap and that girls worry more generally than boys do. Despite the fact that girls outperform boys on mathematics test anxiety and total mathematics anxiety scores, no significant difference was investigated in primary and middle school level. Second, among primary and secondary school pupils, general anxiety fully moderated the connection between gender and arithmetic anxiety.

**Kandavel & Vasudevan (2022)** found that a distinction is sitting on the gulf that far separates high school students' academic zest from their idiosyncratic natures most notably on language. Therefore the connection between education success and that academic enthusiasm of the high school students is very strong. In view of this necessity arises for teachers to motivate or inspire high school learners especially while they are in class or during any teaching affair. High school teachers should organize programs to encourage students and parents should always give their teenagers incentives to perform well while in school. High school principals should come up with suitable motivation strategies for the improvement of academic achievements among students so as to succeed in both their academia and extras.

### Research Objectives:

- To compare the academic motivation of female and male adolescents.
- To compare the mathematics anxiety of male and female adolescents.
- To construct a multiple regression equation to predict mathematics anxiety with the help of different facets of academic motivation of the male adolescents.
- To construct a multiple regression equation to predict mathematics anxiety with the help of different facets of academic motivation of the female adolescents.

### Research Hypotheses:

- i. There is no difference between male and female adolescents in all the facets of Academic Motivation.
- ii. There is no difference between male and female adolescents concerning mathematics anxiety.
- iii. There remains statistically significant regression coefficient to form the equation to predict Mathematics anxiety of the male adolescents with the help of their different facets of academic motivation.
- iv. There remains statistically significant regression coefficient to form the equation to predict Mathematics anxiety of the female adolescents with the help of their different facets of academic motivation.

#### a. Delimitations of the study

- i. The study was delimited to districts Hooghly and Purba Barddhaman in West Bengal only
- ii. The study was conducted in Anglo-Indian Secondary / Higher Secondary schools only.

#### b. Methods and Tools used:

Descriptive survey approach was considered as method in this investigation. **The sample has been selected consisting of 240 students of classes IX to XII from four Anglo Indian schools of Purba Barddhaman and Hooghly districts of West Bengal, India, through simple random sampling.**

**“Mathematics Anxiety Scale (MAS) (Zakariya, 2018) and Motivated Strategies for Learning Questionnaire (MSLQ)**

(Pintrich & De Groot, 1990)” were administered in the study. Proper applicability, reliability and validity were considered in accepting the tools.

**c. Variables of the study**

Independent variable: Academic Motivation

Dependent variable: Mathematics Anxiety

Moderator variable: Gender

**d. Data Analysis:**

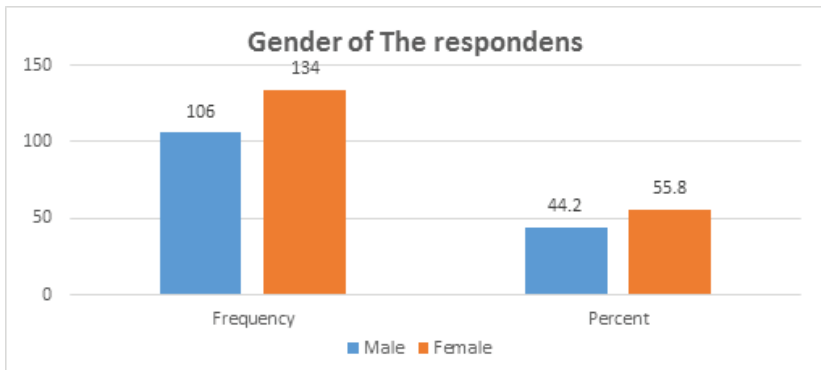
The information collected for this investigation was analysed using Descriptive statistics, different sample t-test and multiple regression equation was formulated for predicting objective using SPSS 22.

**Results:**

**Table: 1.1 Gender of The respondents (frequency and corresponding percentage)**

Gender of The respondents		
	Frequency	Percent
<b>Male</b>	106	44.2
<b>Female</b>	134	55.8
<b>Total</b>	240	100.0

**Figure1.1: Graphical representation of gender of the respondents**

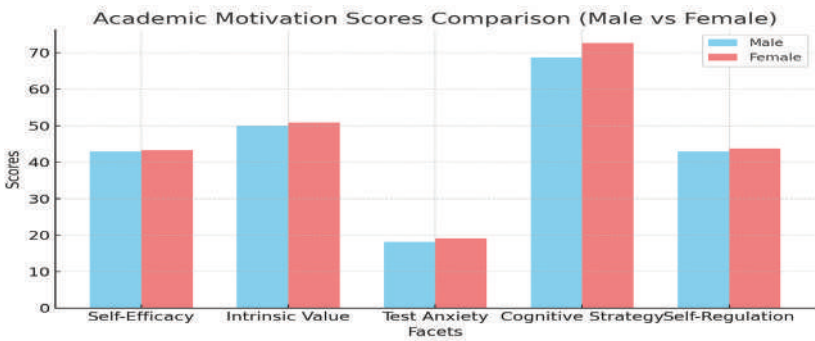
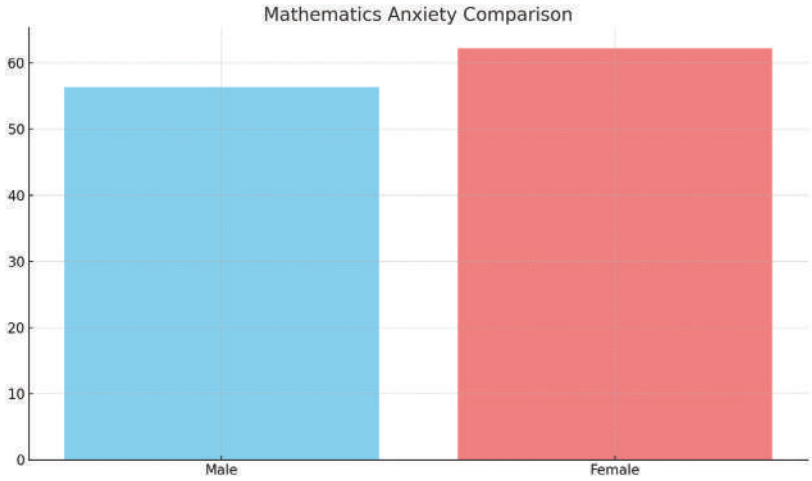


**Table: 1.2 Group Statistics of Scores on (MSLQ) of the Male and Female adolescents**

Academic Motivation	Gender	N	Mean	Standard deviation
Self-Efficacy	Male	106	42.87	9.26
	Female	134	43.30	8.75
Intrinsic Value	Male	106	50.0	9.41
	Female	134	50.87	6.32
Test Anxiety	Male	106	18.21	5.59
	Female	134	19.17	5.21
Cognitive Strategy Use	Male	106	68.70	12.01
	Female	134	72.70	8.10
Self-Regulation	Male	106	42.96	7.02
	Female	134	43.80	5.74
Total MSLQ Score	Male	106	222.77	32.79
	Female	134	229.86	21.35

**Table: 2.1 Group Statistics of Scores on Mathematics Anxiety (MAS) of the Male and Female adolescents**

Mathematics Anxiety	Gender	N	Mean	Standard deviation
Learning Mathematical Anxiety(LMA)	Male	106	30.21	8.18
	Female	134	32.80	7.80
Perception of difficult and motivation(PDM)	Male	106	26.10	10.09
	Female	134	29.42	9.68
Total MAS score	Male	106	56.31	17.82
	Female	134	62.23	16.99



**Table 1.3 showing the mean comparison on Academic Motivation between Male and Female adolescents**

"Independent Samples Test"								
F		"Levene's Test for Equality of Variances"			"t-test for Equality of Means"			
		Sig.	t	df	Sig. (2-tailed)	"Mean Difference"	"Std. Error Difference"	
Self-Efficacy	"Equal variances assumed"	.209	.648	-367	238	.714	-.42861	1.16788
	Equal variances not assumed			-365	219.399	.716	-.42861	1.17556

Intrinsic Value	Equal variances assumed	6.854	.009	-.847	238	.398	-.86370	1.01920
	Equal variances not assumed			-.811	175.585	.419	-.86370	1.06548
Test Anxiety	Equal variances assumed	.533	.466	-1.363	238	.174	-.95466	.70056
	Equal variances not assumed			-1.352	217.701	.178	-.95466	.70637
Cognitive Style	Equal variances assumed	14.438	.000	-3.072	238	.002	-4.00141	1.30248
	Equal variances not assumed			-2.940	176.290	.004	-4.00141	1.36082
Self-Regulation	Equal variances assumed	3.319	.070	-1.024	238	.307	-.84371	.82430
	Equal variances not assumed			-1.000	200.881	.319	-.84371	.84383

This test value shows there is no significant differences in all the facets of academic motivation except cognitive style among Male and female adolescents. Therefore the null hypothesis is retained except the dimension cognitive style

**Table 2.2 showing the mean comparison on Mathematics Anxiety between Male and Female adolescents**

"Independent Samples Test"								
F		"Levene's Test for Equality of Variances"		"t-test for Equality of Mean's"				
		Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	
LMA	Equal variances assumed	.006	.938	-2.498	238	.013	-2.58899	1.03644
	Equal variances not assumed			-2.484	220.394	.014	-2.58899	1.04220

PDM	Equal variances assumed	.209	.648	-2.590	238	.010	-3.32160	1.28268
	Equal variances not assumed			-2.577	221.089	.011	-3.32160	1.28887

Result depicted significant difference found in both dimensions of mathematics anxiety of male and female adolescents Therefore, the null hypothesis which states that “There is no significant difference in the mean scores on Mathematics Anxiety of Male and Female adolescents from D.A. getting Anglo-Indian Secondary / Higher Secondary schools” is rejected.

**Table: 3.1 Model summary of effect of all the facets of Academic Anxiety on Mathematics anxiety score (MAS) of the Male adolescents**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15346.846	5	3069.369	17.046	.000 <sup>b</sup>
	Residual	18006.249	100	180.062		
	Total	33353.094	105			
a. Dependent Variable: MAS						
b. Effect of: All the facets of Academic Motivation						

In the above table sig. value of test is 0.00, F=17.046 (significant at .01 level) which shows statistically significant regression coefficient to form the equation to predict Mathematics anxiety of the male adolescents from Anglo-Indian Secondary / Higher Secondary schools considering different facets of their academic motivation.

**Table: 3.2 Coefficients in Multiple Regression Analysis with Total Mathematics anxiety score (MAS) of the ‘Male adolescents**

Coefficients <sup>a</sup>						
Model B		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta			
1	(Constant)	28.345	9.493		2.986	.004
	Self Efficacy	-.359	.200	-.186	-1.794	.076
	Intrinsic Value	-.292	.243	-.154	-1.198	.234
	Test Anxiety	1.749	.257	.549	6.804	.000
	Cognitive Strategy Use	-.048	.198	-.032	-.242	.810
	Self Regulation	-.684	.241	-.270	-2.833	.006

a. Dependent Variable: MAS

$$MAS_{\text{Male}} = 28.345 + (-0.359) \times \text{Self-Efficacy} + (-0.292) \times \text{Intrinsic Value} + 1.749 \times \text{Test Anxiety} + (-0.048) \times \text{Cognitive Strategy} + (-0.684) \times \text{Self-Regulation}$$

**Table: 4.1 Model summary of effect of all the facets of Academic Anxiety on Mathematics anxiety score (MAS) of the Female adolescents**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11442.543	5	2288.509	10.861	.000 <sup>b</sup>
	Residual	26971.286	128	210.713		
	Total	38413.828	133			

a. Dependent Variable: MAS  
 b. Effect of: All the facets of Academic Motivation

The Anova test shows sig. value 0.00, F=10.046 (significant at .01 level) which shows statistically significant regression coefficient to form the equation to predict Mathematics anxiety of the female adolescents with the help of their different facets of academic motivation.

**Table: 4.2 Coefficients in Multiple Regression Analysis with Total Mathematics anxiety score (MAS) of the Female adolescents**

Coefficients						
Model B		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta			
1	(Constant)	91.624	14.252		6.429	.000
	Self Efficacy	-.539	.181	-.278	-2.984	.003
	Intrinsic Value	-.497	.246	-.185	-2.019	.046
	Test Anxiety	.574	.263	.176	2.183	.031
	Cognitive Strategy Use	-.296	.202	-.141	-1.466	.145
	Self Regulation	-.680	.267	-.230	-2.545	.012

a. Dependent Variable: MAS

$MAS_{\text{Female}} = 91.624 + (-0.539) \times \text{Self-Efficacy} + (-0.497) \times \text{Intrinsic Value} + 0.574 \times \text{Test Anxiety} + (-0.296) \times \text{Cognitive Strategy} + (-0.680) \times \text{Self-Regulation}$

## Conclusion and Discussion

The results highlight the common nature of mathematics anxiety in adolescents, on both boys and girls although to certain extents. Mathematics anxiety shows different patterns in males and females, which are related to academic motivation specifically dependent on various dimensions of psychological processes such as cognitive style and self-regulation. They are fundamental elements that impact how students learn mathematics. Looking specifically at students that are generally more motivated academically, gender differences in mathematics anxiety remain, indicating that the issue is not only due to academic outcomes but also linked to psychological and emotional responses to learning.

These differences are important to address, in order to support students' overall success in mathematics. Importantly, test anxiety (which has been found to be sui generis with math anxiety in both genders) only worsens the matter. This, therefore, indicates that interventions do not only need to work on enhancing the mathematical abilities but also in tackling emotionally and psychologically barriers experienced by students

Improvement of education can be possible if it begins with promoting a growth mindset amongst every stakeholder in the educational process: teachers, parents and students. Promoting self-efficacy, valuing the utility of mathematics for its own sake, using effective cognitive strategies and efforts focused on strong self-regulation will allow students to handle their anxiety and get better results. This would go a long way at alleviating test anxiety for both male and female students, allowing them to participate with enthusiasm and confidence among their peers in mathematics, which could possibly set them up not only for academic success but potentially successful future careers that require mathematical proficiency.

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# The Role of Classroom Strategies in Mitigating Chemistry Anxiety and Promoting Mental Health in Higher Secondary Students of West Bengal

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## **Abstract**

The purpose of this research is to examine the classroom strategies that help to reduce the chemistry anxiety level and enhance the mental health of higher secondary students in West Bengal. A review of literature also stresses the significance of culturally specific interventions that are compatible with education scenario of West Bengal leading to this research study. Thus, the study's implications are there to support the notion that when classroom concepts are aligned with local contexts, students' chemistry anxiety will be lower, and their psychological wellbeing will be higher. In this way, the subjected interventions are align with local needs, and both theoretical and practical experience that educators use help to provide children with better possibilities to cope with anxiety and to improve their well-being and academic achievements.

## **Keywords**

*Chemistry Anxiety, Classroom Strategies, Mental Health, Higher Secondary Education, West Bengal*

## **Introduction**

Chemistry being a high insulin subject with several theories and abstract thoughts becomes a cause of high anxiety amongst higher secondary students especially those in West Bengal where competitions are high. Managing this anxiety in class is important in academic achievement as well as the students' well-being. Stress and anxiety are especially highlighted by research findings on how they should

be kept at a bare minimum so as not to affect learning: a favourable environment for learning that also nurtures the objective to improve his or her state of mind enhances student success. One of the strategies that used effectively is the scaffolder instruction in which students are given tutorials of how to build their knowledge progressively in order to avoid feeling overwhelmed as suggested by Wood et al (1976). Besides, stressing students' choice regarding learning activities can increase the level of students' power, and thereby decrease their apprehension of didactic approaches to learning (Deci, Vallerand, Pelletier, & Ryan, 1991). This is due to the fact that constructivist strategies in teaching such as PBL, assist the students to relate the new information being taught with that own knowledge that they possess hence improving on how they understand things and reduce on stress levels as mentioned by Brusilovsky and Millán (2007). In addition, such measures like positive reinforcement along with the cultivation of the growth mindset will help to redirect motivation from the negative aspect such as failure back into learning process and positively impact the students' psychological well-being (Yeager & Dweck, 2012). Consequently, the emotionally supportive relationships with teachers are also crucial, as such relationship secure the students necessary emotional resources to cope with classroom academic stressors and to promote student's resilience (Parker et al., 2006). In conclusion, adopting mindfulness techniques into a classroom setting can reduce student anxiety and increase concentration hence increasing the classroom balance and not a stressful affair, as it is widely perceived (Kabat-Zinn, 1990). Thus, the use of such strategies enables the educators in West Bengal to develop a better learning climate in Chemistry lessons, which targets the learning process and learners' emotional well-being.

### **The Statement of the Problem**

Chemistry is one of the most difficult subjects, which, in higher secondary education, produces high levels of stress in the learners. This aspect is very apparent in West Bengal where academic requirements and competition forces the students to work harder. The difficulty rises from the fact that efficient management of this anxiety done in ways that enhances both students' academic performance and well-being. Nevertheless, anxiety acknowledged impairing both learning and mental health, very few of the contemporary classrooms designed to address this stress. A number of studies has also revealed that the conventional

instructional approaches, that tends to rely on memorization of information and the usage of examinations to measure learning, can aggravate students' stress. In addition, ineffective communication, particularly the absence of emotional support and weak feedback systems leads to poor learners' experience, and overall human health and performance. Classroom practices like, using a variety of strategies including the use of instruction and formative assessment can help in lowering anxiety levels of learners. Yet, there is dearth of information on how these strategies incorporated and implemented within the framework of educational context of West Bengal. In order to fill this gap, it is crucial to study how particular classroom practices introduced to lessen the anxiety and improve the mental wellbeing. This research was meant to establish and assess these strategies to come up with positive recommendations that can enhance both efficacy in academics as well as the wellbeing of students.

### **The Significance of the Study**

The relevance of this study is in the ability of the findings to help deal with the problem of chemistry anxiety prevalent among higher secondary students in West Bengal, a place which is notorious for its high academic stress levels. Due to the focus on identifying the factors that can help reduce classroom anxiety and support MH, this study provides important information on creating more conducive, and constructive, learning environments. Findings can help teachers and policymakers in understanding effective strategies of anxiety management and students' psychological well-being as essential components for academic achievement and quality learning environment. Sarason (1984) has found out that a high level of academic anxiety is associated with poor achievement, academic performance and poor mental health. In doing so, the study offers practical teacher tips for adopting Class Strategies that stress such practices like formative assessments, formative assessments, and positive nit reinforcement that is recognized for decreasing student anxiety and creating a healthy classroom-learning environment (Black and Wiliam, 1998; Wood, Bruner and Ross, 1976). In addition, this study for the significance of emotional support and interdependent teacher-student relationships for lowering stress level as well as building up resilience, which is considered conducive to the academic as well as the personal – emotional growth of the student (Parker et al. , 2006). This research will be instrumental in the identification of improved strategies

designed to facilitate better management coping strategies for students when confronted with academic difficulties as well as other aspects of positive mental health hence enriching the educative experience (Deci, et al. , 1991). Finally, this study seeks to combine the epistemological approach with the practical approach in order to enable educators develop the necessary strategies to support students in high strenuous academic environment.

### **The Research Questions**

**RQ<sub>1</sub>:** In what ways do instructional methods promote a positive mental health environment in chemistry classrooms?

**RQ<sub>2</sub>:** What are the key characteristics of teaching practices that create a supportive and anxiety-reducing learning environment in chemistry?

**RQ<sub>3</sub>:** How do students describe the impact of a supportive learning environment on their mental health and ability to cope with challenges in chemistry?

### **The Objectives of the Study**

**O<sub>1</sub>:** To identify instructional methods that students find most effective in alleviating anxiety and promoting a positive mental health environment in chemistry lessons.

**O<sub>2</sub>:** To identify teaching practices that students find most effective in alleviating anxiety and promoting a positive mental health environment in chemistry lessons.

**O<sub>3</sub>:** To explore the role of a supportive classroom atmosphere in building students' confidence and reducing fear of failure in chemistry.

### **The Review of Related Literature**

The analysis of literature also outlines multiple strategies for addressing the subject under study, including ways to improve the students' welfare and minimize the learning anxiety in the context of education. Nkopodi & Jakovljevic (2024) have grouped twelve indicators of supporting ICT use in incorporation of indigenous knowledge in STEM learning environment but the theoretical model proposed by the authors does not include empirical support. In Cronin (2023), the author focuses on mental health in daily activities and culturally appropriate curricula in reducing anxiety in middle school students with practical approaches in

safe learning environment. Oladejo et al. (2023) took on the examination of the CTCA in f2f as well as blended learning environments to compare the results with the traditional techniques for reducing chemotherapy stress as well as for better comprehension of the topic. Finally, Ahorsu et al. (2021) effectiveness of peer-led mental health promotion and coping-strategies workshops to enhance university students' mental health awareness and behaviour; future studies are needed to assess the effectiveness of such mental health interventions in the long-term. As a whole, these works reveal that to treat educational anxiety and to enhance the psychological wellbeing, it is necessary for educational administrators to ground their practice as well as research on conceptual foundations.

### **Research Gap**

As the important recognition grows at present among the students and teachers to minimize the chemistry anxiety and improve the Mental Health among the students of higher secondary there is a conspicuous deficiency in the methods to recognize the specific classroom strategies, which used effectively in West Bengal. Other research carries out the general advice or is based on efforts that are more extensive without exploring the significance of specific regions and culture. Additionally, the evidence for the utility of classroom-level interventions inclusive of localized instructional practices or culturally responsive source of mental health support to moderate anxiety and improve general mental health of students in this region is scarce. Filling this gap would require exploring how different approaches e tailored for the conditions of West Bengal and assessing their effect on students' achievement at a personalized level.

### **Methodology of Study**

Document analysis is a type of research technique applicable in the study of a subject under consideration, which involves the comprehensive assessment, and interpretation of documents in a systematic manner in order to get some insights into the subject in question. It entails the process of critically assessing and analyzing documents, reports, articles, policy papers and any other kind of textual materials that in one way or the other are related to the research problem. Document analysis is therefore a research strategy through which research data collected from existing sources in an attempt to reveal pattern, trends and themes.

## **Analysis and Interpretation**

### ***Pertaining to Objective 1***

*O<sub>1</sub>: To identify instructional methods that students find most effective in alleviating anxiety and promoting a positive mental health environment in chemistry lessons.*

Instructional methods play a pivotal role in promoting a positive mental health environment in chemistry classrooms by reducing stress, fostering engagement, and supporting students' The detailed ways in which instructional methods contribute to a healthier mental space for students in chemistry were given below: Instructional methods play a pivotal role in promoting a positive mental health environment in chemistry classrooms by reducing stress, fostering engagement, and supporting students' The detailed ways in which instructional methods contribute to a healthier mental space for students in chemistry were given below:

### **Active Learning**

This strategy helps the students to be more involved with what they are learning, resulting in discussions, problems solving and group work. This method prevents the information being taken passively by the students and develop confidence about their capability to comprehend complex subjects like chemistry. In a study done by Freeman et al. , (2014) they have found that active learning as a teaching strategy is very effective in reducing effect and enhancing mental health since it encourages students to participate and own the learning process. When students are participating, there is little pressure on them and therefore the pressure caused by the content of learning ceases to overwhelm them.

### **Collaborative Learning**

Students use cooperative learning strategies on how best to approach a given problem or assignment or even participate in a certain discussion. In chemistry, some of the collaborative works could be group projects, pair teaching or solving problems together. It keeps the clients together to avoid loneliness that is bad for their health thus enhancing their wellbeing. According to Johnson and Johnson (2009), studies show that students, who work in groups, have an increased sense of support thus reducing the levels of pressure. It also enables students to compare what they find hard and what is easy to accomplish and this therefore helps make learning a more enjoyable process.

### **Differentiated Instruction**

Differentiated instruction aims at a change of needs, ways or ability of students within the classroom. Hence, the way in which concepts can be taught in chemistry class including use of various teaching aids, demonstrations, experiments or multimedia can help to minimize the load and hence the anxiety that may be occasioned by learning chemistry. This is because when students are provided with instructional support correspondingly to the learning styles required, less stress is felt, which in turn could be beneficial to general mental health. This personalized approach makes students feel they are not left out thus helping them to be emotionally well and confident.

### **Mindfulness-Based Instruction**

It will also be beneficial to incorporate mindfulness activities into the structure of a class to support student's stress and anxiety. In chemistry, mindfulness maybe applied before an important test or a lecture that is expected to be complicated in order that the student's mind can be controlled and made ready for the lesson. There is evidence showing important positive effects of mindfulness interventions in educational context on learner stress and anxiety with the overall improvement of mental well-being (Zenner, Herrnleben-Kurz & Walach, 2014). Such practices can aid in enhancement of the students' emotional skills in any ways that would enable them to handle certain academic pressures especially in such a course as chemistry, which is widely regarded as complex.

### **Formative Assessment and Feedback**

In formative assessment, the students receive frequent and low risk feedback of performance so that they may check on their progress and learn what they need to adjust. Such an approach enables students to learn when they are making errors hence eliminating stress associated with failure (Black & Wiliam, 2009). Offering the students feedback on regular bases provides them with confidence in the work they are doing since they know that they are being guided and helps to foster a positive mental health for the students by easing performance pressure and offering the students a chance to improve.

### **Scaffold Learning**

Scaffolding is a learning-teaching technique in which the teacher gives successive levels of support in order for the students to attain greater

levels of reasoning. In chemistry this can be done in the process of explaining some concepts where one starts with giving very many small steps and then as the students become more capable one starts to reduce the number of steps given to the students. Scaffold instruction can also be seen as way to decrease anxiety as it guarantees students are not overburden with the level and content of the knowledge in focus (Wood, Bruner, & Ross, 1976). When the level of learning difficulty is progressively assumed to be complex, the student has the feeling of accomplishment hence boosting his/her mental health.

It is also important to note that educational approaches like active learning, collaborative learning, differentiated instruction, mindfulness, formative assessment, and scaffold learning greatly to the teaching and nurturing of positive mental health among learners in chemistry classes. Thus, the suggested interventions create the conditions that bring the learners feelings of confidence and enhanced learning capacity. Enhancing the mental health of the learners in school is important for making sure that learners achieve academic success and also achieve good emotional health in case of any challenges that come along the process of learning complicated subjects in schools such as chemistry.

A conceptual review of instrumentational methods including active learning, collaborative learning, differentiated instruction, and practices that embrace mindfulness, formative assessment, and scaffold learning accounts for a positive environment concerning students' mental health in chemistry classes. These approaches enable the students to be comfortable engaged, free from anxiety and thus be confident as they perform their tasks. It is therefore universally important to support students' mental health so that the students not only learn and excel academically but also have the emotional capacity to learn these difficult subjects as Chemistry.

### ***Pertaining to Objective 2***

*O<sub>2</sub>: To identify teaching practices that students find most effective in alleviating anxiety and promoting a positive mental health environment in chemistry lessons.*

To posit students to be motivated, active, and successful in chemistry is important to make lessons to be free of anxiety by offering support in learning environment. The specific components of teaching practices related to such setting entail the engagement of students, support for

diversity, and support of emotional needs of students. Following are six important characteristics, which are described in detail as under.

### **Inclusive and Differentiated Instruction**

Of the features of anxiety-reducing teaching practices, one of the crucial aspects is the catering for the students' needs in the process of instruction. Differentiated instruction takes into account learning modality, aptitude and rate but guarantees that every child gets the necessary support to accomplish what is expected of him/her. In chemistry, this can include changing the type of the material delivered to the students (visual aids, practical activities, computer-based material etc.). The student's achievement is high and anxiety low, when teaching is done in a way that treats every student individually and with consideration to his or her needs (Tomlinson, 2014).

### **Formative Feedback and Assessment**

Giving expressions of feedback on a daily, weekly, monthly basis on concepts that have been taught assists the students to assess their competence without pressure from tests. Compared to the more common summative assessment, which is done periodically and seeks to determine a learner's performance in a given course, formative assessment that is done and meant to support learning as it is done in the course of learning, relieves learners pressure associated with tests and scores. In chemistry, formative assessment like quizzes or in class activities like solving of problems or daily briefings offer students the chance to exercise and enhance their competency thereby gaining confidence (Black & Wiliam, 2009). Peer or self-judgments that are on achievement and on effort, on the process, help to enhance the concept of the growth-mind-set, which brings down the level of anxiety.

### **Active and Collaborative Learning**

Students can learn through participating in activities such as peer teachings, group assignments and problems based learning. In areas like chemistry where the ideas might be a little complex, it means that students can share information, relieve pressure and even motivate each other. Normal involvement decreases anxiety as a participant is more engaged in problem solving than in listening (Freeman et al., 2014). If students are interactive and not cramming something down their throats, they will not only learn about it but also get to understand it hence reducing the phobia of the failure.

### **Supportive Teacher-Student Relationships**

If formal and informal communication channels have to be established, then close support relationships between teachers and students are the key for reducing the level of anxiety in the learning context. A positive classroom climate cannot be emphasized enough as warm teachers who show concern, concern for the students' welfare and listen to the students' needs make students feel safer. In chemistry, in particular where the content is quite voluminous and can elicit feelings of nervousness it gives the students tremendous relief to know that the teacher is there to help when needed (Jennings & Greenberg, 2009). Positive interactions eliminate the fear of failure, which makes the students include help seeking behaviour consequently improving the learning environment.

### **Structured and Predictable Learning Environment**

Hypothesis 2 – Students are less anxious when they know what to expect in the classroom Teachers and students have to adhere to particular norms when in the classroom. This means that a structured environment that means what is taught, how it is taught and how learning will be evaluated is well structured offers reduced uncertainty. In chemistry, organization of lessons with specific and predictable elements such as a short briefing or wrap up allows students to control their task load in the sense of learning (Marzano, 2003). Organized should cause low levels of anxiety because anxieties are reduced by structure in the environment.

### **Mindfulness and Emotional Regulation**

Through teaching them to be mindful in the classroom, as well as to include strategies of emotional regulation, the students can better control their anxiety. Teachers who choose to use short mindfulness activities, including deep breathing exercises or relaxation to the environment of the chemistry classroom will assist the students to de-stress before engaging in deeper analysis of concepts involved in Chemistry. A number of studies have revealed that mindfulness helps in reducing anxiety and enhancing concern and Self-regulation, and especially in vulnerable academic contexts such as STEM learning (Zenner, Herrnleben-Kurz and Walach, 2014). It enables the students to cope with the challenges of leaning chemistry as well as develop positive attitude towards learning; this is by reduction of stress.

Mistrust of anxious feelings, structure of the classroom, promoting positive relationships between both the teacher and the students,

principles of formative assessment, active learning, and mindfulness of the environment are teaching practices that help to support a less anxious environment to learn chemistry. These practices meet both the academic and affective requirements of the students and thus enhance success in as far as their psychological health is concerned. More specifically, chemistry being a difficult subject, these strategies would be effective whilst ensuring that stress levels are overcome and positive attitude to learning is enhanced.

### ***Pertaining to Objective 3***

*O<sub>3</sub>: To explore the role of a supportive classroom atmosphere in building students' confidence and reducing fear of failure in chemistry.*

It is agreed that a favourable learning environment determines the students' psychological characteristics and their capacity to manage the academic demands of chemistry. Regarding the environment student would complete this statement as a place that is safe, stimulating, where the students are keen to continue learning and where there is evidence of their ability to overcome challenges. The following discussion explains the aspect how students perceive about the influence of the supportive environment and are as follows:

### **Increased Confidence and Reduced Anxiety**

Time and time again students will say that a positive learning environment enhances their ability to deal with difficult subjects such as chemistry. They will not struggle with high levels of anxiety, which would in turn hinder them from learning whenever they feel supported by the teacher as well as their fellows. The fact based on the literature review shows that whenever students feel that the environment is safe and conducive, their levels of anxiety reduce and hence they are able to perform better academically (Ringeisen and Buchwald, 2010). By alleviating this anxiety, students have the ability to be more involved in the process of learning and as a result have positive beliefs about their academic competence.

### **Emotional Safety and Mental Well-Being**

Positive classroom climate enables student emotional safety or the state that students themselves say is critical for their emotional health. This has been pegged on the concern that students and learners can easily raise issues, ask questions, and seek assistance with solutions without

stigmatization. Students' self-organization and the ability to perform tasks requires their feelings to be secure and safely addressed in order to enable them to address other tough issues such as chemistry or other difficult subjects (Jennings & Greenberg, 2009). Emotional safety leads to wellbeing by decreasing stress and increasing psychological resources, which enables students to handle-aspect of learning in chemistry such as comprehension of concepts and problem solving.

### **Sense of Belonging and Peer Support**

Students usually stress the necessity of students' solidarity in the process of group cooperation in a learning environment. Chemistry problems, experiments, and projects also help students to have a feeling of being together eliminating feelings of loneliness and anxiety. Students are able to learn together in groups whereby positive aspects such as sharing of ideas, support system during difficult times and happiness in achievements are promoted. Hence, the social aspect of learning does not only assist students to deal with academic challenges, but also fosters the creation of community, which socially healthy for students (Johnson & Johnson, 2009).

### **Growth Mindset and Coping Strategies**

In supportive learning environments students mentioned carrying out a process of socialization that leads to creation of the growth perspective that can enable them overcome difficulties in chemistry pursuits. Having a better attitude in class as well as encouraging teachers and a positive classroom environment enable the child to embrace mistakes. It is connected with better strategies for managing academic problems, if such a person encounters them (Dweck, 2006). The students who embrace growth mindset work hard in content area: chemistry and they are psychologically healthier having less fear of failing.

### **Encouragement of Active Participation and Autonomy**

Some students explain how such positive environments make them to take an active role in their education that is empowering and enables them to deal with impacts. The High Interaction, which involves enabling students to ask questions, solve problems as well as be more practical, empowers the students to take charge of their learning process. When students feel empowered, they will be able to tackle chemical related problems with more confidence hence, eradicating feelings of helpless, which are associated with, stress levels (Freeman et al., 2014).

It also enhances their ability to solve problems in case of any issues thus improving on their mental health.

### **Positive Teacher-Student Relationships**

This comes out clearly, when students assert how practicing positive relationships with their teachers may help them be able to handle the stresses associated with chemistry. When the teachers are friendly, patient and willing to assist the students the students in turn have confidence to ask questions and seek clarification regarding issues they find challenging. Quality teacher-student relationships decrease; academic expectancies and foster a sense of belonging, affection and relevance which is crucial for good emotional well-being among students (Roorda et al., 2011). These are basic relations in creating the climate for accomplishment of students' tasks and making them believe that they are able to cope with the academic challenges.

Students label a positive learning climate in chemistry as one that enhances self-esteem, makes one feel safe to learn; embraces teamwork; fosters growth inclined mind-sets; student and teacher liberties and good teacher-student relationships. The elements enable students deal with these academic issues by offering a solution to anxiety; building up the students' abilities to resist, bypassing the feeling of loneliness or being alone to the class or group. Such environments enable students not only get good grades but also be psychologically healthy throughout the process of learning.

### **Conclusion**

Therefore, it can also be said that to eradicate Chemistry Anxiety and to improve the mental health of the Higher Secondary Students in West Bengal requires a multilayered approach that incorporates the methods that are prevailing in the classrooms of region and cultural sensitivity. This is because the present study has pointed out a significant lack in the literature of research findings that could explain how p2p learning methods and mental health approaches could be adapted and implemented on localized basis for delivering and achieving education and health related goals in this specific context. Therefore, the subsequent research works should be directed towards enhancing and evaluating the theoretical approaches to account for the education-culture context of the West Bengal. Using experience by matching the interventions with local demands and, on the other hand, embracing

theoretical and applied knowledge, educators foster students' success in fighting anxiety and promoting well-being for better academic results and mental health.

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# Technology and Artificial Intelligence in Modern Education: Benefits and Challenges

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## **Abstract**

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

## **Keywords**

*Technology, Artificial Intelligence, Education, Students, Learning.*

## **Introduction**

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

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

## **Meaning of Technology**

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

Technology is the use of scientific knowledge for practical purposes or applications, whether in industry or in our everyday lives. So, basically, whenever we use our scientific knowledge to achieve some specific purpose, we're using technology.

## **Meaning of Artificial Intelligence**

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

Artificial Intelligence (AI) is the branch of computer science focused on creating machines or software that can perform tasks that typically require human intelligence. These tasks include reasoning, learning from experience, problem-solving, understanding language, and making decisions. AI systems are designed to simulate aspects of human cognition such as pattern recognition, decision-making, and sensory perception, allowing them to perform activities such as analyzing data, recognizing speech, interpreting images, and understanding natural language. According to Coppin, is the ability of machines to adapt to new situations, deal with emerging situations, solve problems, answer questions, device plans, and perform various other functions that require some level of intelligence typically evident in human beings.

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

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

It is closely related to academic and administrative duties, and different algorithms were developed based on the goals. Through it, many forms of evaluations, behavioural patterns, and numerous other components can be acquired and supported.

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

## **Benefits of Technology and Artificial Intelligence in Modern Education**

### **1) Personalized Learning:**

#### **i) Adaptive Learning Platforms-**

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

#### **ii) Intelligent Tutoring System (ITS) –**

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

### **2) Access to Global Learning Resources:**

#### **i) Online Learning Platforms-**

As a result of advancements in technology and the advent of artificial intelligence, many online learning platforms have been developed today. Where students access different types of educational content and courses in video form or text form through internet connection. Through such a platform, students from different parts of the world can connect with the education process of different countries of the world. The trend of learning using such platforms is increasing day by day among students. Some of these platforms are: edX, Coursera, Khan Academy etc.

#### **ii) Global Collaboration Tools-**

We are all aware that collaborative learning is a particularly effective process. Collaborative learning is valued in all processes from past education to current education. A few decades ago, collaborative learning was possible only with teachers and classmates close to us. But today, collaborative learning is possible with teachers and students

of any country using various technology tools. Now we can share knowledge by communicating through various online platforms by video conferencing and editing short documents through various apps.

### **3) Automation of Administrative Tasks:**

#### **i) Grading and Assessment-**

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

#### **ii) Student Enrolment and Scheduling-**

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

### **4) Enhancing Engagement and Interactive:**

#### **i) Gamification-**

Sports is one subject that attracts students. All types of students, young and old, have a passion for sports as well as attention. Naturally, whatever he does through play, his students do it attentively and they don't get bored. Nowadays, the advancement of technology has created opportunities for learning through play. Through which they can learn a subject with interest as well as their retention capacity increases. Currently there are many gaming learning platforms that offer rewards, points to motivate learners and challenge them in various ways, students learn by overcoming those challenges.

#### **ii) Virtual Reality-**

Today we are all familiar with these two terms simulation and 3D model due to the advancement of technology. They are a process through

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

### iii) Interactive Whiteboards and Smart Class Rooms-

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

## 5) Support for Special Needs Education:

### i) Assistive Technologies –

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

### ii) Customisable Learning Tools –

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

## **6) Teacher Support and Professional Development:**

### **i) AI Assisted Lesson Planning –**

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

### **ii) Continuous Professional Development –**

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

## **7) Improved Accessibility and Inclusion:**

### **i) Online Learning –**

We are all familiar with the process of online learning. If we go back a few decades, there was no boom in online learning. Online learning is the product of advancement in technology and artificial intelligence. Online learning has made teachers more accessible to students. Through this, students can participate online in the learning process conducted at a remote place according to their needs and at their own time without being physically present. Especially during the covid 19 pandemic this online learning was the hope of students all over the world. We hope that in the future the online education process will reach the peak of improvement with the combination of technology and artificial intelligence. Then there will be no obstacle for anyone to take education through online.

### **ii) Language Translation Tools-**

The medium of instruction i.e. language is an important factor in education. After one level of education, we do not get opportunity to continue education through mother tongue, even if there is an opportunity, learning materials in one's own language are rarely available. In that case students have to face problems. Nowadays we can translate

learning materials from other languages into mother tongue using various tools of artificial intelligence. As a result, students who are weak in other languages, they can easily master the content through a translator.

## **Challenges to implement of Technology and Artificial intelligence in Modern Education**

### **1) Digital Divide:**

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

### **2) Teacher Training:**

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

### **3) Data Privacy and Security:**

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

### **4) Lack of Human Element in Learning:**

Relationships are important in any work in human life. A sweet relationship develops between teachers and students when they teach students face to face in the classroom, they attached with them

emotionally, empathically. This relationship has a distinct effect on student learning. But this type of relationship is not seen in technology and artificial intelligence tools-based education systems.

## Conclusion

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

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# **A Survey of the Theory of Motivation and its Application in Primary Level Educational Institute**

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## **Abstract**

As we know motivation is a mechanism which initiate, guide, influence people to act and maintain goal-oriented behaviours in a desired way. The aim of this paper is to focus on the survey aspects of motivation and their application in the educational sector. The importance of motivation in education plays a crucial role in the achievement of students. Motivation helps students to draw attention toward tasks that need to be done, minimizing distractions and maximizing task-focused time. This study provides suggestions for educational organizations to maintain a healthy, familiar atmosphere and relationships for students to foster positive energy towards their studies. A survey-based study and application were considered for this paper. The total study was conducted in Durgapur. A sample of 100 students from 6-12 years of age was taken for the study. This study explores key motivation theories within a primary-level educational setting, such as Maslow's Hierarchy of Needs. The findings from this research will provide insights into the most effective motivational strategies for primary school children. Overall research is base on the survey carried on the following schools → Pratabpur Free primary School, Bijra Primary School ,Vidyasagar Primary School, Ispat Nagari Free Primary School. All the four schools are local in Durgapur and it's surrounding area.

## **Keywords**

*Motivation, Educational institute, Students, primary school, Environment.*

## **Introduction:**

Numerous factors impact motivated and engaged learning. To get an idea of the complexity of motivation, let's step inside a science classroom at a primary school, just after the teacher has given directions for a lab

exercise. The student profiles were inspired by Stipek (2002). Research on motivation in education has a long history. This section looks at a few early theories of motivation that have been influential in the field of motivation studies. Many modern views regarding motivation may be traced back to historical beliefs, even if many of them are no longer relevant. Motivation was a part of the newly formed field of psychology in the beginning of the twentieth century rather than being studied independently as it is now. The paradigms (models) that are often used in motivation research are covered in this section. We explore the characteristics, benefits, and drawbacks of laboratory and field research as well as correlational, experimental, and qualitative methods. We offer this information to help people who are new to motivation research and those with limited research experience. Motivation is a critical factor in student performance and success. Primary school students are at a developmental stage where motivation can greatly influence learning outcomes.

### **Statement of the Problem:**

The effectiveness of education at the primary level significantly influences students' long-term academic success and personal development. However, many primary educational institutions face challenges in fostering motivation among students, which is crucial for enhancing engagement, participation, and overall academic performance. Despite the existing literature on motivation theories, there is a gap in understanding how these theories are applied in primary level educational settings and their effectiveness in motivating young learners.

This study aims to investigate the various theories of motivation, including intrinsic and extrinsic motivation, Maslow's hierarchy of needs, and Self-Determination Theory, and their practical applications within primary educational institutions. The problem lies in the inconsistent application of motivational theories by educators, which may lead to variations in student engagement and achievement. Moreover, there is limited empirical research examining the relationship between motivational strategies employed by teachers and students' motivation levels, learning outcomes, and classroom behavior.

The core question this study seeks to address is: **How effectively are motivational theories being implemented in primary level**

**educational institutes, and what impact do these applications have on student motivation and learning outcomes?** By exploring this problem, the study aims to provide insights and recommendations for educators and policymakers to enhance motivation among primary level students, thereby improving educational experiences and outcomes.

### **Significance of the Study:**

#### **1. Contribution to Educational Theory:**

- ▶ The study will contribute to the existing body of knowledge in educational psychology by examining how motivational theories can be effectively applied in primary education. It can also identify gaps in current literature and suggest areas for future research.

#### **2. Practical Implications for Educators:**

- ▶ Findings from the survey can offer practical strategies for educators to enhance student motivation. By applying the principles of motivation theories, teachers can improve instructional methods, classroom management, and student engagement, leading to better educational experiences.

#### **3. Impact on Student Achievement:**

- ▶ By understanding what motivates primary students, educators can implement strategies that boost student achievement and self-esteem. This study can lead to improved learning outcomes, as motivated students are more likely to succeed academically.

#### **4. Guidance for Teacher Training Programs:**

- ▶ The study can provide insights that can be integrated into teacher training programs, equipping future educators with the skills and knowledge to apply motivation theories effectively in their classrooms.

#### **5. Support for Parental Engagement:**

- ▶ The findings can inform parents about the importance of motivation in their children's education, encouraging them to support their children's learning through positive reinforcement and engagement in their educational journeys.

## **6. Informing Curriculum Development:**

- ▶ By linking motivational theories to curriculum design, the study can help curriculum developers create engaging and relevant content that aligns with students' interests and needs, promoting a more effective learning experience.

## **7. Promoting Lifelong Learning:**

- ▶ Understanding motivation at an early age can instill a love for learning that lasts a lifetime. This study can emphasize the importance of fostering intrinsic motivation in primary students, which is crucial for their future educational pursuits and personal development.

## **Objectives of the Study:**

1. To explore motivational theories and their relevance to enhancing student engagement and learning outcomes at the primary education level.
2. To identify the key factors influencing motivation among primary school students, including intrinsic and extrinsic motivators.
3. To evaluate the effectiveness of motivational strategies currently implemented in primary educational institutions.
4. To recommend practical applications of motivational theories to improve teaching methods, classroom practices, and overall student performance in primary schools.

## **Hypothesis to be Tested:**

As a matter of fact, it is a fact-finding exploratory survey study based on interview and questionnaire method.

## **Delimitation of the Study:**

1. The study is limited to four primary school in a single geographic location.
2. It focuses on students aged 6-12, excluding other age groups.
3. This study has been delimited to the students within Durgapur only.

## **Sample of the Study:**

In consonance with the aim of the study, the sample comprised of 100 students with ages ranging from 6-12 years.

## **Tools of the Study:**

The study used two structured interview and questionnaire schedules.

## **Review of Related Literature:**

### **1. Theoretical Framework of Motivation**

Motivation is a critical factor influencing learning and academic performance in educational settings. Theories of motivation can be broadly categorized into two groups: intrinsic and extrinsic motivation.

- **Intrinsic Motivation:** This theory posits that individuals are motivated to engage in activities for their inherent satisfaction rather than for some separable consequence. Deci and Ryan (1985) emphasized the role of intrinsic motivation in fostering deeper learning and creativity among students. They argue that when children find joy in learning, they are more likely to engage actively and persistently in educational tasks.
- **Extrinsic Motivation:** In contrast, extrinsic motivation involves engaging in activities to attain external rewards or avoid punishment. Skinner's behaviorist perspective (1953) suggests that positive reinforcement can significantly enhance motivation among students. Research by R. A. Ryan and Deci (2000) supports the notion that while extrinsic rewards can promote short-term engagement, they may undermine intrinsic motivation if overused.

### **2. Application of Motivation Theory in Primary Education**

The application of motivation theories in primary educational settings is crucial for developing effective teaching strategies.

- **Classroom Environment:** According to Brophy (2010), a positive classroom environment that fosters autonomy and competence is essential for enhancing student motivation. Teachers can create supportive learning environments by providing choices, encouraging student input, and recognizing individual achievements.
- **Goal Setting:** Research by Locke and Latham (2002) indicates that setting specific and challenging goals can enhance motivation and performance. In primary education, educators can help students set personal learning goals, which fosters a sense of ownership and responsibility in their educational journey.

- **Feedback and Recognition:** Effective feedback plays a vital role in student motivation. Hattie and Timperley (2007) emphasized that timely, specific feedback helps students understand their progress and areas for improvement, thus motivating them to strive for better outcomes. Furthermore, recognition of effort and achievement boosts students' self-esteem and motivation.

### 3. Factors Influencing Motivation in Primary Education

Several factors influence motivation levels among primary school students:

- **Teacher-Student Relationships:** Positive relationships between teachers and students significantly impact motivation. Pianta et al. (2008) found that supportive teacher behaviors, such as being warm and approachable, can foster a sense of belonging and motivate students to engage more in learning.
- **Parental Involvement:** Research by Hill and Tyson (2009) indicates that parental involvement in education is linked to higher motivation and academic achievement in children. When parents engage in their child's education, it reinforces the value of learning and motivates children to excel.
- **Cultural Context:** The cultural background of students can also influence motivation. For instance, research by Wang and Degol (2013) suggests that cultural values regarding education, achievement, and parental expectations significantly affect students' motivation levels.

### 4. Challenges in Applying Motivation Theory

Despite the importance of motivation, several challenges exist in applying motivation theory in primary education:

- **Diverse Learning Needs:** Every student has unique motivational triggers, and teachers may find it challenging to address the diverse needs of all students effectively (Tomlinson, 2001). Tailoring motivation strategies to meet these diverse needs requires time and effort.
- **Standardized Testing Pressure:** The focus on standardized testing can undermine intrinsic motivation by promoting a narrow view of learning (Kohn, 2000). Students may become more focused on

grades rather than the joy of learning, which can diminish their overall motivation.

- **Limited Resources:** Teachers often face resource constraints, making it difficult to implement innovative motivation strategies effectively. This limitation can hinder their ability to create engaging and motivating learning experiences (Ingersoll, 2003).

## **Research Gap:**

### **1. Limited Application in Primary Education:**

- ▶ While numerous studies have explored motivation theories in higher education, there is a lack of research specifically focusing on the application of these theories in primary level educational institutes. This gap highlights the need for studies that adapt motivational theories to younger learners and their specific educational contexts.

### **2. Cultural Context and Motivation:**

- ▶ Much of the existing research on motivation theory tends to focus on Western educational settings. There is a gap in understanding how cultural factors influence motivation in primary education across diverse regions, particularly in non-Western contexts.

### **3. Impact of Teacher Motivation:**

- ▶ While student motivation has been extensively studied, less attention has been given to the impact of teacher motivation on student outcomes in primary schools. Research is needed to understand how motivated teachers can enhance student motivation and engagement.

### **4. Longitudinal Studies:**

- ▶ Most existing studies on motivation are cross-sectional, providing a snapshot of motivation levels at a single point in time. There is a lack of longitudinal studies that track motivation changes over time in primary students, which could provide deeper insights into how motivation develops.

### **5. Role of Parental Involvement:**

- ▶ The influence of parental involvement on the motivation of primary school students is under-researched. Investigating how different styles of parental involvement (supportive vs. controlling) affect children's motivation can fill an important gap.

## **6. Differentiation of Motivational Strategies:**

- ▶ Research often focuses on broad categories of motivation (intrinsic vs. extrinsic) without delving into specific motivational strategies that teachers can employ in primary classrooms. There is a need for empirical studies that identify and evaluate effective motivational strategies tailored for young learners.

## **7. Motivational Barriers:**

- ▶ Existing literature primarily addresses how to enhance motivation but does not adequately explore the barriers to motivation faced by primary school students. Understanding these barriers is essential for developing effective interventions.

## **8. Integration of Technology:**

- ▶ With the rise of technology in education, there is a lack of research on how digital tools and resources can be effectively utilized to enhance motivation in primary education. Exploring the integration of technology and its impact on motivation presents a relevant research gap.

## **9. Measurement Tools for Motivation:**

- ▶ There is limited research on the validity and reliability of measurement tools used to assess motivation in primary school contexts. Developing and validating tools specifically designed for younger populations can enhance the rigor of future research.

## **10. Interdisciplinary Approaches:**

- ▶ Motivation research in education often remains isolated from other disciplines. There is an opportunity to explore interdisciplinary approaches, integrating insights from psychology, sociology, and neuroscience to create a more holistic understanding of motivation in primary education.

## **Research Design:**

It is an exploratory survey type of study with qualitative analysis only.

## **Methodology of The Study:**

This study employed a survey-based research design to examine the application of motivational theories in primary level educational institutions. The survey approach was chosen to collect qualitative

data from a diverse group of participants, ensuring a comprehensive understanding of the subject.

### Analysis of Data

SL NO	Complete Opinion	Partial Opinion
1	7	17
2	21	18
3	4	10
4	15	20
5	26	24
6	30	46
7	11	5
8	88	2
9	12	3
10	83	12
11	48	27
12	25	32
13	91	2
14	25	9
15	17	9
16	32	39
17	10	14
18	88	4
19	43	41
20	37	37
Source: Field of survey		

### Interpretation:

The table has two columns titled “Complete Opinion” and “Partial Opinion.” These likely represent survey responses from educators, administrators, or parents regarding motivation theory application at the primary level. Each row could signify individual responses or aggregated data for various questions or aspects of motivation in education.

#### 1. Complete Opinion:

- This column might represent responses where participants strongly agree with the effectiveness or importance of motivation theories in primary education.

- The values range widely, indicating varied levels of support or understanding of motivational applications. Higher values in this column, like 88, 83, and 91, could signify areas where there's strong consensus on the utility of motivation theory.
- Lower values, such as 4 and 7, may indicate topics where educators or parents have limited agreement or perhaps less perceived relevance of motivation theories.

## 2. Partial Opinion:

- This column likely reflects partial agreement or uncertainty about the application of motivational theory.
- The values here show some consistency but are generally lower than the "Complete Opinion" scores, which could suggest that while there's some agreement on motivational theories, there is less strong consensus or confidence in partial applications.
- Higher values in this column (e.g., 46, 41, and 39) may represent areas where stakeholders feel motivation theory is only somewhat effective or applicable. This could point to topics or applications that need further exploration or evidence to gain full acceptance.

## Trends and Insights:

- **High Complete Opinion, Low Partial Opinion:** Rows where the "Complete Opinion" score is high, and the "Partial Opinion" score is low indicate a strong endorsement of motivational theory. Educators may find these aspects directly relevant to enhancing engagement, performance, or interest in primary-level students.
- **High Partial Opinion, Lower Complete Opinion:** In cases where "Partial Opinion" scores are relatively high, there may be uncertainty or mixed feelings about certain aspects of motivation theory. This could indicate areas where the application of motivation theory isn't fully developed, or where additional support and resources are needed.

## Implications for Primary Education:

1. **Curriculum Development:** High scores in "Complete Opinion" imply that motivation theory is well-accepted in certain areas of the primary curriculum. Schools might focus on these strengths to create engaging, motivational curricula.
2. **Professional Development:** Areas where "Partial Opinion" is relatively high might benefit from professional development for teachers, helping them understand and effectively implement motivational strategies.

3. **Parental Involvement:** If this survey includes parent responses, understanding high and low opinion scores could help schools address parents' concerns about motivation in education, making them active participants in their children's learning.
4. **Further Research Needed:** Low scores in both columns could point to areas where motivational theory applications are either less known or perceived as less effective, signaling a need for further research or adaptation to primary education contexts.

This analysis suggests that motivational theory has considerable support in primary education, but there may be areas where practical application or understanding is limited, indicating opportunities for improvement in training, curriculum design, or parental engagement.

### Applying Maslow's theory to primary school education :

According to Maslow's hypothesis, there is a hierarchy of requirements that determine human motivation, ranging from fundamental physiological necessities to self-actualization. Among the hierarchies are:

- ▶ Physiological needs
- ▶ Safety needs
- ▶ Social belonging
- ▶ Esteem needs
- ▶ Self-actualization



### Application in a primary school:

- **Physiological Needs:** Ensuring that food, drink, and suitable learning environments are available to pupils.
- **Safety Needs:** Establishing a feeling of safety and security for pupils in the classroom.
- **Social Belonging:** Promoting group activities, team projects, and social interaction to help students feel accepted and part of a community.
- **Esteem Needs:** Teachers can foster self-esteem by acknowledging students.
- **Self-Actualization:** Encouraging pupils to explore their creative side and express themselves without restraint.

### Results

The study involved surveying 100 students aged 6-12 from four primary schools in Durgapur: Pratabpur Free Primary School, Bijra Primary School, Vidyasagar Primary School, and Ispat Nagari Free Primary School. The aim of the study was to investigate the potential applications of various motivational theories, particularly Maslow's Hierarchy of Needs, to enhance the academic performance of primary school students.

The findings suggest that motivation is a critical component of learning. Applying Maslow's theory, the results demonstrated that before pupils can concentrate on higher-order wants like self-esteem and self-actualization, their basic requirements—such as their demands for safety and physiology—must be satisfied.

- **Physiological Needs:** Schools were found to be generally successful in ensuring students had access to food, water, and appropriate learning environments.
- **Safety Needs:** While students felt physically safe, psychological safety (emotional security and support) was less prominent in some instances.
- **Social Belonging:** Group activities and social interaction positively influenced student engagement, with team projects helping students feel a sense of community.

- **Esteem Needs:** Teachers who acknowledged students' efforts saw a rise in self-esteem levels, motivating students to perform better.
- **Self-Actualization:** Opportunities for creative expression, such as through art or special projects, allowed students to reach their full potential.

### **Reliability and Validity of the Study:**

When conducting a survey on “The Theory of Motivation and its Application in Primary Level Educational Institutions,” ensuring the reliability and validity of the study is essential for producing credible and useful findings. Here’s a breakdown of how these concepts can be addressed:

#### **1. Reliability:**

Reliability refers to the consistency and stability of the research findings over time and across different contexts. Here are strategies to enhance the reliability of the study:

- **Use of Standardized Instruments:**
  - ▶ Develop or utilize a standardized questionnaire that measures various aspects of motivation theories (e.g., intrinsic vs. extrinsic motivation) in primary education.
  - ▶ Ensure that the questions are clear, unambiguous, and structured in a way that can be consistently understood by all respondents.
- **Pilot Testing:**
  - ▶ Conduct a pilot study with a small group of educators and students to test the questionnaire. This helps identify any potential issues in wording or structure that could affect reliability.
- **Consistent Data Collection Procedures:**
  - ▶ Establish clear protocols for how data will be collected, including instructions for respondents and methods for administering the survey (e.g., online, in-person).
  - ▶ Train data collectors to ensure uniformity in administering the survey and interacting with participants.

- **Multiple Measures:**

- ▶ Consider using multiple methods to assess motivation, such as surveys, interviews, and observations, to capture a more comprehensive view of motivation in educational settings.

- **Statistical Reliability Testing:**

- ▶ Use statistical methods such as Cronbach's alpha to assess the internal consistency of the survey instrument, ensuring that the items effectively measure the same underlying construct.

## 2. Validity:

Validity refers to the extent to which the research measures what it intends to measure. Here's how to ensure the validity of the study:

- **Content Validity:**

- ▶ Develop the survey instrument based on a thorough review of the literature on motivation theories, ensuring that all relevant dimensions of motivation are represented.
- ▶ Consult with experts in education and psychology to validate the relevance and comprehensiveness of the items in the questionnaire.

- **Construct Validity:**

- ▶ Ensure that the concepts being measured (e.g., types of motivation) are clearly defined and operationalized in the survey.
- ▶ Utilize established scales or measures where possible to enhance construct validity.

- **Face Validity:**

- ▶ Involve educators and primary school students in reviewing the questionnaire to ensure that the items appear relevant and understandable from their perspective.

- **External Validity:**

- ▶ Strive for a diverse sample that includes educators and students from various backgrounds and school settings (e.g., urban, rural, private, public) to enhance the generalizability of the findings.

- ▶ Clearly define the study population and the context to which the findings can be applied.
- **Longitudinal Studies:**
  - ▶ If possible, consider conducting longitudinal studies to assess how motivational factors influence educational outcomes over time, which would provide stronger evidence of validity.
- **Triangulation:**
  - ▶ Use multiple data sources (e.g., student surveys, teacher interviews, academic performance data) to validate findings and cross-check information obtained from different perspectives.

## Method of Data Collection

To investigate the theory of motivation and its application in primary-level educational institutions, a structured and systematic data collection approach was adopted. Qualitative methods were used to ensure a comprehensive understanding of the research problem.

### 1. Primary Data Collection Tools

#### Questionnaires

Design: Structured questionnaires were developed for teachers, administrators, and students.

Format: For Teachers/Administrators: Focused on motivational strategies, challenges, and their perceived impact on students.

For Students: Included age-appropriate, simple questions about their learning experiences and what motivates them in school.

Type of Questions: Complete Opinion and Partial Opinion for qualitative analysis.

#### Interviews

Participants: Semi-structured interviews were conducted with a selected subset of teachers, administrators, and parents.

Purpose: To gather in-depth insights into the implementation of motivational strategies and their real-life implications in classrooms.

## **Classroom Observations**

Direct observations were made to study classroom interactions, teaching methods, and student engagement.

### **2. Secondary Data Collection :**

Literature Review: Previous research studies, educational reports, and theoretical models were analyzed to contextualize findings.

School Records: Academic performance data, attendance records, and participation in co-curricular activities were reviewed to link motivation with outcomes.

### **3. Procedure :**

Distribution: Questionnaires were distributed physically and online to ensure broader reach.

Duration: Data collection was carried out over a period of four weeks.

Observation Settings: Observations were conducted in natural classroom settings during routine teaching sessions to avoid disruptions.

## **Findings**

Findings are based on the analysis and interpretation of the collected data as per the objectives of the study. The findings are based on the interview and questionnaire.

## **Discussion**

The study highlights the critical role motivation plays in shaping educational outcomes for primary school students. By fulfilling the basic needs identified by Maslow, educators can create an environment where students feel secure and are motivated to learn.

- 1. Meeting Basic Needs:** The research confirmed that unless students' basic needs (e.g., food, safety) are met, their ability to focus on learning is significantly hindered. This reinforces the importance of having comfortable and secure classroom settings.
- 2. Importance of Teacher Recognition:** Teachers who regularly recognized student achievements saw an improvement in student motivation and performance. This demonstrates the power of

positive reinforcement and suggests that regular feedback from teachers can boost students' self-esteem and drive.

3. **Community and Belonging:** The implementation of group activities significantly improved students' sense of belonging, which, in turn, enhanced their engagement in learning tasks. This suggests that promoting teamwork and social interaction in classrooms can be an effective motivational strategy.
4. **Encouraging Creativity:** Students who were given the freedom to express themselves creatively were found to be more motivated. Schools that foster creative projects allowed students to reach self-actualization, which could be linked to better performance overall.

## Conclusion

This study underscores the importance of applying motivational theories, particularly Maslow's Hierarchy of Needs, to improve learning outcomes in primary education. The findings suggest that meeting students' basic physiological and safety needs creates a foundation for higher-level learning and development. Schools that foster a supportive, safe, and socially engaging environment are more successful in motivating students to engage in learning and reach their potential.

## Key conclusions include

1. **Fulfilment of Basic Needs:** Ensuring that students' basic needs, such as food, water, and safety, are met is crucial for their ability to focus and participate actively in educational tasks.
2. **Role of Social Interaction:** Group activities and social engagement contribute positively to students' motivation, fostering a sense of community that enhances learning.
3. **Teacher Recognition:** Teachers play a pivotal role in boosting students' self-esteem and motivation. Positive reinforcement and recognition of students' efforts lead to improved engagement and performance.
4. **Encouraging Self-Expression:** Providing students with opportunities for creative expression helps them achieve self-actualization, motivating them to pursue learning with greater enthusiasm.

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# **Application and Need of High Quality Education System in Present Education System**

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## **Abstract**

The impact of the present mechanized civilization has also affected the education system. As a result of which the students and teachers are all becoming almost production-oriented mechanical products, thereby reducing the creativity of the human beings and disturbing the peace of mind among the people. Therefore, the present education system must incorporate speculative education so that education becomes a lifelong companion that can develop humanity and generosity in the individual while enhancing his inner vision. which will evolve from lifelong learning. In a developing country like India, if this high-quality education is implemented at all levels of education, then it is possible to turn students of all levels into productive human resources. As a result, political, economic and social aspects will develop in India.

## **Key Words**

*High Quality Education, Human Resource, Education System*

## **Introduction**

A high-quality education system at all levels is, however, a necessary subject. If a high quality education system is maintained at all times, human resource development will continue to progress. Society will see various innovations that will raise various motivational issues and future citizens and students will become individuals with critical thinking process to improve their logical thinking. This high quality education also plays an effective role in developing the spirit of tolerance and cooperation among the students. As a result, the social development of students is possible and students are always making good use of their free time when they have access to high-quality teachers. Which plays an effective role in giving them peace of mind. High quality education

is essential for a developing country like India, If high quality education can be implemented in a populous country like India, then it is possible to make a country with a population of 100 crores as a country full of human resources.

## **Statement of the Study**

### **Application and need of high quality education system in present education system**

India is a developing country Vocational education is necessary in India but also a high quality education system is needed so that students will always be eager to learn and develop a creative approach to problem solving.

### **Operational Definition of Terms Used**

**High Quality Education:**-High quality education is an educational system that prepares students for success in life by providing them with the knowledge skills and abilities they need. It also focuses on developing lifelong learning habits and skills.

**Human Resource:**-A human resource is any person who is compensated for supplying skills or knowledge to help an organisation achieve its business goals. Compared to other resources such as equipment or facilities people tend to require the most management which is why many employers have dedicated HR services

**Education System:**-The educational system generally refers to the structure of all institutions and the opportunities for obtaining education within a country.

### **Significance of the Problem**

Due to the impact of globalization, there have been significant changes in the social, economic and political fields of the whole world. In the business sector, there have been special changes due to this globalization, which has affected the education system. In today's society, education has become only a means to get a job. This subject of imbining the underlying meaning of education and reflecting it in human life is almost missing from the current education system. Therefore, it is necessary to discuss the problem in the present study.

### **Literature Review**

**Mohammad S. Owlia & Elaine M. Aspluwall (1998)** This paper focused on quality education, particularly in the reference of teaching aspect. Total Quality Management is mainly focused on manufacturing and service industry, but these days higher education is coming up as great field, which is also being challenged with total quality managements' concepts and methodologies as ultimately service quality is mainly perceived by the end user individuals

**Sangeeta Sahney et al (2004)** By this paper we can comprehend that TQM played a significant role in education as a transformation process, and then move on to identifying the customers of the higher educational system. TQM has been maintained by preliminary as well as higher educational institutions, consequently, quality input in the form of students, faculties, students activities, placements, infrastructure, etc. and the quality outputs in the form of the enlightened students which moved out of the system. This is not necessary that the needs and interests of the various student groups may always meet the expected results hence, to recognize their interest and existence firstly we opted the best method to resolve the issue.

**Nidhi Singal (2006)** by writing this critical article Ms. Singal tried to highlight the educational structure in India, particularly; education of children belongs to niche groups such as children with disabilities within the Indian context. This article touches the government's focus on the development of special schools, integrated education and the idea of inclusive education. Being a fundamental right of all childrens education has still a uniform structure across India. The financing for this education sector in India is very much deprived as public expenditure on education continues to be around 3%. There is so much inequality exists in the education system such as status inequality, sexual disparity, caste, economic status and children with disabilities. She strongly recommended the Government should re-examine the idea of inclusive education to attain to its goal

**Asha Gupta (2008)** This article focused on the study of international trends in private higher education and focus on Indian scenario. Due to the mushroom growth of private sector higher education is affected, but many east and south Asian countries have a long tradition of higher education in recent phenomenon. In India it was not easy because of cast divided, hierarchical, multi-lingual and multi-ethnic society. Hence UGC came out with a novel concept of— deemed to be universities

— and taken quick action and avoidance of legal hurdles in the establishment of new private and foreign branches in India to match up the international requirement.

**Surek Bordia (2010)** By this article we can have an idea that the quality assurance of engineering education has been facing lots of problems related to funding in developing countries and they are entirely different from developed rich and advanced countries. It is widely accepted that the quality education comes with a higher cost and if it gets what is needed then it would certainly attract better students and opportunities for them. So it is well recommended for better education, government should provide the needed funds for the objective of improved education.

**Shun Hsing Chen (2012)** The purpose of this article was to set up a quality management in higher education system to improve the service quality of operative workforce and their performance as well. Additionally, to establish an administrative quality management system for the continuous improvement.

**Ruslan Bazhenov, Et al (2015)** This article referred to the fact which we all agree that the quality education is an utmost crucial factor in the formation of a new quality of the economy and society to build a fair skilled human capital. It is only possible by making monitoring as one of the management tools for the higher education system at macro and micro level; it identifies the problems in organization and system of professional education particularly Russian higher education institutions. Furthermore, it's suggested if it is possible to make an adequate correction in the conformity towards the higher education quality, and also, if monitoring technique is used effectively it can lead to a better whole environment of a country.

**Tatiana volosovets, et al (2017)** This article took into account a very important but slightly ignored area of education which is pre-school education institutions; it presents the four year study catering on the evaluation of the quality of education at pre-school or kindergartens in Russia. It took in the three major components for this study, which are; favorable ambiance at pre-school education institution facilitation the development of a child, professional qualifications of teachers working with children and extra services provided by any kindergarten institutions. The main objective of this study was to design permanent

mechanism of evaluating the quality of pre-school education at any particular kindergarten and share the reliable information and their availability with the administration and general public who are trying to choose the best kindergarten institute nearby

### **Objectives**

- Acquiring proper knowledge about quality education system
- Acquiring knowledge about quality education is necessary to enrich the present education system

### **Research Questions**

- Gaining knowledge about how quality education enriches all levels of education?
- Gaining knowledge about how quality education helps students transform into human resources?

### **Methodology**

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

### **Tool**

In this study books, various journals, articles and newspaper is prepared for collecting the required data.

### **Delimitation**

In this research paper only a new modern concept of quality education system is limited to the subject of application and need in the current education field.

### **The Need for a Quality Education System in Today's Education System**

- If quality education is provided to students of all levels then they will be able to become proficient in their field very easily
- Providing students with quality education enables them to become technologically competent and able to use high quality learning materials

- High quality education always provides internal guidance to the students to enable their internal development.
- High quality education makes students aware of caring for the environment which in turn leads to sustainability in the society.
- Providing students with this high quality education today has fostered a sense of curiosity in them that enables them to seek knowledge and provide logistics for advanced thinking.
- By providing high quality mass education to students with technological advancements, they are able to easily collect their required educational materials from anywhere
- In the professional world, students find better employment opportunities and they get an opportunity to express themselves better in their professional life
- By imparting high quality education, it is possible to inculcate in individuals a constant desire for knowledge which is particularly effective in developing powers of insight and observation.
- This advanced mass education is particularly effective in developing a better mindset in building better thinking
- As an introspective education system is positively correlated with a well-rounded mass education system, social gaps in the society are reduced and interpersonal relationships are developed which are essential for building a healthy society.

### **Implementation of Quality Education System at Different Levels of Education**

Application of Advanced Quality Education System in Primary Education System:-

- Technology should be used in education so that students can be exposed to computer related subjects from the first level of education
- Students should be encouraged to teach through effective teaching methods such as project work, problem solving work etc
- A healthy positive learning environment should be provided so that students and institutions do not feel insecure.

- Various training arrangements should be made for the parents so that they can provide a healthy service in the home environment of the students
- High quality education provides students with the opportunity to acquire life skills that enable them to become active citizens later in life.
- Provide various online learning resources for students such as online library with artificial intelligence technology that helps students to provide the required learning materials.
- Students should be provided with extra co-curricular learning materials which will help in fostering creativity in students.

#### Implementation of Advanced Quality Education System at Secondary Level:-

- Information-based learning with interdisciplinary approach rich in advanced public quality information should be arranged for students so that social development and wisdom development among students can be done easily.
- Advanced continuous training should be provided for teachers which specifically helps teachers in their professional life.
- Provision should be made for students to use technology learning so that they can share their ideas with other students and develop a deeper understanding of the subject matter.
- The system of formative evaluation should be continued in the education system so that the students do not develop any misconceptions about the subject matter.
- The intellectual power of the students should be developed during the textual phase so that they are able to solve various problems in real life very easily.
- A comfortable learning environment must be created for the students so that they do not feel the board of insecurity in the educational institution

#### Application of Quality Education System in Higher Secondary Level Education System:-

- Leadership qualities should be developed among the students i. e. they should be assigned different work responsibilities when the educational institution organizes various events.

- If possible, the environment of inclusive education should be developed in educational institutions
- While assigning various projects to the students, care should be taken to ensure that the students are using the technology.
- The environment of educational institutions should be kept welcoming and safe at all times
- While designing the curriculum for the students, it should be kept in mind that the curriculum should be capable of inculcating insights along with the development of social citizenship skills in the students.

Application of Quality Education System in Higher Education System:-

- Various seminar discussions should be organized for the students and this method must be organized in blended mode.
- If any assignment is given to the students, the feedback should be given to the students so that they can easily correct themselves.
- Digital learning should be provided for the students so that the learning experience is very realistic for them
- The focus must be on providing high-quality education to students that is consistent with the experiences of all students.
- Teaching students should aim to ensure that students have active experiences in all lessons
- Curriculum should be developed for the students so that they can become responsible active and conscientious citizens

Application of High Quality Education System in Teacher Education System:-

- Teachers should be imparted knowledge about learner centered learning system
- In terms of training, teachers should follow reflective teaching method while imparting education
- Continuous teacher training should be organized for all levels of teachers

- Teachers must follow formative evaluation method for evaluation system and give them quick feedback so that they can develop in their professional life.
- A research mindset should be developed among the teachers, so that they are able to discover advanced theories.

### **Conclusion**

Finally, to improve the quality of education, an inclusive environment must be created in all educational institutions in India. In this inclusive environment when students from all walks of life join in, a strong collaborative learning environment will surely develop in the classroom which will play an active role in creating a vibrant learning environment. If there is a problem, the way to solve it can be found from different places. In such an environment, many students are more creative and critical. This personal quality helps students to solve any problem very easily in the future.

### **Recommendations**

- Teacher education system should be improved and necessary training and education should be provided for teachers at different levels.
- Technology based education must be introduced in the education system.
- Various seminars and workshops should be organized regularly for teachers of different levels
- In the field of education, various problem solving projects and various team projects should be given as assignments for students.
- Students should be provided with necessary training for retirement
- Elderly education programs should be organized in different regions of India.
- It is necessary to organize proper co-curricular education system in educational institutions.

### **Limitation**

- Management of quality education in present education system is not discussed in this paragraph

- It is not discussed in the present paragraph whether it will be possible to implement the quality education system according to the administrative structure of the education system of every country of the world.

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# Methods and Strategies of Lifelong Learning through Inclusive and Quality Education

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## **Abstract**

Methods and Strategies of Lifelong Learning through Inclusive and Quality Education Lifelong learning is a continuous, voluntary, and self-motivated pursuit of knowledge for personal or professional development. The implementation of inclusive and quality education plays a crucial role in promoting lifelong learning by ensuring that educational opportunities are accessible to all individuals, regardless of their socio-economic status, abilities, or backgrounds. This abstract explores the methods and strategies that can foster lifelong learning through inclusive education systems. Key methods include flexible learning pathways, which allow learners to engage with education at any stage of their lives, and the incorporation of technology-enhanced learning, which provides diverse, adaptive learning experiences. Strategies like differentiated instruction and universal design for learning (UDL) ensure that learning environments accommodate varying abilities and learning styles, creating a more inclusive experience. Quality education, defined by relevant curricula, trained educators, and supportive learning environments, is essential for equipping learners with the skills needed for lifelong learning. Partnerships between educational institutions, governments, and communities are also highlighted as critical in fostering an inclusive approach to education. This abstract concludes that through a combination of innovative methods, inclusive policies, and commitment to quality, lifelong learning can be promoted effectively, leading to both individual empowerment and societal progress.

## **Keywords**

*Lifelong learning, inclusive education, quality education, flexible learning pathways, technology-enhanced learning, differentiated instruction, universal design for learning (UDL), accessibility, adaptive learning,*

*educational equity, continuous education, personal development, professional development, learning environments.*

## **Introduction**

Lifelong learning is a vital aspect of human development, fostering personal growth, adaptability, and resilience in an ever-changing global landscape. It encompasses the ongoing pursuit of knowledge, skills, and competencies from childhood through adulthood and is essential for both personal fulfillment and professional advancement. In today's knowledge-driven society, lifelong learning equips individuals with the ability to navigate career shifts, technological advancements, and social changes, making it a cornerstone for sustainable development.

At the heart of fostering lifelong learning is the need for inclusive and quality education. Education systems must be designed to ensure that learning opportunities are accessible to all individuals, regardless of their abilities, backgrounds, or socio-economic conditions. Inclusive education promotes the participation of marginalized groups, such as individuals with disabilities, those from disadvantaged communities, or those affected by crises. Quality education, meanwhile, ensures that the learning provided is meaningful, relevant, and empowering, enabling individuals to acquire the knowledge and skills necessary for personal development and societal contribution.

This introduction explores the methods and strategies that promote lifelong learning through inclusive and quality education. It addresses how flexible learning pathways, technology-enhanced learning, and differentiated instruction can contribute to creating a more inclusive education system. Additionally, the principles of universal design for learning (UDL) are highlighted as essential for adapting educational practices to the needs of diverse learners.

Ultimately, ensuring lifelong learning through inclusive and quality education not only empowers individuals but also strengthens communities and contributes to achieving global educational goals, such as those outlined in the United Nations Sustainable Development Goal 4 (SDG 4): "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." This paper aims to analyze and propose methods and strategies that address these goals by building an education system that supports all learners on their lifelong learning journey.

## **Objectives of the Study**

The primary objectives of promoting lifelong learning through inclusive and quality education are:

- **To promote accessibility to learning opportunities for all individuals**  
Ensure that education is available and accessible to everyone, regardless of socio-economic background, physical or cognitive abilities, geographic location, or other barriers.
- **To foster lifelong learning by developing flexible learning pathways**  
Create learning systems that allow individuals to engage with education at any point in their lives, supporting continuous personal and professional development.
- **To implement inclusive teaching strategies that caters to diverse learning needs**  
Develop and apply instructional methods, such as differentiated instruction and universal design for learning (UDL), to accommodate different abilities, learning styles, and backgrounds in the classroom.
- **To integrate technology-enhanced learning**  
Utilize digital tools and resources to create adaptive and personalized learning environments that foster engagement and allow for self-paced learning, thereby supporting learners of all types.
- **To ensure quality education through relevant curricula and effective teaching methods**  
Design and deliver educational content that is relevant to the real-world needs of learners and provides them with the skills and knowledge necessary to thrive in a dynamic, globalized world.
- **To support educators in promoting inclusive and lifelong learning**  
Provide teachers and educators with the necessary training, tools, and resources to implement inclusive education and foster an environment that promotes lifelong learning.

- **To encourage partnerships between educational institutions, governments, and communities**

Collaborate across sectors to develop policies and practices that promote lifelong learning opportunities and inclusive, quality education for all.

- **To achieve educational equity and reduce disparities**

Address the systemic inequalities that prevent marginalized and underrepresented groups from fully participating in educational opportunities, ensuring that everyone has the chance to learn and grow throughout their lives. By focusing on these objectives, education systems can become more inclusive, adaptable, and supportive of lifelong learning for individuals from all walks of life.

## **Review of Literature**

The concept of lifelong learning has gained significant attention in recent years, particularly as global economies and societies shift towards knowledge-based frameworks. Lifelong learning is often viewed as critical to individual empowerment, economic development, and social cohesion. This literature review examines key studies and theoretical perspectives on lifelong learning, inclusive education, and quality education, providing insights into how these three areas intersect and contribute to sustainable educational practices.

## **Lifelong Learning**

**David Aspin and Judith Chapman (2000)**, in their book *Definition and Evolution Lifelong learning*, as defined by scholars the ongoing, voluntary pursuit of knowledge for personal or professional reasons. It encompasses formal, non-formal, and informal education throughout an individual's life.

**Peter Jarvis (2007)** emphasized that lifelong learning is essential in a rapidly changing world where individuals need to continually update their skills and knowledge to remain competitive in the job market.

**Chris Duke (1999)** discussed the concept of lifelong learning also supports personal fulfillment and active citizenship, aligning with the idea of learning societies.

## **Inclusive Education**

**Ainscow, Booth, and Dyson (2006)** in the research *Theoretical Perspectives Inclusive education* aim to provide equitable learning opportunities for all students, regardless of their backgrounds or abilities. The research highlighted that inclusive education is not just about integrating students with disabilities into mainstream classrooms but creating a learning environment where diversity is valued, and all students are supported.

**Loerman, Deppeler, and Harvey (2010)** further explored strategies for creating inclusive learning environments through differentiated instruction, Universal Design for Learning (UDL), and assistive technologies, noting that these approaches are key in addressing the diverse needs of learners.

**UNESCO's Salamanca Statement (1994)** and the **United Nations Convention on the Rights of Persons with Disabilities (2006)** also reinforced the global push toward inclusive education by emphasizing the need for governments to adopt policies that ensure access to education for all, especially those from marginalized or underrepresented groups.

## **Quality Education**

**UNESCO's Education for All (EFA) Global Monitoring Report (2015)**, *Global Initiatives and Frameworks* The quality of education is critical for lifelong learning, as learners need meaningful, relevant, and empowering educational experiences. According to UNESCO quality education includes well-trained teachers, relevant curricula, adequate resources, and supportive learning environments.

**Barbara Bruns and Javier Luque (2014)** discussed how educational quality is linked to student outcomes, highlighting that investment in teacher training, curriculum development, and infrastructure significantly improves learning results.

**OECD (2018)** stressed that quality education also involves equipping students with 21st-century skills, such as critical thinking, creativity, and collaboration, which are essential for lifelong learning in a globalized world.

## **The Role of Technology in Lifelong Learning and Inclusion**

**Anderson and Dron (2011)** discussed the rise of e-learning, MOOCs, and adaptive learning platforms, which have made education

more accessible, especially for non-traditional learners such as working professionals, individuals with disabilities, and people from remote locations.

**John Traxler (2018)** noted that mobile learning, in particular, has revolutionized education by providing learners with access to learning materials anytime and anywhere.

**Selwyn (2011)** argued that technology enables personalized learning pathways, allowing learners to engage with content at their own pace and according to their interests, which supports the notion of lifelong learning.

### **Lifelong Learning and the Workforce:**

**Candy (1991)** noted, lifelong learning is essential for adapting to shifts in the labor market.

**Knowles' (1975)** work on andragogy, or the principles of adult learning, emphasized the importance of self-directed learning, particularly in the workplace, where individuals must continuously acquire new skills to keep up with changing job requirements.

**Billett (2010)** also discussed how workplace learning contributes to lifelong learning by providing informal learning experiences that complement formal education, encouraging employees to develop new competencies that are immediately applicable in their careers.

### **Challenges in Implementing Inclusive and Quality Lifelong Learning**

**Alexander (2008)** highlighted systemic issues such as inadequate funding, lack of teacher training, and rigid education systems that limit the effectiveness of inclusive education strategies.

**Tomlinson (2012)** also pointed out that while policies advocating for inclusive education are widespread, the practical application often falls short, especially in developing countries where resources are scarce, and educational inequalities persist.

**Tikly and Barrett (2011)** argued that achieving quality education in low-income countries requires a focus on equity and addressing the barriers faced by marginalized populations.

## **Global Frameworks and Policies Supporting Lifelong Learning and Inclusion**

**The United Nations' Sustainable Development Goal 4 (SDG 4)** calls for inclusive and equitable quality education and promotes lifelong learning opportunities for all. SDG 4 reflects the need for a holistic approach to education that includes not only access but also the quality and relevance of education.

**OECD's Education 2030 Framework** similarly emphasizes the need for countries to develop policies that support lifelong learning, focusing on the acquisition of knowledge, skills, and values that enable individuals to thrive in a complex world.

### **Methodology of the Study**

The methodology for promoting lifelong learning through inclusive and quality education involves a blend of pedagogical approaches, technological tools, and strategic frameworks that ensure accessibility, adaptability, and quality across various learning contexts. The following key components are vital in implementing effective lifelong learning strategies:

#### **Flexible Learning Pathways**

**Objective:** To allow learners to enter, exit, and re-enter educational programs throughout their lives, adapting to personal and professional needs.

**Approach:** Implement modular, competency-based learning structures where learners can earn credits, certificates, or micro-credentials that can be accumulated over time. This allows learning to be personalized and career-relevant.

**Methods:** Online and blended learning platforms that offer self-paced courses. Partnerships with industries for skill-based certifications. Recognition of prior learning (RPL) to give credit for existing skills.

#### **Inclusive Pedagogy and Differentiated Instruction**

**Objective:** To address the diverse needs of learners, including students with disabilities, language barriers, or other challenges, ensuring equitable access to quality education.

**Approach:** Use differentiated instruction to tailor teaching methods and materials to varying learning styles and abilities.

**Methods:** Create adaptable lesson plans that offer multiple means of engagement, representation, and expression (aligned with Universal Design for Learning principles). Provide multi-sensory learning materials (visual, auditory, kinesthetic) to reach all types of learners. Integrate assistive technologies like screen readers, captioning tools, and personalized learning apps for students with special needs.

### **Technology-Enhanced Learning**

**Objective:** To facilitate continuous learning through technology, making learning accessible anytime, anywhere.

**Approach:** Leverage digital platforms and tools that support self-directed and collaborative learning environments.

**Methods:** Develop e-learning modules, Massive Open Online Courses (MOOCs), and mobile learning apps to provide flexible, accessible education. Use AI-based adaptive learning platforms to tailor content to individual learners' progress, offering personalized feedback and pacing. Encourage online communities of practice and peer collaboration through forums, virtual classrooms, and social learning platforms.

### **Teacher Training and Professional Development**

**Objective:** To equip educators with the skills to deliver inclusive, quality education that fosters lifelong learning.

**Approach:** Provide ongoing professional development opportunities to ensure teachers are equipped with modern pedagogical techniques and an understanding of inclusive education practices.

**Methods:** Conduct regular workshops on inclusive education strategies, UDL, and differentiated instruction. Provide training in using digital tools for remote and blended learning. Establish mentorship programs to support teachers in implementing new teaching strategies.

### **Collaborative Partnerships**

**Objective:** To build networks that support inclusive and quality lifelong learning across different sectors.

**Approach:** Foster collaboration between educational institutions, government bodies, private sectors, and local communities to enhance resources, expertise, and opportunities for lifelong learning.

**Methods:** Engage in public-private partnerships to develop skill-building programs relevant to current and future job markets. Involve community-based organizations in promoting educational initiatives for marginalized groups. Collaborate with international bodies like UNESCO to align national education policies with global lifelong learning goals.

## Monitoring and Evaluation

**Objective:** To assess the effectiveness of lifelong learning initiatives and inclusive education practices.

**Approach:** Implement systematic evaluation processes to measure outcomes and identify areas for improvement.

**Methods:** Use formative and summative assessments to track learner progress and program success. Conduct regular feedback sessions with learners, educators, and stakeholders to refine strategies. Implement data analytics and learning management systems (LMS) to track learner engagement and outcomes. This methodology integrates innovative, flexible approaches with inclusive practices to ensure that lifelong learning is not only accessible but also effective for all individuals.

The strategies and methods outlined provide a comprehensive framework for creating a learning environment that supports continuous personal and professional development.

## Findings/Analysis

### Understanding Lifelong Learning

#### Introduction

Lifelong learning is a crucial component of personal and societal development, allowing individuals to continuously acquire new knowledge and skills throughout their lives. In an increasingly dynamic and interconnected world, the need for inclusive and quality education has become more urgent. Such education ensures that all individuals, regardless of their backgrounds, abilities, or circumstances, have access to learning opportunities that cater to their diverse needs. By

promoting flexible learning paths, embracing technology, and fostering collaboration, inclusive and quality education empowers individuals to adapt to change, remain competitive in the workforce, and actively participate in society. This approach to education is vital for personal growth, social, equity, and global progress.

## **Definition and Importance of Lifelong Learning**

### **Concept of Lifelong Learning**

Lifelong learning is the continuous, voluntary, and self-motivated pursuit of knowledge for personal or professional development, emphasizing that learning occurs at all stages of life.

### **Significance in Modern Society**

In an ever-evolving job market and rapidly changing technological landscape, lifelong learning is crucial for individuals to remain competitive, adaptable, and capable of meeting new challenges.

### **Impact on Personal Growth**

Engaging in lifelong learning fosters critical thinking, enhances problem-solving skills, and promotes a sense of fulfillment and purpose, contributing to overall well-being and personal satisfaction.

## **Historical Context and Evolution of Lifelong Learning**

### **Ancient Philosophies**

The roots of lifelong learning can be traced back to ancient civilizations, where philosophers like Socrates and Confucius emphasized the importance of continuous inquiry and education as a means to personal and societal improvement.

### **Industrial Revolution Influence**

The Industrial Revolution marked a significant shift in education, leading to the establishment of formal schooling systems that recognized the need for ongoing skills development to adapt to new technologies and job requirements.

### **Modern Educational Reforms**

In the 20th century, educational reforms began to incorporate lifelong learning principles, promoting flexible learning pathways and recognizing diverse learning needs, ultimately shaping contemporary approaches to inclusive and quality education.

## **Key Principles of Lifelong Learning**

### **Learner-Centered Approach**

Lifelong learning emphasizes the importance of placing the learner at the center of the educational process, allowing individuals to take ownership of their learning journey and tailor it to their personal interests and goals.

### **Flexibility and Adaptability**

A key principle is the need for flexible learning environments that can adapt to various contexts, enabling learners to engage with diverse resources and methods that suit their unique circumstances and learning styles.

### **Collaborative Learning**

Lifelong learning promotes collaboration among learners, educators, and communities, fostering an environment where knowledge is shared, diverse perspectives are valued, and collective problem-solving enhances the learning experience.

## **The Role of Education in Lifelong Learning**

### **Facilitating Continuous Development**

Education serves as a foundational pillar for lifelong learning by providing individuals with the skills and knowledge necessary to adapt to changing circumstances and pursue ongoing personal and professional growth throughout their lives.

### **Promoting Critical Thinking**

Quality education encourages critical thinking and problem-solving abilities, equipping learners with the tools to analyze information, make informed decisions, and engage in reflective practices that are essential for lifelong learning.

### **Creating Inclusive Learning Environments**

By fostering inclusive educational settings, institutions can ensure that diverse learners have equitable access to resources and opportunities, thereby enhancing their ability to engage in lifelong learning and contribute meaningfully to society.

## **Inclusive Education Practices**

## **Definition of Inclusive Education**

Inclusive education refers to an educational approach that ensures all students, regardless of their backgrounds or abilities, have access to quality learning experiences in mainstream classrooms, promoting diversity and equity.

## **Importance for Lifelong Learning**

By fostering an inclusive environment, education systems empower individuals to develop essential skills and competencies that are crucial for lifelong learning, enabling them to adapt and thrive in a rapidly changing world.

## **Social and Economic Benefits**

Inclusive education not only enhances individual growth but also contributes to social cohesion and economic development by creating a more skilled workforce and reducing inequalities within society.

## **Strategies for Implementing Inclusive Education**

### **Professional Development for Educators**

Ongoing training and workshops for teachers are essential to equip them with the skills and knowledge necessary to effectively support diverse learners, fostering an inclusive classroom environment that meets varied educational needs.

### **Collaborative Learning Approaches**

Implementing cooperative learning strategies encourages peer interaction and support, allowing students to learn from one another while promoting a sense of belonging and community within the classroom.

### **Utilization of Assistive Technologies**

Integrating assistive technologies into the learning process can significantly enhance accessibility for students with disabilities, providing tailored resources that facilitate engagement and participation in educational activities.

## **Case Studies of Successful Inclusive Education Models**

### **Finland's Education System**

Finland's inclusive education model emphasizes individualized learning

plans and collaborative teaching, resulting in high student engagement and achievement across diverse learner populations, showcasing the effectiveness of tailored educational approaches.

### **The Inclusive Schools Project in Canada**

This initiative focuses on integrating students with special needs into mainstream classrooms through specialized training for teachers and support staff, demonstrating significant improvements in academic performance and social skills among all students involved.

### **Australia's Disability Standards for Education**

Australia's framework mandates that educational institutions provide reasonable adjustments for students with disabilities, leading to increased participation rates and positive outcomes, illustrating the importance of policy in fostering inclusive educational environments.

## **Challenges and Solutions in Inclusive Education**

### **Limited Resources and Funding**

Many educational institutions face challenges due to insufficient funding and resources, which can hinder the implementation of inclusive practices. Solutions include advocating for increased government funding and creating partnerships with community organizations to provide additional support.

### **Resistance to Change**

Educators and administrators may resist adopting inclusive education practices due to a lack of understanding or fear of change. Professional development programs that emphasize the benefits of inclusivity and provide practical strategies can help overcome this resistance.

### **Diverse Learning Needs**

Addressing the varied needs of students in an inclusive setting can be complex. Implementing differentiated instruction techniques and utilizing individualized education plans (IEPs) can ensure that all students receive the tailored support they require to succeed.

## **Quality Education Frameworks**

### **Conceptual Clarity**

Quality education encompasses a holistic approach that integrates

academic excellence, social-emotional development, and ethical values, ensuring that learners are equipped with the necessary skills to navigate complex life challenges.

### **Inclusivity and Accessibility**

A defining parameter of quality education is its commitment to inclusivity, providing equitable access to learning opportunities for all individuals, regardless of their socio-economic background, abilities, or geographical location.

### **Continuous Improvement and Assessment**

Quality education is characterized by ongoing evaluation and adaptation of teaching methods and curricula based on feedback and outcomes, fostering an environment of continuous improvement that aligns with the evolving needs of learners and society.

## **Key Components of Quality Education**

### **Curriculum Relevance**

A quality education framework emphasizes a curriculum that is relevant and responsive to the needs of learners, integrating real-world applications and critical thinking skills to prepare students for future challenges.

### **Qualified Educators**

The presence of well-trained and motivated educators is essential for quality education, as they play a pivotal role in facilitating learning, fostering a positive classroom environment, and adapting teaching methods to meet diverse student needs.

### **Assessment and Feedback**

Effective assessment practices are crucial in quality education, providing timely feedback that informs instructional strategies and supports student growth, while also ensuring that learning outcomes align with educational standards and goals.

## **Assessing Quality in Educational Settings**

### **Evaluation Frameworks**

Implementing comprehensive evaluation frameworks that include both qualitative and quantitative measures is essential for assessing the

quality of educational settings, ensuring that diverse learning outcomes are effectively captured and analyzed.

### **Stakeholder Involvement**

Engaging various stakeholders, including educators, students, parents, and community members, in the assessment process fosters a holistic understanding of educational quality and promotes accountability and transparency within the system.

### **Continuous Improvement Mechanisms**

Establishing mechanisms for continuous improvement based on assessment findings allows educational institutions to adapt and enhance their practices, ensuring that they meet the evolving needs of learners and support lifelong learning initiatives.

## **The Impact of Quality Education on Lifelong Learning**

### **Foundation for Lifelong Skills**

Quality education equips individuals with essential skills such as critical thinking, problem-solving, and adaptability, which are crucial for navigating the complexities of lifelong learning in a rapidly changing world.

### **Encouragement of Self-Directed Learning**

A strong emphasis on quality education fosters an environment where learners are encouraged to take initiative in their educational journeys, promoting self-directed learning that is vital for personal and professional development throughout life.

### **Enhanced Social and Economic Mobility**

Access to quality education significantly impacts social equity and economic opportunities, enabling individuals to pursue lifelong learning pathways that lead to improved job prospects and a higher quality of life.

## **Strategies for Promoting Lifelong Learning**

### **Engagement with Local Resources**

Community-based learning initiatives leverage local resources, such as libraries, community centers, and local businesses, to create rich learning environments that enhance educational experiences and promote lifelong learning.

## **Collaborative Learning Opportunities**

These initiatives foster collaboration among community members, educators, and organizations, encouraging knowledge sharing and collective problem-solving that enriches the learning process and builds social capital.

## **Cultural Relevance and Inclusivity**

By incorporating culturally relevant content and practices, community-based learning initiatives ensure that diverse perspectives are represented, making education more inclusive and accessible for all learners in the community.

## **Technology and E-Learning Solutions**

### **Enhancing Accessibility**

Technology and e-learning solutions provide flexible access to educational resources, enabling learners from diverse backgrounds and geographical locations to engage in lifelong learning opportunities without traditional barriers.

### **Personalized Learning Experiences**

Through adaptive learning technologies, e-learning platforms can tailor educational content to meet individual learner needs, promoting self-paced learning and allowing for a more personalized educational journey that fosters engagement and retention.

### **Collaboration and Networking**

Online learning environments facilitate collaboration among learners and educators globally, encouraging the exchange of ideas and resources, which enhances the learning experience and builds a supportive community for lifelong learners.

## **Policy Recommendations for Lifelong Learning**

### **Inclusive Education Policies**

Develop and implement policies that promote inclusive education practices, ensuring that all learners, regardless of their backgrounds or abilities, have equitable access to quality educational resources and opportunities for lifelong learning.

### **Funding and Resource Allocation**

Increase funding for lifelong learning initiatives, focusing on community-based programs and technology integration, to provide diverse learning pathways and support systems that cater to the needs of all learners throughout their lives.

### **Collaboration with Stakeholders**

Foster partnerships between educational institutions, government agencies, and community organizations to create a cohesive framework for lifelong learning, encouraging shared responsibility and collaborative efforts in enhancing educational quality and accessibility.

In summary, lifelong learning through inclusive and quality education requires flexible, diverse, and accessible learning opportunities. It supports learners from all backgrounds by promoting equality, inclusion, and continuous development across all stages of life.

### **Conclusion**

In conclusion, lifelong learning through inclusive and quality is essential for fostering personal growth, social inclusion, and economic resilience in an ever-evolving world. By implementing flexible learning paths, utilizing technology, and designing inclusive curricula, individuals from all walks of life can access meaningful education tailored to their needs. Collaborative learning environments, skills-based education, and continuous assessment further ensure that learners remain engaged and empowered throughout their learning journey. Ultimately, a commitment to lifelong learning not only benefits individuals but also contributes to a more equitable and innovative society capable of addressing global challenges.

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# Strategies of Affirmative Action & Capacity Building on Quality Education: Interdisciplinary Insights by APJ Abdul Kalam

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## **Abstract:**

Dr. APJ Abdul Kalam, a distinguished scientist who was also President of India, holds up his own vision of education. The emphasis of affirmative action and capacity building was to ensure quality education for all. His educational philosophy is an amalgam of the scientific, technological, ethical and social, giving an interdisciplinary approach to the deep-rooted inequality in China and working out an innovative strategies to change these circumstances.

This article aims to explore Kalam's combining of inclusive education through affirmative action when distilling capacities: what sort is needed in India's countryside today and how to develop them across fields.

In terms of affirmative action, Kalam sought to remedy the disparities in education by ensuring that quality education be enjoyed equitably across society, with the particular beneficiaries including marginalized communities and women. His emphasis was upon rural education reform, providing amenities normally only found in urban centres such as digital learning platforms or scholarships to students from underprivileged sectors whose family lives are affected by geography.

His dream was that rural and remote areas become knowledge centres. To realize this he emphasized that equality of education must come first if the society is as good as Kalam had imagined, and no one residing in a poor village wants outside help.

As far as capacity building is concerned, Kalam focused on the people's scholarship fund. In practice this meant using technological means to work with field workers for further education such as university

entrance training and credit accumulation systems for taking exams outside one's regular courses. He wanted every teacher to come up with a lesson from scratch as well as accumulate time in studies and review.

### **Key words**

*Affirmative Action, Capacity Building, Quality Education, APJ Abdul Kalam*

## **Introduction**

### **Affirmative Action for Inclusive Education**

Where the content of domestic education the inter-disciplinary approach also discussed innovative, analysing its components of indeed content and its real world applications in technology. Educational restructuring should keep pace with not only technological advances for the better but also social values as an integral part of education that grooms students for responsible leadership. This interdisciplinary approach shapes Kalam, the vehicles he drives. It combines STEM education with vocational training and morally-based education. He believed that both individual empowerment and collective national growth must be taken into consideration.

### **Affirmative action and capacity building**

Kalam argued, are central to efforts to transform India into a society based on knowledge that is sustained by innovation and inclusive of all. This interdisciplinary perspective continues to influence today's educational reform, providing a model for creating an education system which is inclusive and forward-looking whilst preparing students to participate in a society that is fair, advanced.

### **Method**

Dr. APJ Abdul Kalam's method of affirmative action and capability building in education, though not placed in this precise form, can be deduced as by this that he has adopted various strategies aimed at improving quality of education and accomplishing an all-round development. His multi-disciplinary scholarship contains not only the sense of social justice, science and technology and ethical consideration mentioned earlier but in addition incorporates nation building.

Now let us examine Dr. Kalam's strategy for affirmative action and

capacity-building of quality education. Neglect and cruelty lead to large differences in IQ and learning environment between rural and urban areas, the model being an example of governmental largess which went wrong. Thus Kalam's main objective was to redress this huge imbalance through development work at various levels in rural areas, thus providing the educational facilities normally accessible only to city-dwellers to those living out in The boondocks Slang: 'he left-behinds' would enable themselves enjoy computer networks for telecommuting and a free education. Most students will benefit from these new Long-wave machines. But we should also see rural youth as a potential value system that can shape their own development. As such they need to attain the same level of resources and opportunity as urban students if everything is about *fait accompli*. He advocated for students in rural areas to get the equivalent of an education that was available in towns, it was an effort redress this glaring gap between fairly disadvantaged young men and their privileged counterparts from the City. Support for students from backward regions and lower income groups is an important part of affirmative action policy, which safeguards that outstanding pupils will not be left behind through inability to pay. Kalam carried forward his own support system among people living as outsiders in another's land through a manner with much affectionate Bai, that won a warm response both at home and abroad all year round: whoever makes himself your slave will undoubtedly experience good fortune afterwards.

### **Use E-Learning and Digital Education**

To Serve Remote Areas In the sphere of e-learning and virtual classrooms, Kalam had a clear vision: Technology should be used to make education accessible to all, regardless of geographical location. He also championed digital education in remote areas through initiatives like e-learning and virtual classrooms, believing that technology was a tool to make the democratization of knowledge possible as a mission. Champion the construction of digital infrastructure for education in remote areas so that all people, no matter where they are born and raised, have equal access to learning.

### **Interdisciplinary Insights on Education and Nation Building**

Kalam himself saw that without improvement of such infrastructures as textbooks or access to laboratories and libraries company-specific

actions in this regard are soon fruitless. In this way, by arguing for the establishment of high-quality educational infrastructure in deprived areas far away from the city center, Kalam aimed to lift underprivileged groups.

### **Women's Education**

Kalam was deeply committed to solve education for girls. He believed that enabling women through education is the key to achieving social justice and sustainable development. Cultivation of Innovative Minds in Education for another Generation for Kalam, the capacity building of educating was not only about increasing access but also streamlining overall education quality so as to serve up producers, captains and responsible lieutenants of industry.

#### **A) School teachers:**

Training and professional development programs Kalam once said teachers are the mainstay of an education system. He has consistently stressed the importance of teacher training and professional development programs to improve teaching methods and keep abreast with modern needs in education. Role of the Teacher Kalam believed that teachers should be examples for students, inspiring them. This was done through creating a climate of curiosity and enquiry with the guidance supplied by culturally prescribed values. His approach was interdisciplinary, combining pedagogy with ethical and moral development which meant that students not only excelled academically but also developed into responsible citizens of society.

#### **B) Promoting STEM and Innovation**

- Education in STEM as a Driver of Capacity Building: Kalam took high school education and STEM (Science, Technology, Engineering, Mathematics) as something integral to his overall vision of capacity building. He pointed out that a strong basis in STEM was necessary for India's position in global technology, innovation, and research.
- School and college innovation ecosystem: Kalam advocated the creation of innovation ecosystems in educational institutions. Here students would be able, through scientific knowing and technological innovation, to solve real world problems. He was interdisciplinary in his vision of developing capacity, integrating education, research, and corporate cooperation at levels above school.

### **C) Research and Development (R&D) in Universities:**

Kalam believed that the university should be a center for research and innovation.

- He called for major investment in research and development (R&D) at such institutions, with academic staff and students involved in cutting-edge research intended for solving national problems.
- Kalam stressed interdisciplinary research, linking disciplines such as technology, social sciences, ethics and environmental studies. For him, then, capacity building should not mean simply advancement in technology; it has to lead to sustainable development, relief of poverty and equality as well.

### **Education and Development as a Global Endeavor from Interdisciplinary Perspectives**

Kalam's educational philosophy was interdisciplinary in nature, combining scientific rationalism with ethics, social justice, and nation-building.

#### **A) Education in Ethical Leadership Personality Building:**

Kalam's conception of education did not stop at academic excellence—he was deeply concerned with the spiritual and moral growth of students. He thought that they ought to become leaders with integrity, compassion and a sense of responsibility towards society after they had been educated.

#### **Holistic Education**

In his thinking on capacity building, holistic education was the way students should be equipped with skills to live in a changing world. By integrating ethics and leadership training as part of this larger stage of preparation means you can ensure that students are not only professionals at one or more disciplines but also have a sense for the common good on which their livelihoods depend in a globalizing world.

#### **B) Vision for a Knowledge-Based Society**

The English take knowledge as a national resource. Kalam's dream was that India would become a knowledge-based society. That being the case, education no longer was simply for the purpose of economic

development, but in order to create a society with fulfilled values and ethics where people had knowledge and innovation at their fingertips. His interdisciplinary perspective integrated education with national security, social welfare, economic development and so on.

### **Scientific Temper and Social Development**

To Kalam, the key was imbuing students with a scientific temper, which went beyond knowledge of technology. He thought that rational thought, the ability to solve problems and ethical decision-making should guide our future innovators and leaders.

### **Linking Affirmative Action with Capacity Building**

#### **Integration of Technology with Equity:**

Kalam linked technology-driven education to the cause of affirmative action. He sought to give people access to good quality e-learning resources by leveraging information technology in education.

#### **Capacity Building in Disadvantaged Areas:**

His work to develop capacities now looked outwards and into the countryside, providing students from rural and underprivileged communities with technology, innovation skills training. Kalam envisaged centers in rural areas that not only provided basic education but also training for enterprise and mechanical skills to lift communities on their feet.

### **Educational Policies and Projects Molded in Line with Kalam's Vision**

- A number of policies and ventures reflect Kalam's ideas on affirmative action and capacity building in education.
- The program for Sarva Shiksha Abhiyan (SSA) is aimed at universalizing primary education.
- Inspired by Kalam's emphasis on digital literacy and e-learning, the National Digital Library provides digital resources to both students and teachers.
- Prompted by Kalam's observation that young students in need of new opportunity should be encouraged to innovate and open small businesses, the Atal Innovation Mission launches initiatives and provides support for establishing such small enterprises.

- In accordance with his views on skill development, the “Skill India” mission is designed to provide vocational training for millions of young Indians, particularly those from the poorer sections of society.

## Conclusion

Affirmative Action and Human Resources Development: Interdisciplinary Education Strategy, Dr. A.P.J. Abdul Kalam’s thinking on education is heavily interdisciplinary. Science and technology, ethics, social equity, nation-building are brought together. His policy of affirmative action has focused on making education more than just a public good or even a private privilege. It has sought equally to give students from underprivileged groups equal access to high-quality education and to promote changes in attitudes among the dominant rural majority, and among women. Meanwhile, his capacity-building approach called for increasing the overall educational attainment of people, promoting innovation and cultivating leaders with ethical values rooted.

On the whole, India’s education reform has been guided by this book in terms of curriculum, system and even thinking. His vision was to make India’s reform legacy come to fruition and become the melting pot of the humanistic era. As a guide for making an education system in India which not only enables young people to learn job skills today but also fosters a more just and equitable society of the future, his vision still lights up educational chronology today.

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# Examining the Influence of Mental Health on the Job Satisfaction of Secondary Teachers of West Bengal

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## **Abstract**

This study investigated how the mental health state of secondary school teachers of West Bengal was associated with job satisfaction and the results were positive. The information was collected from 500 educators and analysis showed that those educators who are in better mental health were also more satisfied with their work. Also, the teachers with practice teaching in the urban areas as well as those teaching in urban areas with self-identified as male had better mental health plus higher job satisfaction compared to their counterparts in rural areas. Given these findings, ‘it is apparent that, in order to increase teachers’ happiness and contentment on the job, their mental health issues have to be resolved’.

## **Keywords**

*Mental Health, Job Satisfaction, Secondary Teachers, West Bengal, Gender Differences, Urban vs. Rural, Teacher Well-being*

## **Introduction**

Especially as there are socio-economic and geographical challenges which shape educational contexts in West Bengal in a certain way, it is essential to focus on the connection between teachers’ mental health and their work satisfaction in the context of the secondary level. Several empirical researches have also established that teachers’ health affects their job satisfaction that translates to the job performance and wellbeing

of the teacher (Kling et al. , 2014; Montgomery & Rupp, 2005). The present work raises an assumption of job performance and retention rates among educators licensed and the level of work satisfaction they have with stigmatized mental health issues (Labrague et al. , 2017). Furthermore, earlier studies have indicated that stress at the workplace increases teachers' mental illness or they lack support system at work (Hakanen et al. , 2006; Ingersoll, 2001). Hence, understanding this correlation would be valuable in improving educational results and the teachers' quality of life in the West Bengali setting (Bandyopadhyay & Banerjee, 2020). This study aims at adding to regional policy and practice by examining the link between mental health as well as job satisfaction.

### **The Statement of the Problem**

The effects of mental health on work satisfaction of West Bengali secondary school teachers, act as blow in educational quality and it is teacher retention's major areas of concern. Mental health problems will affect job satisfaction among teachers in West Bengal but there is no adequate study which addresses this issue in view of the socio-economic and educational setting of the state though the problems are increasingly being recognized across the world (Kumar & Sharma, 2016; Sharma & Kumari, 2019). The studies have established that teachers' work satisfaction coupled with efficiency diminished by mental health conditions like burnout stress as well as anxiety (Hakanen et al. , 2006; Montgomery & Rupp, 2005). According to Ghosh and Singh (2018) and Bandyopadhyay and Banerjee (2020) such place like West Bengal is poorly provided with education and support systems to enable such practice. To design interventions that could enhance teacher's well-being and educational outcomes specialized knowledge of this setting's mental health effect on work-life satisfaction is needed.

### **The Objectives**

- O<sub>1</sub>:** To examine how the secondary school teachers' degrees of satisfaction on the job are unaffected by their mental health.
- O<sub>2</sub>:** To investigate the regional differences of secondary school teachers' views on job satisfaction in relation to their mental health.
- O<sub>3</sub>:** To analyze the relationship between mental health and job satisfaction among secondary teachers.

## The Hypotheses of the Study

$H_{o1}$ : Secondary school teachers' degrees of satisfaction on the job are unaffected by their mental health in accordance to their gender.

$H_{o2}$ : Secondary school teachers' degrees of satisfaction on the job are unaffected by their mental health in accordance to their regionality.

$H_{o3}$ : Mental health status does not significantly affect the job satisfaction of secondary teachers.

## The Significance of the Study

This study is significant in the West Bengal particularly since the teachers are often encumbered by social economical adversities that may worsen mental health complications (Ghosh & Singh, 2018; Kumar & Sharma, 2016). Since the study establishes a link between enhanced mental health with greater job satisfaction, the results can be used to indicate changes of policy to improve teacher support, and carry out specific capacity building programs, that will strengthen the teachers' job satisfaction (Sharma & Kumari, 2019; Bandyopadhyay & Banerjee, 2020). Finally, this research will help in developing a conducive teachers' working environment that is very crucial for both teacher well-being and students' performance.

## The Review of Related Literature

- **Kumari, S., & Singh, M. (2024).** A Review of Job Satisfaction among School Teachers in India. Educational policymakers, school administrators, and stakeholders may use this research as a resource to build focused interventions that support and promote teacher happiness and retention. It also adds to the scholarly debate on teacher work satisfaction.
- **Dutta, R. (2023).** Student depression in West Bengal: a comprehensive investigation across educational levels. While most college students seemed to be suffering from moderate melancholy, the majority of school-aged children had just a little hint of sadness. The only independent variables that did not demonstrate a significant correlation with depression were the mother's level of education and her employment.
- **Dawn, S. et al. (2016).** A survey of teachers' experiences with stress on the workplace at several educational institutions in West Bengal,

India. Teachers with higher salaries, who are female, between the ages of 50 and 60, and who work in metropolitan private schools, report a high rate of stress.

- **Dey, B. K. et al. (2013).**A pilot research in the Chittagong area examined teachers' self-esteem and work happiness. The findings demonstrated a favourable correlation between teachers' self-esteem and job satisfaction.
- **Ghosh, M. (2013).**The research found that compared to males and those in graduate school, paraprofessionals, female educators, and those working in both public and private schools reported greater levels of job satisfaction.

### **Research Gap**

Despite a wealth of literature on the subject elsewhere, very little research has looked at how mental health and job satisfaction interact among secondary school teachers in West Bengal. This state has its own unique socioeconomic and educational background.

### **Methodology of Study**

#### **a. Research Method:**

For this study, the researcher used a descriptive survey approach.

#### **b. Research Design:**

The researchers used a cross-sectional approach in their investigation.

#### **c. Variables of the Study:**

The mental health of secondary school teachers served as the study's independent variable, while their satisfaction with their jobs served as the dependent variable. Factors that make up the demographic variable include gender and location.

#### **d. Sample of the Study:**

Five hundred secondary school teachers from the Indian state of West Bengal made up the study's overall sample. A basic random procedure was used to choose the sample.

### **Analysis and Interpretation of the Study**

$H_{01}$ : Secondary school teachers' degrees of satisfaction on the job are unaffected by their mental health.

To verify the hypothesis Ancova was used by the researcher, which were displayed with the help of following tables:

**Table 4.1: Showing the Descriptive Statistics of Job Satisfaction Based on their Mental Health Status in Respect of Gender:**

Variables	Gender	Mean	S.D.	N
Job Satisfaction	Male	158.52	50.554	250
	Female	149.09	52.244	250
	Total	153.80	51.571	500
Mental Health	Male	164.60	50.210	250
	Female	124.80	53.591	250
	Total	144.70	55.571	500

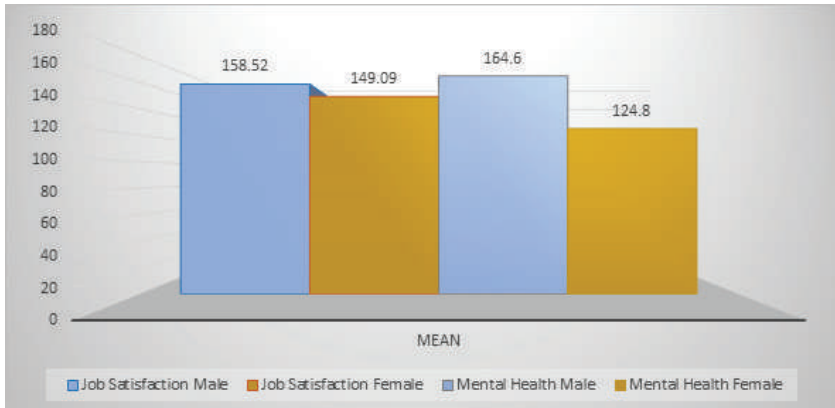


Figure 4.1: Showing the Job Satisfaction Based on their Mental Health Status in Respect of Gender

Depending on their gender, secondary school teachers in West Bengal reported different levels of work satisfaction and mental health conditions (Table 4.1 and Figure 4.1). Among male educators, the mean score for work satisfaction was 158.52 (standard deviation= 50.554), whereas among female educators, it was 149.09 (standard deviation: 52.244). There was a 51.571 standard difference in the degree of work satisfaction between men and women, with an average of 153.80. Female educators averaged 124.80 (SD= 53.591), whereas male educators averaged 164.60 (SD= 50.210). The average score for mental health was 144.70 (standard deviation= 55.571). The findings revealed that male educators reported better mental health and higher levels of work satisfaction than their female colleagues.

**Table 4.2: Showing the Test of Between subject Effects of Job Satisfaction Based on their Mental Health Status in Respect of Gender:**

Source	Variables	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	JS	11120.328a	1	11120.328	4.208	.041
	Mental	198084.608b	1	198084.608	73.459	.000
Intercept	JS	11827835.208	1	11827835.208	4475.922	.000
	Mental	10469045.000	1	10469045.000	3882.412	.000
Gender	JS	11120.328	1	11120.328	4.208	.041
	Mental	198084.608	1	198084.608	73.459	.000
Total	JS	13154944.000	500			
	Mental	12010002.000	500			

Using Table 4.2, researcher looked for between-subject effects of gender and mental health status on job satisfaction. The analysis's F-value of 4.208 and p-value of 0.041 demonstrated a statistically significant association between gender and job satisfaction. Additionally, mental health status significantly affected levels of job satisfaction (F-value: 73.459, p-value: 0.000), demonstrating that mental health is an important element in this area. Because of the substantial Type III sum of squares for both gender and mental health, it is essential to include both factors when assessing the job satisfaction of secondary school teachers.

**H<sub>02</sub>: Secondary school teachers' degrees of satisfaction on the job are unaffected by their mental health in accordance to their regionality.**

To verify the hypothesis Ancova was used by the researcher, which were displayed with the help of following tables:

**Table 4.3: Showing the Descriptive Statistics of Job Satisfaction Based on their Mental Health status in Respect of Locale:**

Variables	Locale	Mean	S.D.	N
Job Satisfaction	Urban	180.42	45.939	240
	Rural	129.24	43.755	260
	Total	153.80	51.571	500
Mental Health	Urban	166.36	57.700	240
	Rural	124.70	45.180	260
	Total	144.70	55.571	500

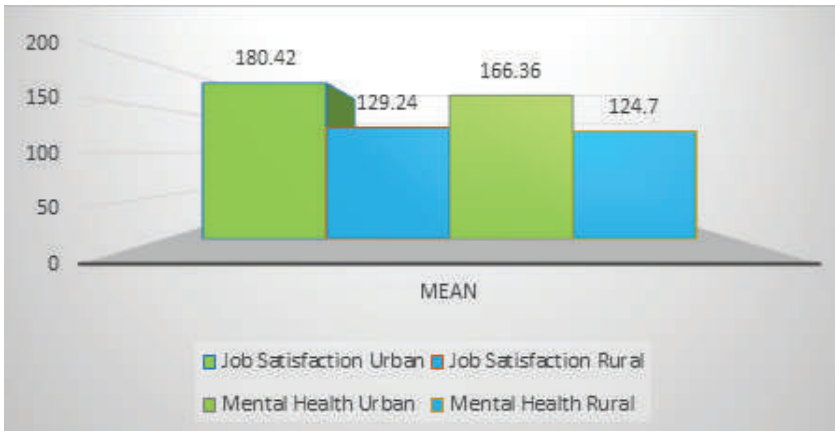


Figure 4.2: Showing the Job Satisfaction Based on their Mental Health Status in Respect of Locale

Figure 4.2 and Table 4.3 provide descriptive statistics on secondary school teachers' mental health status and job satisfaction broken down by region. Rural educators, in contrast to their urban counterparts, reported lower levels of work satisfaction (mean score of 129.24, standard deviation of 43.755), as compared to an average of 180.42 (45.939). The average level of work satisfaction among employees at both locations was 153.80%, with a standard deviation of 51.571. With an average score of 166.36 (SD = 57.700) against 124.70 (SD = 45.180) for rural teachers, teachers in urban regions exhibited significantly superior mental health. When looking at psychological well-being, the mean score was 144.70 (SD= 55.571). Teacher mental health and job satisfaction were shown to be considerably higher in urban locations compared to rural ones, suggesting that location has a major role in these two factors.

**Table 4.4: Showing the Test of Between subject Effects of Job Satisfaction Based on their Mental Health status in Respect of Locale:**

Source	Variables	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	JS	326877.243	1	326877.243	162.747	.000
	Mental	216583.341	1	216583.341	81.441	.000

Intercept	JS	11966610.043	1	11966610.043	5957.992	.000
	Mental	10573008.309	1	10573008.309	3975.735	.000
Locale	JS	326877.243	1	326877.243	162.747	.000
	Mental	216583.341	1	216583.341	81.441	.000
Total	JS	13154944.000	500			
	Mental	12010002.000	500			

In order to determine if there were any between-subject effects, we examined the relationship between job satisfaction and both mental health status and geographic location (Table 4.4). There was a notable disparity in job satisfaction between urban and rural locations, as shown by the highly significant main influence of location on work satisfaction (F-value: 162.747, p-value: 0.000). Also, having a good mental health is a key component in deciding how satisfied you are with your job. This is supported by the fact that mental health status had a substantial effect on job satisfaction (F-value: 81.441, p-value: 0.000). Secondary school teachers' levels of job satisfaction are substantially impacted by their mental health state and their location, as seen by the strong Type III sum of squares.

**H<sub>03</sub>: Mental health status does not significantly affect the job satisfaction of secondary teachers.**

To verify the hypothesis Correlation Analysis was used by the researcher, which were displayed with the help of following tables:

**Table 4.5: Showing the Relationship between Job Satisfaction and Mental Health of secondary Teachers of West Bengal:**

		Job Satisfaction	Mental Health
Job Satisfaction	Pearson Correlation	1	.835
	Sig. Value		.000**
Mental Health	Pearson Correlation	.835	1
	Sig. Value	.000**	

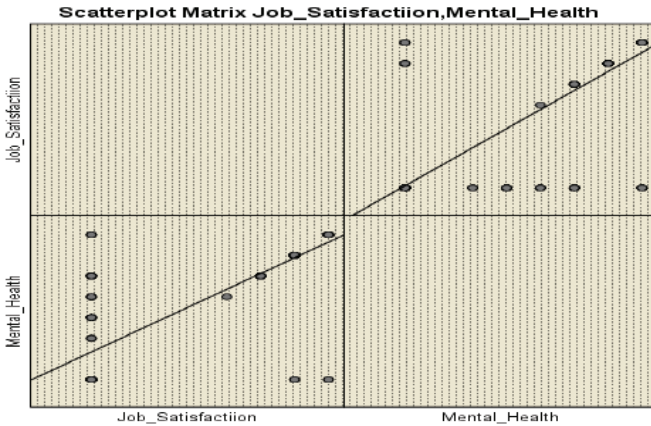


Figure 4.3: Showing the Scatter Plot between Job Satisfaction and Mental Health of secondary Teachers of West Bengal

Teachers in West Bengal's secondary schools reported higher levels of work satisfaction and better mental health (see Figure 4.3 and Table 4.5). The Pearson correlation value of 0.835 ( $p < 0.000$ ) demonstrated a strong positive association between mental health and work satisfaction. These findings point to a correlation between teachers' reports of mental health and their reports of work satisfaction. The statistical data supports the idea that there is a considerable association between secondary school teachers' work happiness and their mental health, making it imperative to assist these educators.

## Findings

- Secondary school educators in West Bengal reported greater levels of work satisfaction when their mental health was in better shape, according to a recent study.
- Male teachers and those residing in urban regions reported greater levels of work satisfaction and better perceived mental health than their female and rural counterparts, according to the education and practice study. Based on these findings, it is clear that teachers need targeted assistance to boost their happiness and contentment on the job.
- Superior mental health and job satisfaction are outcomes of living in an urban area, according to a cross-sectional research. This is because metropolitan areas provide more opportunities for

professional growth, as well as superior infrastructure and social support.

## Conclusion

In the present study, the establishment of the positive correlation between mental health and work happiness in secondary school teachers of West Bengal. Stressing the value of mental health in overall smiled job satisfaction, the teachers who have reported better job satisfying level have better health. The study also established that there was gender and location disparities; for instance tutors from large organisations urban based had higher job contentment and mental health than their counterparts in rural areas. These results emphasize the importance of forming support structures and therapies for teachers' well-being with the intention to decrease disparities and increase teachers' satisfaction with their work.

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# E-Learning Adaptation in Secondary Education: Perspectives from Students in North 24 Parganas

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## **Abstract**

This research aims at finding out how the senior secondary schools in North 24 Parganas district adapted to E-learning especially in terms of gender difference and their geographical location; and the challenges faced in the process of transition to E-learning. These findings showed the hypothesis that male and urban students tended to manifest more positive attitude towards E-learning than female and rural students. Most important it was suggested that there were statistically significant differences in their attitudes. Further, students experience a high level of difficulties in the acceptance of E-learning, especially the perceived usefulness, ease of use, and interest, and perceived self-confidence. The study therefore calls for the need to tackle these challenges using more efficient, effective and individualized technological connectivity and receptive platforms to facilitate the e-learning experience of all students.

## **Keywords**

*E-learning, Attitudes, Secondary education, Gender, Geographical Disparities.*

## **Introduction**

The incorporation of E-learning as a teaching aid in secondary schooling has gained much importance owing to the augmentations in the application of technology in education sector which is a new emerging sector in the districts like North 24 Parganas. In particular, e-learning opens up various possibilities to increase students' and their academic achievements' interest and involvement as well as make learning accessible, flexible and engaging (Garrison & Kanuka,

2004). The ease of delivery in e-learning favours the student's flexibility because he or she can learn at his or her own pace and at his or her convenience, particularly in blended learning scenarios where students have varying access to technology learning tools (Higgins, 2005). Studies show that E-learning may reduce learning gaps since it provides for learning resources that are in harmony with the requirements of the learners (Moore & Kearsley, 2011). Nonetheless the adoption of E-learning is determined by issues like internet connection, media literacy, and the support structures in place (Ng, 2015). Research also reveals that, although E-learning is advantageous, the identified makes it difficult for students to be motivated towards the course especially when educated in developing countries with limited resources (Chou & Chen, 2016). It therefore becomes important to appreciate the students' view on e-learning since these will help to solve the existing challenges and foster the right approach to education for the students in North 24 Parganas (Chen, 2018).

### **The Statement of the Problem**

The use of E learning in the secondary education in North 24 Parganas has a number of challenges such as; inequality in the distribution of technology, different students' facility in technology, and low student participation. As with any advances in technology, E-learning holds the promise for expanding educational opportunities, yet divides of connectivity, as well as obtained digital gadgets limit it in practical application. Moreover, such factors as high variability of digital competencies among students and low levels of motivation also hinder the effective use of e-learning platforms. Solving these problem is very important to enhance e-learning and enhance education achievement in the region. The study entitled as **E-Learning Adaptation in Secondary Education: Perspectives from Students in North 24 Parganas**.

### **The Need and Significance of the Study**

This study is therefore informed and relevant based on the centrality of e-learning in the current secondary education especially in areas such as North 24 Parganas where issues of digital divide may be a cause of concern as it may hinder fairness in access to education. In order to approach the problem of e learning and its implementation in this district, it is crucial to get the students' point of view about their difficulties, and limitations that contribute to or hinder their technological abilities, educational

resources, and online connections. The purpose of this qualitative study is to explore students' experience and their responses to enhance the understanding towards more informed practical e-learning policies and teachings for educators and policymakers. The research agenda will be to enhance the overall quality of education, affirmation of e learning as fair possibility for all learners, and reduce the digital gap or divide within an educational climate.

## Objectives

$O_1$ : Among secondary school pupils, there were no discernible gender disparities in their attitudes towards E-learning.

$O_2$ : Regardless of geographic location, secondary school pupils' attitudes towards E-learning were not significantly different.

$O_3$ : To investigate the difficulties secondary school pupils have while adjusting to E-learning

## 1. Hypotheses:

$H_{o1}$ : Students in secondary school do not vary much by gender as per the attitude on E-learning.

$H_{o2}$ : Regardless of geographical variations, secondary school students' attitudes on E-learning do not vary substantially.

$H_{o3}$ : Secondary school pupils do not encounter significant difficulties when adjusting to E-learning.

## The Review of Related Literature

A review on the literature of E-learning suggests that there are attitudes and challenges which are different in different educational contexts. Several studies were conducted which revealed that perceived interest, usefulness and ease of E-learning were found to differ across gender but no difference was observed in terms of self-confidence. The same as Milićević et al. (2021) investigated that the status of E-learning in higher education institutions with regard to accreditation potential. Ashraf et al. (2016) focused on the use of models in the e-learning course in secondary and higher education and the generic aspect in this type of education. However, Shraim and Khlaif (2010) noted on positive attitudes towards E-learning in Palestine despite the challenges that exist on how to implement E-learning in developing countries.

## **The Research Gap**

The literature review of E-learning adaptation is again largely based on the HE context and the general context of education leaving little empirical exploration of the views of the secondary students; especially the students of North 24 Parganas. Although, the recent works such as Padmavathy (2021), Milićević et al. (2021) focuses specifically on gender concerns, and institutional preparedness towards E-learning; very minimal literature can be found on how secondary school students, particularly those in rural and urban centres understand E learning. For instance, while papers like Shraim & Khlaif, (2010) described some difficulties in the developing countries, they do not detail with the local infrastructural, cultural or economical factors on E-learning adoption in North 24 Parganas. The above gap therefore calls for research on students' perceptions and struggles when transitioning to E-learning within the mentioned population.

## **Methodology**

The researcher selected Descriptive Survey research where cross sectional research design adopted by the researcher to conduct the present investigation.

## **The Sample and Sampling Technique**

Selecting samples of North 24 Parganas schools by use of a Simple Random Sampling method. The purpose of this was to guarantee a truly random selection process by making sure that the schools were chosen at random. Two subdivisions, Barasat and Barrackpore, in the North 24 Pargana district of West Bengal were chosen for the 400-person sample.

## **Tool used**

Attitude towards E-Learning Scale ATELS-<sub>RD</sub> by Dimpal Rani.

## **The Reliability and Validity**

To determine the scale's dependability, the Test-Retest Method was used. For this, the same sample of 70 boys and girls (aged 14 and above) were given the scale once, followed by a one-month interval. A statistically significant correlation coefficient of +0.87 was determined.01, amount of importance

## Analysis and Interpretation of data

$H_{01}$ : Students in secondary school do not vary much by gender as per the attitude on E-learning.

**Table 4.1: Showing the Attitude of Secondary Students towards E-learning in Respect of Gender**

Attitude of secondary Students	Variations		N	Average	S.D.	Std. Error Mean	t-Value	df	Result
	Gender	Male	188	228.85	19.869	.720	8.166	288.984	.000
	Female	212	214.31	23.722	1.629				

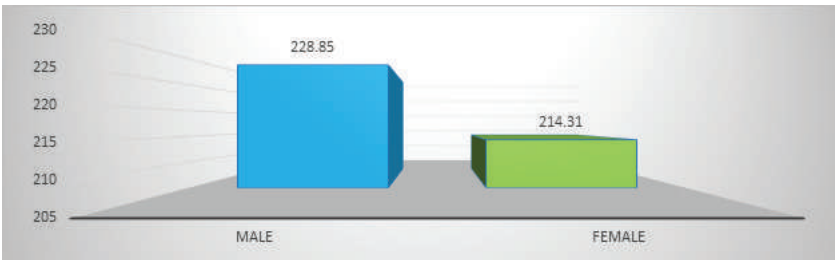


Figure 4.1: Visualising the Attitude of Secondary Students towards E-learning in Respect of Gender

Table 4.1 and figure 4.2 show that when comparing male and female secondary school students, the former had a much more favourable outlook on online education (average score of 2288.5). There seems to be less response variability in male (19.869) as opposed to females (23.722) based on the standard deviation. This difference is statistically significant ( $t=8.166$ ,  $p=0.000$ ), showing that students' opinions towards E-learning are significantly influenced by gender.

$H_{02}$ : Regardless of geographical variations, secondary school students' attitudes on E-learning does not vary substantially.

**Table 4.2: Showing the Attitude of Secondary Students towards E-learning in Respect of Geographical Variations**

Attitude of secondary Students	Variations		N	Average	S.D.	Std. Error Mean	t-Value	df	Result
	Locale	Urban	202	228.86	23.912	.697	8.440	260.948	.000
Rural		198	213.27	24.055	1.710				

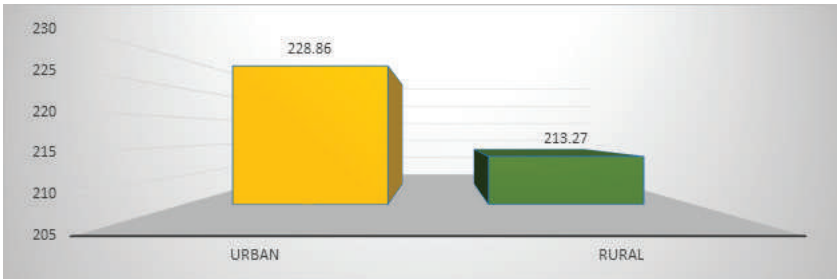


Figure 4.2: Visualising the Attitude of Secondary Students towards E-learning in Respect of Geographical Variations

Table and figure 4.2 indicates that secondary students from urban areas have a significantly more positive attitude towards e-learning (average score of 228.86) compared to their rural counterparts (average score of 213.27). The standard deviations are similar (urban: 23.912, rural: 24.055), suggesting comparable variability in responses within each group. The high t-value of 8.440 and a p-value of 0.000 confirm that this difference is statistically significant, highlighting a notable impact of geographical location on students’ attitudes towards E-learning.

**H<sub>03</sub>: Secondary school pupils do not encounter significant difficulties when adjusting to E-learning.**

Table 4.3: Showing the Average Differences of Difficulties Encountered by Secondary School Pupils while Adjusting to E-learning

Dimensions	Mean	S.D	Std. Error
Interest	27.70	1.627	.081
Usefulness	46.05	11.011	.551
Ease	26.29	5.762	.288
Confidence	24.27	6.908	.345

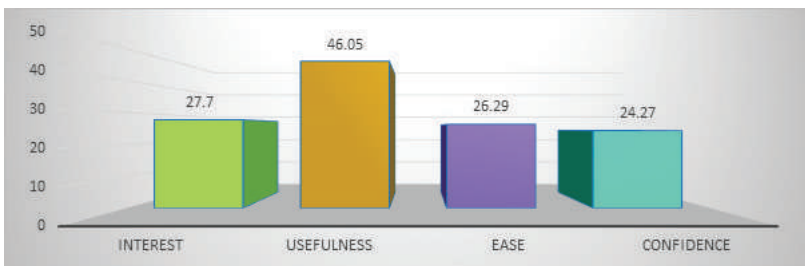


Figure 4.3: Visualising the Average Differences of Difficulties Encountered by Secondary School Pupils while Adjusting to E-learning

The typical challenges that secondary school students face when adapting to E-learning across several dimensions are shown in table 4.3 and figure 4.3. After interest (27.70), confidence (24.27), and usefulness (46.05), students ranked the following: easiness (26.29), and finally, utility. The standard deviations show that there is some variation across the variables; students seem to have greater trouble with perceived usefulness, as it has the biggest variability (11.011) compared to interest (1.627). Accurate estimations of the average reported problems are shown by the modest standard errors across all dimensions.

**Table 4.4: Showing the Anova Calculation on the Difficulties Encountered by Secondary School Pupils while Adjusting to E-learning**

Dimensions	Group Type	Sum of Squares	df	Mean Square	F- Value	Result
Interest	Between Groups	67.269	1	67.269	27.067	.000
	Within Groups	989.128	398	2.485		
	Total	1056.398	399			
Usefulness	Between Groups	2499.708	1	2499.708	21.685	.000
	Within Groups	45878.390	398	115.272		
	Total	48378.097	399			
Ease	Between Groups	470.503	1	470.503	14.657	.000
	Within Groups	12775.857	398	32.100		
	Total	13246.360	399			
Confidence	Between Groups	4179.036	1	4179.036	111.903	.000
	Within Groups	14863.341	398	37.345		
	Total	19042.378	399	67.269		

Results from an analysis of variance (ANOVA) showing the challenges that secondary school students faced while transitioning to online learning are shown in Table 4.4. Significant group differences are evident across all four variables (Interest, Usefulness, Ease, and Confidence) with p-values of 0.000 and F-values of 27.067, 21.685, 14.657, and 111.903, respectively. The big F-values and low p-values indicate that there are significant differences in the reported problems

across the various groups. The confidence group had the highest F-value, suggesting the most significant difference.

### **Findings of the Study**

- With a t-value of 8.166 and a p-value of 0.000, there is a major gender-based difference in the attitudes of male and female secondary students towards E-learning. The difference is statistically significant.
- The impact of geographical location on e-learning attitudes is shown by the fact that urban students show a markedly more favourable attitude towards e-learning compared to their rural counterparts (t-value 8.440, p-value 0.000).
- Perceiving the utility of E-learning is the most challenging task for secondary students (average score 46.05), followed by confidence, easiness, and curiosity. Interest has the lowest variability in challenges (SD: 1.627) compared to usefulness (SD: 11.011).
- Students not find E-learning beneficial due to technological difficulties, a lack of instant response, or poorly designed digital materials.
- Inadequate computer skills, slow internet connections, or too complex user interfaces are examples of technological obstacles that could make e-learning systems challenging to use. Frustration and a lack of engagement may result when students who aren't internet savvy have trouble making good use of these platforms.
- Less interest is caused by the lack of compelling instructional techniques, face-to-face talks, and peer interaction. Further reasons for student disengagement with E-learning material include its dullness or bad design.
- Because of factors such as their lack of experience with digital environments, teachers' restricted availability to assist, and students' expectations for their own self-directed learning, students do not believe in their capacity to achieve in E-learning.

### **Conclusion**

Therefore, this study of adaptation towards E-learning of Secondary Students in North 24 Parganas brings out gender and geographical

differences. The study reveals a significant gender and regional differences in the ability, embrace and perception of E-learning revealing lower values for female and rural students. In addition, students' challenges relate to effective engagement in E-learning especially in perceiving relevancy, ease, and motivation and confidence. Hence, the findings imply that amplified efforts to enhance the aspects like digital environment quality, technology interfaces, user platforms and other forms of support are crucial in order to facilitate equal and meaningful e-learning opportunities for all students.

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# Savitribai Phule: A Legendary Lady on Indian Education

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## **Abstract**

Savitribai Phule was the greatest architect in formulating the base of foundation in today's educational system in India. This modern, Marathi and radical poet was regarded as the mother of Indian women education because of her first realization about necessity of women's education in Indian society. Her goal was to introduce the modern Indian philosophy in human society and emphasized on self- respect, self- confidence and self – reliance. She was also considered as the first female teacher who read and wrote for all women equally. Her instrumental role between women education and empowerment helps women in gaining courage to raise their voice for their right. Her target was to free the Indian society from Indian tradition, reforms-superstitions and religious practices etc. For her contribution to Indian social reform movement and Indian education, she was popularly known as “Flame of Education (Jananajyoti)” and “Flame of Revolution (Krantijyoti)”. She emphasized on fight for women's right and rights for education. Therefore, people gave title Savitribai Phule as ‘Mother of Indian Feminism’.

This study focuses on the ideology of Savitribai Phule that is highly valuable for everyone in modern era. She should be remembered as a brave hardworking role model in present times. This paper highlighted her activities as an educationist and philosopher in Indian society so that women can be influenced by his thought. She emphasized on developing moral values in students to harmonize the society by upgrading the knowledge level, self-consciousness about the individual freedom and creating equality in society. Her contribution to Indian education was a revolutionary due to her realization about significance of education in Indian women society and understanding the essentiality of education for making a powerful nation. The present education system, based on equal democratic social culture, is the result of her monumental contribution to Indian society.

**Key words**

*Savitribai Phule, women education, contribution, Indian society, equality.*

**Introduction**

The most wonderful creation of the world is woman. But they did not try to protect the rights and respect at global level that they deserve. Even they can not stop the enhanced tradition of exploitation on women's society. The whole society as well as women's society is responsible for this situation.

Savitribai Phule is one of such legendary who spent her life in educating women for upliftment them from darkness. Although the technological development in India is on top position today, the social progress of India is far away. The integration of society depends on women's life style. The traditional, uneducated and orthodox concept of society considers the daughter as burden of society. For a civilized society, it is very important to educate the women who are the architect of society. It is first experienced by Savitribai Phule. But this task was very difficult in such a conservative Indian society. According to S.Gupta (2021), the name of Savitribai Phule was registered in golden letters in the history due to her taking remarkable challenges in these adverse circumstances.

Savitribai Phule wanted to spread education among women for development of self-consciousness (R.Pandey, 2022). She realized that education of women is an instrumental factor for total progression of society. The colonial exploitation was the main reason of misery and poverty for Indian. They were also deprived of education. Beside this, various superstitions inhibit their mental development. At that time, Savitribai Phule wanted to make the society through the philosophy of education as a feminist philosopher. She emphasized on equality and humanity in the society. From the study of R.Braganza (2021), it is noted that freedom, equality, fearless, justice etc are most important in her thought in place of untouchability, traditional beliefs and gender discrimination. She introduced a new set of values in Indian educational philosophy. According to her, education is the light that can binds all kind of people in society to the same formula. She wanted to eliminate any kind of biased attitude from the field of education. The objective of her life was to spread the awareness about the significance of education

in society. Her life was dedicated to the welfare of the mankind.

### **Objectives of this study**

- To identify the contribution of Savitribai Phule on modern Indian Education system.
- To assess the feminist ideology and pragmatic view of Savitribai Phule.
- To study the legendary role of Savitribai Phule in enhancement of women empowerment.
- To highlight Savitribai Phule as an example of women society.

### **Methodology**

This study is a descriptive type of qualitative approach. Both primary data sources and secondary data sources are used for this study. Primary data sources include essays, poems, writings etc. Government reports and constitution's section are also considered as primary sources. On the other hand, the secondary sources are based on magazines, articles, books, published journals, e-papers, thesis etc. As this study depends on the interpretation of articles, books etc of previous year, it is also known as historical approach.

#### **• Short Biography**

Savitribai Phule took birth in a farmer family in Mali community on 3rd January 1831. The village of Naigon, in Maharashtra was her birthplace. She started her education after marriage at the age of nineteen. Her parents were Khandoji Nevase Patil and Lakshmi. In 1840, at the age of nineteen, she married to twelve years old Jyotirao Govindrao Phule who was renounced social reformer, Philosopher and writer.

At that time, the society was controlled according to the Brahmin rule and is no chance of women education. But Jyotirao and his friends realized that women's education is essential for development of nation. Therefore, they took the responsibility of Savitribai Phule's education. After primary education, she became graduated with the help of Sakharam Yashwant Paranjape and Keshav Shivaram Bhawalkar (two friend of Jyoti Rao). Completing training from Cynthia Farar in Ahmednagar, controlled by American Missionary and Teacher's Training Centre at Pune, she became India's first teacher and headmistress.

Being passionate to teaching, in 1848, establishing in “Balika Vidyalaya” in Bhide Wada of Pune, the first girl’s school in India with nine students, she became headmistress. Later she opened more 18 schools to put on the light of knowledge in women society.

Her husband Jyotiba Phule was a leading figure as a social reformer in Maharashtra. This legendary couple took a social challenge by adopting Yashwant Rao, the son of a Brahmin widow Kashibai to spread a message for the progression of society. For working in opposition of society, they have to separate from their family.

In 1897, Savitribai Phule inaugurate a hospital in village with the help of her doctor son Yashwant Rao during third epidemic of plague. At that time, she got a call for help from infected Pandurang Babaji (son of Gaekwad). She admitted him to hospital for serving. The Unfortunately, she became infected. At last, the sun of the century has set on 10<sup>th</sup> March 1897.

### **Role of Savitribai Phule:**

- **As a pioneer of women Education:**

Savitribai Phule introduced a new era in Indian education and set new values in educational philosophy. She emphasized on Mathematical, law, agriculture, Moral Education, Social Science, Health Education etc for Physical and mental growth of student. She spread consciousness among women by her famous writing – “Kavya Phule” in 1854, “Go Get Education”, “Bhavan Kashi Subodh Ratnakar” in 1892. She believed that only education can provide equal opportunities, rights and justice to all.

Today’s women gain ability to perform in every field. This is possible only by struggle of revolutionary women like Savitribai Phule against all boundaries. According to her, education was not only literacy; it is the weapons of developing personality and self-dignity. At that time, the life of women was extremely miserable and they are only object to be used. Education to them was considered to be a crime. But the thoughts and philosophy of Savitribai Phule was very modern in these critical situations. Present day’s new concept Mid-Day Meal Scheme, Earn and Learn concepts, Parent-teacher meeting etc are planted and nurished by Savitribai Phule in past. She was mother of modern education. According to Amit

Das (2021), she also wrote childrens' poem to enhance the egerness of education like

- Welcome you today, knowledge are the real Wealth.
- Golden day dawned, come on baby gleefully
- More than all wealth

- **As a Faminist and Pragmatist:**

Faminism is an ideology that aims to establish socio-political equility and equity on base of gender. Savitribai Phule first introduced this concept in Indian philosophy. She was the first Indian feminist. She was a vocal against injustice to women in society when gender discrimination was in high pick. But this situation can not break her morality rather she started to move door-to-door in picking daughter to schools and making understand people about the importancy of women education.

A pragmatist focuses on practical approaches and solutions based on real-world conditions or circumstances instead of theoretical principles. According to her, alphabetical learning is not complete education. She wanted to attach trading, crafting, painting, writing and other activities with education so that one can be able to lead a comfort live. For this reason, she emphasized on peticipative and activity-based teaching methods.

- **Role in Women Empowerment:**

Savitribai Phule played a revolutionary role in society for women. A. Das and A.C. (2021) reported that, she tried to uplift the women from backwordness through education. She believed that only education can enhance the self-reliance, self-dignity and consciousness among women. According to V.Raj (2018), at the time of her, education is a crime to women. In 1852, she established "Mahila Seva Mandal" to spread awareness about dignity, right etc among women. She took various revolutionary steps for women that were not accepted by orthodox society.

## Legacy

British Government first honored the Phule family on 1<sup>st</sup> November 1852 for introducing modern philosophy in Indian education system. She was also designated as the best teacher. Writer Divya Kandukuri

(2019) noted that the result of the students was better than the other schools.

- Savribai Phule award was distributed to women who were social reformer in Maharashtra.
- Pune city Corporation built a memorial in her honor in 1983.
- A stamp was released by Indian Post on 10<sup>th</sup> March 1998.
- Pune University was rechristened as “Savitribai Phule Pune University” in 2015.
- An Indian Drama named “Krantijyoti Savitribai Phule” was aired on DD National as television series in 2016.
- On 186<sup>th</sup> birth anniversary, GoogleSearch Engine memorializes Savitribai with a Google Doodle on 3<sup>rd</sup> January 2017.
- A biopic named “Savitribai Phule” was made in Kanada Language in 2018.

### **Analysis of the study**

Savitribai Phule should be remembered as a modern educationist and philosopher. There was a great similarity between the thoughts of Aristotle and Savitribai Phule. Both of them realized that modern education should enhance moral values among students so that the ideal citizens of the nation can be made. This idealism is significantly relevant in present day’s situation of society.

According to her, a complete man can not be made by classroom teaching. Therefore, she emphasized on question – answer method, practical method, and project –method, games etc to develop the practical knowledge that are the teaching methods of present time. Her struggles and efforts always helped us to find the right path and introduce today’s digital- literacy, critical- thinking and problem - solving methods.

Savitribai Phule was a revolutionary character who tried to introduce new ideas associated with scientific and practical approach in place of old traditional ideas. This narrative and analytical study examines the remarkable works and educational contribution of Savitribai Phule in society and tries to relate the idealism and philosophy of her to the modern thoughts of present era.

## Conclusions

In the nineteenth century, when life of the women were subjected to subordinate, as a feminist philosopher Savitribai Phule played a vital role in women's education and empowerment. This signatory women in India dedicated her life for development of Women. She tried to develop the feelings of freedom, self –dignity and responsibility among women through moral education. Her aim was to ensure free and compulsory education to all. Her contribution was regarded as instrumental factor between women empowerment and universal education. Her message to society was full with peace and hermony that is highly diserable for present days. Walking of today's women shoulder to shoulder in world is the result of Savitribai Phule's struggle. She was also a vocal against theoretical traditional education and emphasized on practical knowledge. The great visionaries, Savitribai phule inspired women to free themselves from traditional and superstitious culture of society. Her passionate dedication was on transforming India into modern state. Her tireless, inspirational work made history and is regarded as a role model to the next generation.

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# Impact of Mothers' Occupation on Adolescents' Social Adjustment: A Comparative Study

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## **Abstract:**

Now a days every individual all times try to adjustment with his or her social environment with best ability. Adolescent stage is a combined period of consciousness and unconsciousness different demographic factors are related to their social adjustment ability. Main objectives of this study is to find out social adjustment among adolescent in relation to their mother occupation. The investigator conducts survey method and collects all data through standardized tool from 200 sample. The result was found that mothers' occupation wise there is no significant mean difference among adolescent in the social adjustment.

## **Key Words**

*Social Adjustment, Adolescent, Mother Occupation*

## **Introduction:**

Social adjustment is the ability to build a good relationship in order to avoid being exploited by others. As every individual in society tries their best to adjust in all situations of life, social adjustment is described as the ability to develop positive relationships with others as well as differentiate from different others. Social adjustment has been identified as a fundamental psychological aspect in characterizing persons. The students must learn the ability to adapt, which will allow them to grow as responsible citizens of society. As a result, all of these are equally appropriate to adolescent secondary school students. They cannot endure the stress and storm at this period because they are overly sensitive to interpersonal relationships. They simply struggle and endure challenges in their lives. Sometimes they withdraw from others and engage in negative thinking and behaviour. They lack a fundamental route in adjustment throughout this stage due to a lack of fine-tuning. As a result, social adjustment is critical in today's environment.

Adjustment as a process describes and explains the methods and techniques by which an individual adapts to himself and his environment, without regard for the quality of such adaptation or its consequence in terms of success or failure. It is an organized behaviour in everyday life settings such as at home, school, work, growing up, and ageing. It assists in keeping basic impulses at bearable levels, believing in one's own skills, and achieving desired goals. As a result, adjustment promotes self-directed intellectual, emotional, social, physical, and vocational growth and development. The psychological process by which people manage or cope with the demands and obstacles of daily life is referred to as adjustment. It denotes conformity and is concerned with how an individual adapts to his surroundings and the demands of life (Ogoemeka, 2012).

### **Objectives**

- To know social adjustment of adolescent on the basis of household mother
- To know social adjustment of adolescent on the basis of working or job holder mother

### **Hypotheses**

H01: There will be no significance mean difference of adolescent on the basis of household mother in social adjustment.

H02: There will be no significance mean difference of adolescent on the basis of working or job holder mother in social adjustment.

### **Research methodology**

In this study the researcher employed the descriptive survey research method. For this study the relevance data were collected from Joynagar, south 24 Parganas. In quantitative study, descriptive method is more applicable in the field of social science research.

### **Sample and sampling technique**

The investigator collects the data from adolescent school learners from different educational institutions through random sampling technique. In random sampling technique each individual has equal chance of being selected as sample in any study. A sample of 120 adolescents (60 male & 60 female) students was selected from Joynagar.

## Variable studied

Independent variable: type of mother occupation

Dependent variable: social adjustment

## Description of tool

Research instrument is *Social Adjustment Inventory*; standardized by Roma Pal (1985) used in this study. The reliability coefficient of the inventory is 0.82 and correlation coefficient is 0.87. The validity of the inventory had come out to be 0.77 and 0.80 respectively. The scale consists sixty (60) items. Though the inventory has no time limit but usually a subject may take 40-45 minutes to complete this inventory. The inventory can be administered individually as well as on group, 60 items were followed by 'Yes' or 'No' responses. If agree with the statement then tick (right mark) mark within the box of 'Yes' and do not agree then tick (right mark) mark within the box of 'No'. Respond to all the statements without separation any.

## Scoring

The scoring system of the inventory is very easy. As mention earlier, each item has two responses i.e. 'yes' or 'no'. For the subjects response of 'yes' score of 2 should be given and in case of 'no' response 1 score.

**Table: Norms for Social Adjustment Level of Students**

	Category	Social adjustment score
Level or state	Good level	101 and above
	Average level	81 to 100
	Poor level	60 to 80

Norms: It is advised to prepare local norms for this inventory.

## Analysis of data

H01: There will be no significance mean difference of adolescent on the basis of house hold mother in social adjustment.

Variable	N	Mean	S.D	t- value	Result
Male	54	94.96	6.58	1.66	Not significant
Female	66	95.82	6.08		

## Interpretation

On the basis of analysis of data, result found that the mean score of social adjustment among male and female are 94.96 and 95.82, but this mean difference statistically not significance. So the null hypothesis is accepted. On the basis of result female students are more favorable than male students.

H02: There will be no significance mean difference of adolescent on the basis of working or job holder mother in social adjustment.

Variable	N	Mean	S.D	t- value	Result
Male	74	91.66	6.58	0.90	Not significant
Female	46	92.88	6.08		

## Interpretation

On the basis of analysis of data, result found that the mean score of social adjustment among male and female are 91.66 and 92.88, the mean difference not statistically significance. So the null hypothesis is not rejected. On the basis of result female students are more favorable than male students.

## Findings and Discussion

On the basis of analysis and interpretation of data we found that according to the mother occupation, in the group of household mother, female students well-adjusted her self with their social environment than male students. In the respect of working or job holder mother, male and female students are not significantly difference on the basis of their social adjustment mean score. The present findings of the study were supported by Sarkar and Banak (2017), Suthar (2015), Makwana and Kaji (2014), Bimala (2015), NCERT (2008), Rani (2015), Chauhan (2013), Pachaiyappan and Arumugam (2017), Basu (2012). But Pankaj and Singh (2017) in their study, noticed that no mean difference exists among boys and girls in terms of their social adjustment ability. But any others study noted that a significant mean difference exists amongst adolescent school learners based on their mother's occupational status. The student whose mothers are house wife, they possess better mental health than the students whose mother are job holder. The findings of

the present study is supported by the study of Syed (2018). He noted that the children of working mother are socially more maladjusted as compared to children of non-working mothers who are socially more adjusted. Working mothers do not have enough time to spend with their youngsters, and as a result, these children tend to be isolated, which impairs their social adjustment. Collins (1975) found that mothers who are involving job, their children possess poor personality than the children whose mother are totally home wives. Children of non-working mothers receive adequate attention from their mothers, which is basic necessity for socialization. Mody and Murty (1988), Ora, Einaya, and Ehlas (2006) also supported the findings of the present study.

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# Role of Adult Education for Educational Sustainability in Mohanpur Gram Panchayat, North 24 Parganas

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## **Abstract**

Sustainability transitions are long-term processes that involve interactions among societal groups and promote co-evolutionary socio-technical transformations aimed at addressing crucial sustainability challenges. Although the focus of relevant work is often on groups, sustainability transitions also require personal transformations. Can adult education be a vehicle for promoting such transformations? In the present study, we attempted to answer this question by examining whether participation in sustainability-related adult education programs (AEPs) leads to the development of sustainability awareness, formation of sustainability-related values, construction of sustainability empathy, and initiation of pro-sustainability action among individuals. Following a quantitative research design and drawing upon data from farmers and teachers, we compared attendees and non-attendees of AEPs on the above-mentioned constructs. The analysis revealed that attendees scored significantly higher than non-attendees in awareness, values, empathy, and action. A series of hierarchical regressions confirmed the association between participation and the outcome variables, also showing no effects of demographic factors on the models. These results underscore the potential contribution of sustainability-related adult education to individual transformation, thus suggesting that targeted adult education interventions can facilitate sustainability transitions.

## **Keywords**

*Adult Education, Social Awareness, Values, Sustainable Development*

## Introduction

Adult education refers to the process of teaching and learning that occurs with adults, typically outside of the traditional K-12 or higher education systems. It encompasses a broad range of educational activities. Educational sustainability refers to the capacity of educational systems, institutions, and practices to support and promote sustainable development, social justice, and environmental stewardship, while ensuring the long-term viability and effectiveness of education itself. Education is a complete process which provides opportunity for learning, acquisition of knowledge, skills, values, beliefs and habits. Education should be common for all. It should also be provided to people who quit it in early stages. The most important role of adult education in a society is to provide chance for people who discontinued their education in early stages. Some of the reasons to quit education might be illness, financial situation, job opportunity. When they realize in later period, they can't learn in normal educational institutional. To provide them second chance adult educational programs were started by the government of India. Adult education also acts as an instrument to make better informed citizens. This helps uneducated people to participate in major social activities such as voting, joining and also helps in reducing illiteracy from the society.

## Statement of the Problem

The Statement of the problem has been entitled as:

“Role of Adult Education for Deliniation of Educational Sustainability in Mohanpur Gram Panchayat, North 24 Parganas”.

## Objectives

1. To know the Impact of Adult Education for Increasing value among Local People of Mohanpur Gram Panchayat.
2. To know the Role of Adult Education for Skill based Development among local people of Mohanpur Gram Panchayat.

## Hypotheses

$H_{01}$  Adult Education has no Impact on Increasing Value among Local people of Mohanpur Gram Panchayat.

$H_{02}$  Adult Education has no impact on Skill based Development among local people of Mohanpur Gram Panchayat.

## Literature Reviews

**Agwu, P. U. (2016).** Language is endangered when it is on the path towards extinction. This occurs when its speakers cease to use, reduce its communication use or fail to pass it on from one generation to another.

**Ahenkan, A. & Osei-Kojo A (2014).** The study therefore assessed the achievement of SD in Africa using the qualitative paradigm. It employed the desk top instrument in data collection by critically reviewing literature pertaining to the progress,

**Belete, S., Duke, C., Hinzen, H., Owusu-Boampong, A., & Khau, H. P. (2022).** This article reviews relevant literature and identifies recent studies and experiences with a particular focus on the Asia-Pacific and Africa regions, but also considers insights related to interventions at the global level.

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**Calderón-Villarreal, A., Alamo-Hernández, U., Terry, B., & Salgado-de-Snyder, N. (2023).** Long-term research has identified significant water contamination and associated poor health outcomes in the indigenous community of Alpuyecá, located in south-central Mexico. We set out to develop a popular education initiative in this community to improve water, sanitation and hygiene (WaSH) knowledge and practices.

**Egetenmeyer, R., Schmidt-Lauff, S., & Boffo, V. (2017).** Adult Education and Lifelong Learning' analyzed this and identified influences on policy at local, national and international levels. It further analyzed the internationalization of adult education and identified the emergence of different dimensions of professionalism in adult education.

**Egunyom, D., (2008).** The purpose of this paper is to examine adult education programmes for Sustainable Development Goals in Nigeria. The paper analyzes how adult education programmes could be utilized for sustainable national development.

**Ihejirika, J.C. (2013).** The purpose of this paper is to examine adult continuing education programmes for sustainable national development in Nigeria. The paper analyzes how adult continuing education programmes could be utilized for sustainable national development. In spite of Nigeria's affluence in human and material resources.

**Rogers, A. (2019).** This paper argues that Non-formal Education (NFE) has seen a remarkable revival of interest across both developing countries and the more highly developed countries. Among the factors causing this revival is the search for alternative educations to meet the needs of different groups

in society.

## Research Methodology

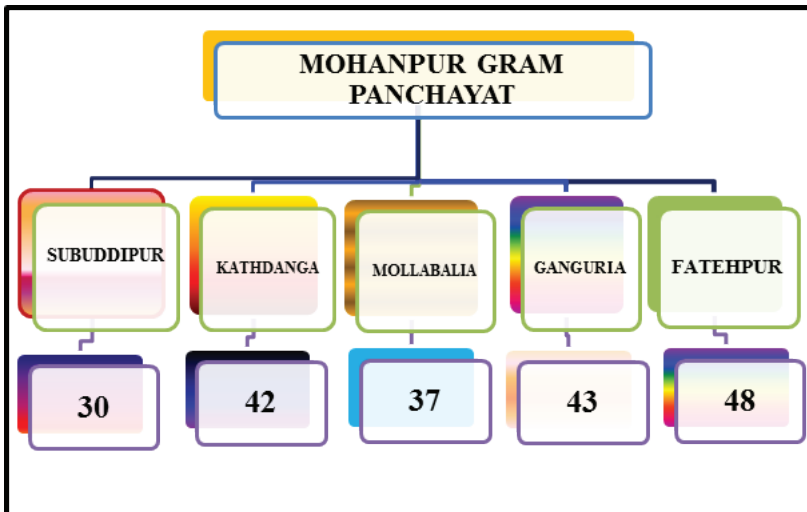
The present Study is completed by Descriptive survey and the Analysis has been done by Qualitative Technique. The sample used in this study is Stratified Sampling. The following research has a Standardized scale for data collection and it consists with Three point (3) liker variation. In this research the physical training determined as independent variable and the Academic growth has indicated as Dependable variable. To develop the here using descriptive Statistics like Standard Deviation, and also Inferential Statistics like correlation and with ANOVA analysis done for fulfilment of Data Analysis and result. The whole data has been verified by  $0.05\%$  validity scale of *T-test measurement*.

## Population and Sample

For Analysis and Interpretation Mohanpur Gram Panchayathas been taken as a population of Research.

5 Wards under Mohanpur Gram Panchayat has been taken as a sample of study and 200 house from Mohanpur Gram Panchayat has been taken for studyin his Research (houses included on Adult Person)

## Sample Design



## Delimitations

1. The work is Delimited only Mohanpur Gram Panchayat of North 24 Parganas district in West Bengal.

2. The work is also delimited in 5 Wards under Mohanpur Gram Panchayat.
3. The work further delimited only 200 Houses which included one Adult person.

### 10. Analysis and Interpretation

EXTENSION OF ADULT EDUCATION(X)	DEVELOPMENT OF VALUE EDUCATION (Y)
20%	35%
45%	70%
60%	85%
43%	64%
31%	47%

SUMMARY OUTPUT								
<b>Regression Statistics</b>								
<b>Multiple R</b>	0.995173							
<b>R Square</b>	0.990369							
<b>Adjusted R Square</b>	0.987159							
<b>Standard Error</b>	0.022197							
<b>Observations</b>	5							
<b>ANOVA</b>								
	df	SS	MS	F	Significance F			
<b>Regression</b>	1	0.152002	0.152002	308.4909	0.000402			
<b>Residual</b>	3	0.001478	0.000493					
<b>Total</b>	4	0.15348						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
<b>Intercept</b>	0.088968	0.03085	2.883871	0.063329	-0.00921	0.187147	-0.00921	0.187147

<b>EXTENSION OF ADULT EDUCATION (X)</b>	1.289025	0.073391	17.56391	0.000402	1.055463	1.522586	1.055463	1.522586
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According to regression analysis and ANOVA analysis the Probability value of Extension of Adult Education is 0.000402 where the level of Significance has been decided 0.01 and 0.05.

According to Analysis the Probability value is Less than Significance level. Therefore the following Hypothesis has been rejected and it has a significance value 0.000402 where it has a deep relation between adult education and increasing value of local people in Mohanpur Gram Panchayat area.

<b>EXTENSION OF ADULT EDUCATION(X)</b>	<b>DEVELOPMENT OF SKILL(Y)</b>
20%	36%
45%	34%
60%	72%
43%	52%
31%	43%

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.755684							
R Square	0.571059							
Adjusted R Square	0.428079							
Standard Error	0.116865							
Observations	5							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	0.054548	0.054548	3.993967	0.13953			
Residual	3	0.040972	0.013657					
Total	4	0.09552						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.166668	0.16242	1.026153	0.380329	-0.35023	0.683562	-0.35023	0.683562

EXTENSION OF ADULT EDUCATION(X)	0.772191	0.386387	1.998491	0.13953	-0.45746	2.001846	-0.45746	2.001846
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According to regression analysis and ANOVA analysis the Probability value of Extension of Adult Education is 0.13953 where the level of Significance has been decided 0.01 and 0.005.

According to Analysis the Probability value is Greater than Significance level. Therefore the following Hypothesis has been selected and it has no significance. Where the adult education does not create an impact on skill based education in Mohanpur Gram Panchayat area.

t-Test: Paired Two Sample for Means		
	EXTENSION OF ADULT EDUCATION(X)	DEVELOPMENT OF VALUE EDUCATION (Y)
Mean	0.398	0.602
Variance	0.02287	0.03837
Observations	5	5
Pearson Correlation	0.995173	
Hypothesized Mean Difference	0	
Df	4	
t Stat	-9.55318	
P(T<=t) one-tail	0.000335	
t Critical one-tail	2.131847	
P(T<=t) two-tail	0.000671	
t Critical two-tail	2.776445	

From the Above analysis we can find that value of P (T<=t) one-tail is - 0.000335 and value of t Critical one-tail is = 2.131847. So from the analysis we can say that increasing adult education can increase the development of value education in people.

### Findings

- I. After analyses and interpretation of data from the result we found that the extension of adult education has significantly increased the development of Value education among people.
- II. After statistically analyzing the collected data from the Correlation value and Descriptive analysis we found that Extension of adult education does not create an impact on increasing the level of skill based knowledge.
- III. So we have to find another way along with adult education to increase their level in skill based education.

## Conclusion

Adult education can take many forms and cover many different subjects as well as illiteracy and numeracy; many matured aged students study languages, science and a range of other important subject. Based on the survey it is understood that people are aware of adult education and they show voluntary interest towards it. Adult education is a second change of education given to the students at a matured age, so they have to grab the all possible opportunities and try to get maximum benefit out of them. After analyses and interpretation of data from the result we found that the extension of adult education has significantly increase the development of Value education among people

After statistically analyzing the collected data from the Correlation value and Descriptive analysis we found that Extension of adult education does not create an impact on increasing the level of skill based knowledge.

So we have to find another way along with adult education to increase their level in skill based education.

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# Technology and Global Learning

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## **Abstract:**

In the 21st century, the intertwining of technology and education has transformed the landscape of learning, making it more accessible, engaging, and diverse. Global learning has emerged as a vital approach, emphasizing the importance of understanding complex global issues and fostering intercultural competencies among the learners. The integration of technology into global learning initiatives enhances educational practices by facilitating communication, collaboration, and information sharing across borders, breaking down geographical barriers that previously hindered cross-cultural exchange. In a literature-based review design, this chapter searches how technology acts as a catalyst for global learning by providing various platforms and tools that enhance the educational experience. This democratization of education not only widens the reach of knowledge but also promotes diverse perspectives, allowing learners to engage with content that reflects different cultures and viewpoints. It also finds out the challenges of technology in global education. Additionally, this study suggests some recommendations for overcoming the challenges of overuse of technology in global learning. Concluding part of the study enlightened that technology fosters collaboration through innovative tools such as video conferencing, social media, and collaborative online platforms. These technologies empower students and educators to work together on projects and research, regardless of their physical location. For instance, virtual exchange programs connect classrooms around the world, enabling students to engage in meaningful dialogues about global issues such as climate change, human rights, and public health. These collaborative experiences not only enhance learning outcomes but also build empathy and cross-cultural understanding, essential skills for thriving in an interconnected world.

## **Keywords**

*Technology, Global Learning, Worldwide, Innovation, Collaborative Learning*

## **Introduction**

In today's interconnected world, technology has revolutionized the way we learn, allowing us to engage with diverse perspectives, share ideas and resources, and participate in virtual exchanges with students and experts worldwide. Through online platforms, video conferencing tools, educational apps, and other digital resources, global learning has become more accessible and interactive than ever before. Global learning refers to the process of acquiring knowledge and skills with a global perspective, taking into account different cultures, languages, and systems around the world. Technology plays a crucial role in facilitating global learning by connecting individuals from different parts of the world, providing access to vast amounts of information, and enabling collaborative opportunities across borders. By leveraging technology for global learning, individuals can broaden their understanding of global issues, develop intercultural competencies, and build connections with peers from diverse backgrounds. This approach not only enhances academic knowledge but also fosters empathy, critical thinking, and problem-solving skills essential for navigating our increasingly interconnected and complex world.

## **Background of the Study**

The convergence of technology and global education has transformed education, expanded access, and enhanced the global learning experience. At its core, education technology facilitates connectivity and access. Internet access, mobile technology, and the proliferation of digital platforms allow students from diverse geographic backgrounds to tap into a wealth of information and educational resources. Online courses, virtual classrooms, and educational apps break down geographic barriers, enabling global learning networks and collaboration between students and educators worldwide.

One of the significant impacts of technology on global education is personalized learning. Adaptive learning technologies and AI-powered platforms cater to individual learning speeds and styles, providing customized content that improves student engagement and outcomes.

This personalization is instrumental for meeting diverse needs in multicultural classrooms, thus promoting inclusive education.

Digital tools also encourage interactivity and engagement through simulation and virtual reality, making learning more engaging and effective. These tools allow students to experience an immersive learning environment. Moreover, technology supports teachers' professional development by offering access to global teaching resources, online training and networking opportunities, thus enhancing teaching quality and innovation in pedagogy. However, while technology has immense potential to transform global education; it also presents challenges, including the digital divide, data privacy concerns and need for digital literacy. Addressing the challenges is critical to ensure equitable and effective access to education for all the students.

### **Significance of the Study:**

The significance of technology in global education is profound, reshaping how education is delivered and accessed around the world. As boundaries become less defined in the digital age, technology facilitates the sharing of knowledge, ideas and cultural experiences on an unprecedented scale. This interconnection enables students from diverse backgrounds to collaborate, share resources, and engage in discussions that were once limited by geographic and socioeconomic barriers. With the rise of online learning platforms, virtual classrooms and digital resources, students can access high-quality educational content anytime, anywhere, regardless of their location.

This democratization of education not only enhances individual learning experiences but also promotes equity by providing opportunities to those in disadvantaged or remote areas. Additionally, technology fosters critical skills needed for the 21<sup>st</sup> century, such as digital literacy, critical thinking, and collaboration. These skills are essential as students navigate complex global challenges, including environmental issues, social injustice, and economic inequality. Furthermore, global education through technology builds cultural awareness and empathy. By interacting with peers from different countries and cultures, students gain insight into different perspectives, developing a sense of global citizenship.

In short, the role of technology in global education is crucial to prepare individuals to thrive in an interconnected world. It democratizes access to education, promotes essential skills and fosters cultural

understanding, ultimately empowering students to contribute positively to society and collectively address global challenges.

### **Objectives of the Study**

1. To find out the contribution of technology to promote global learning among the learners.
2. To explore the challenges of technology in global education.
3. To recommend some suggestions for overcoming the challenges of overuse of technology in global learning.

### **Methodology**

Review methodology is applied to the present study. A variety of information regarding the technology and global learning is collected through various journals, research articles, e – books and different websites related to the current study.

### **Objective-wise Discussion of the Study**

The objective-wise discussion of the study is provided below:

#### **Objective 1. Contribution of Technology to Promote Global Learning among Learners:**

Technology has dramatically altered the landscape of global learning by providing easy access to educational resources and connecting learners and educators worldwide. Some of the ways in which technology is becoming increasingly important in global education are given below:

- **Accessibility and Inclusion:** Technology provides students with access to a vast wealth of information, resources, and educational materials worldwide. This access democratizes learning, allowing individuals from diverse backgrounds to learn and participate in global education.
- **Educational Tools:** Various educational tools like Google Workspace and Microsoft 365 allow students and teachers to seamlessly collaborate on projects and assignments, encouraging teamwork and knowledge sharing across boundaries. Additionally, apps like Duolingo, Rosetta stone, and Google Translate help students to overcome language barriers, making it easier to participate in global learning opportunities.

- **Online Learning Platforms:** Technologies such as Zoom, Microsoft Teams, and Google Meet facilitate virtual classrooms, allowing students and educators around the world to connect and communicate in real-time. Various social media platforms and professional networks such as Facebook, WhatsApp, Telegram, and LinkedIn allow students to connect with peers, academics and professionals worldwide, facilitate the exchange of ideas and enhance global perspectives. Also, Coursera, EDX, Khan Academy and other platforms offer courses from international universities and institutes. This enables students to access high-quality education regardless of geographical location.
- **Data Analytics:** Technology provides tools for analyzing learning data, allowing educators to customize learning experiences and better understand the global education trends, thus improving educational outcomes.
- **Global Connectivity:** Technology can help to integrate global issues and perspectives into curricula, encouraging critical thinking and problem-solving about worldwide challenges like climate change, poverty, and social justice. Educational games can bring learners together from diverse backgrounds, allowing them to engage in problem-solving and teamwork, while also developing skills relevant to the globalized world.
- **Cultural Exchange:** Technology supports cultural exchange programs and virtual field trips, allowing learners to experience and learn about different cultures without leaving their home country.
- **AI and Personalized Learning:** AI can tailor educational experiences to individual students by analyzing their learning styles, strengths, and weaknesses. These systems adapt in real-time to provide personalized content, pacing, and feedback, enhancing student engagement and understanding. AI-powered tools can assist students with disabilities by offering features like speech-to-text, text-to-speech, and automated translation. This opens up educational opportunities to a broader range of learners, ensuring more inclusive education. AI can analyze vast amounts of educational data to provide insights into student performance and learning patterns. This enables educators to identify at-risk students, assess the effectiveness of instructional methods, and make informed decisions to improve educational outcomes.

- **Assessment and Evaluation** Technology enhances assessment and evaluation by providing diverse tools for data collection and analysis, such as online quizzes and automated grading systems. It facilitates personalized learning through adaptive assessments, offering immediate feedback to students. Additionally, technology enables the storage and sharing of data, promoting collaborative evaluation practices and improving overall educational outcomes through insightful analytics.
- **Enhanced Content Delivery:** Technology significantly enhances content delivery by offering multiple platforms and formats, such as videos, interactive simulations, and virtual classrooms. Tools like Learning Management Systems (LMS) streamline the distribution of educational materials, making them accessible anytime, anywhere. Additionally, technologies such as Augmented Reality (AR) and Virtual Reality (VR) provide immersive learning experiences, promoting engagement and deeper understanding. The integration of mobile apps allows the learning procedure, further catering to diverse learning preferences and ensuring that content is relevant and engaging for all students.
- **Research:** Technology provides advanced tools for data collection, analysis and collaboration. Online databases and digital libraries facilitate access to vast amounts of scholarly resources, enabling researchers to efficiently gather relevant information. Data analysis software enhances the ability to interpret complex data sets, while visualization tools help to communicate results effectively. Collaborative platforms encourage teamwork between researchers in different locations, promoting the exchange of ideas and expertise. Additionally, technology supports open-access publishing, increases the dissemination of research findings, and fosters a culture of transparency and knowledge sharing within the academic community.

## **Objective 2. The Challenges of Technology in Global Education:**

Technology has the potential to significantly enhance global education, but several challenges need to be addressed to fully realize its benefits. Here are some key challenges:

- **Access to Technology:** Not all students around the world have

equal access to technology and the internet, which can create digital divisions and limit the effectiveness of global learning initiatives.

- **Infrastructure:** In many parts of the world, especially in developing countries, there is a lack of proper infrastructure to support advanced technology in education, such as reliable electricity and internet connectivity.
- **Language and Cultural Barriers:** Technology can sometimes struggle to accommodate diverse languages and cultural nuances, making it challenging to create inclusive learning environments for students from different backgrounds.
- **Cyber-security:** Protecting sensitive student data and ensuring online safety and privacy are significant concerns in global learning, especially with the rise of cyber threats.
- **Digital Literacy:** Some students and teachers may lack the necessary digital literacy skills to effectively utilize technology for learning, which can hinder the adoption of new educational tools.
- **Engagement and Motivation:** While technology can engage students, it can also lead to distractions. Finding the right balance to maintain students' focus is a common challenge.
- **Assessment and Evaluation:** The shift to digital learning creates new challenges for assessing student performance. Traditional assessment methods may not be suitable for online learning environments.
- **Training and Support:** Educators often require training to effectively use technology in teaching. Without proper professional development, the integration of technology can be superficial, failing to enhance learning outcomes.
- **Quality of Content:** The vast amounts of online resources can lead to confusion about quality. Ensuring that educational materials are accurate, relevant, and culturally sensitive is essential but can be challenging.

Addressing these challenges requires collaborative efforts among educators, policymakers, and technology providers to create equitable and effective educational environments worldwide. Possible next steps include investing in the infrastructure, providing teacher training, and developing high-quality content tailored for diverse audiences.

### **Objective 3. Suggestions to Overcome the Challenges of Technology in Global Learning:**

To overcome the overuse of technology in global learning, here are some suggestions-

- **Set Usage Limits:** Establish guidelines for technology use, specifying when and for how long technology should be utilized in the learning process is very important for all users. Additionally enhance digital literacy, it is very necessary to implement comprehensive digital literacy training programmes for students and educators to effectively use technology for learning.
- **Promote In-Person Interaction:** Encourage more face-to-face interactions and group activities to balance out the digital learning experience. Create initiatives that support marginalized groups, ensuring they have access to the same technology and resources as others. Implement scholarship programs for students in low-income areas to participate in global learning initiatives.
- **Integrate Various Learning Methods:** Incorporate a mix of traditional teaching methods along with technology to provide well-rounded educational experience. Establish support systems, such as online forums or help desks, to assist learners and educators with technology related issues.
- **Encourage Outdoor Learning:** Take learning outside the classroom to provide a different environment and reduce dependence on technology. Provide Alternative Activities such as offering non-digital activities such as arts and crafts, sports, or music to diversify the learning experience is also an important part of overcoming the challenges of technology in global learning.
- **Ethical Guidelines:** Establish clear ethical guidelines and standards for the use of technology in education, addressing issues such as privacy, bias, transparency, and accountability.
- **Parental Involvement:** Educate parents about monitoring and controlling their children's screen time at home to reinforce healthy technology habits.
- **Continuous Professional Development:** Provide ongoing professional development opportunities for educators to enhance their AI

literacy, skills, and confidence in using AI tools effectively in their teaching practices.

- **Emphasize Critical Thinking Skills:** Teach students how to critically evaluate the information they find online, encouraging them to think beyond the screen.
- **Create Tech-Free Zones:** Designate specific areas within schools or homes where technology is not allowed, helping students break away from constant screen time.
- **Inclusive Access:** Ensure equitable access to technologies and resources for all educators, regardless of their geographic location, socioeconomic status, or institutional affiliation.

By addressing these areas, global learning can become more equitable, effective, and inclusive, leveraging technology to bridge gaps and foster a more connected educational landscape.

### **Educational Implications of the Study:**

Technology in global learning has significant multifaceted educational implications.

- Technology personalizes the learning experience for teachers and students.
- AI can provide professional development opportunities for teachers as well as enhance students' skills and knowledge.
- Technology also can guide learners according to their personal needs, preferences, and learning interests.
- AI collects data on learners to improve their appropriate instructional strategies and pedagogical skills.
- To adapt to a changing society, technology enables learners as well as teachers by mastering appropriate strategies in education.

Overall, introducing technology in global learning is an extension, which can improve the quality of education as well as transform several aspects of education.

### **Conclusion**

In the context of the entire discussion, it can be concluded that technology can improve the quality of learners on the one hand and

also help teachers to develop their technical skills and thinking power to achieve the benefits. Immense use of technology in education is a revolutionary process that helps to change the way learners think over time. Educational technology follows the human brain to understand and solve their problems. As the quality of global learning increases, technology can be introduced in several ways. There are advantages as well as disadvantages of the use of technology in learning procedure. Despite these difficulties, in the future, technology will be able to improve the quality of global learning. It can be concluded that the employment technology for creating educational materials indicates a move towards a more personalized and dynamic educational landscape. Technology opens up new possibilities in both teaching and learning processes in the field of global education. Above all, educationists, policy makers and technology developers should keep in mind that technology should be used in education in such a way that quality education can be provided to all students of all levels of society.

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# Impact of Music on Concentration Development and Recreation Capacity of Primary-Level Students Chakdaha Block

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## **Abstract**

Music positively influences primary-level students by enhancing concentration level and fostering recreational skills. Engaging with music improves cognitive functions, allowing for better focus during learning. Additionally, musical activities promote relaxation and creativity, providing an enjoyable outlet that balances academic pressure, ultimately leading to a more holistic educational experience and improved overall well-being. The survey method used in this survey is Qualitative; a literature review-based analysis has been done. One fundamental methods that have been used in this research is narrative research technique and documentary type. The work has been completed with some songs by Which through practice has been observed to increase concentration and increase recreation capacity of primary-level students.

## **Key Words**

*Primary level students, Concentration level, Recreational skills.*

## **1. Introduction**

Music enhances concentration in primary students by creating a stimulating environment, reducing distractions, and promoting relaxation. It encourages engagement, boosts memory retention, and fosters a positive learning atmosphere, enhancing overall academic performance. Music also enhances the recreational capacity of primary students by fostering creativity, encouraging movement, and facilitating social interactions. It provides an enjoyable outlet for self-expression and helps develop teamwork and communication skills.

Therefore, in the case of primary level students, how music keep impact on their concentration development and recreation capacity is sought to be shown here. Primary level students are typically in the ages of 6-11. During this period their concentration and recreation power develop..

## **2. Statement of The Problem:**

The Statement of the problem has been entitled as-

“Impact of Music on Concentration Development And Recreation Capacity Of Primary-Level Students Of Chakdaha Block”

## **3. Objectives of the Study:**

1. To know the impact of music on concentration development of primary- level students.
2. To know the role of music on recreation capacity of primary-level students.

## **4. Research Question:**

1. What is the impact of music on concentration development of primary- level students?
2. What is the role of music on recreation capacity of primary-level students?

## **5. Methodology:**

The study is conducted by narrative Research technique in Qualitative Research. In this work, the Analytical Research method has been used. Secondary data form different magazine, articles, Journals, and books has been used in this work.

## **6. Delimitations:**

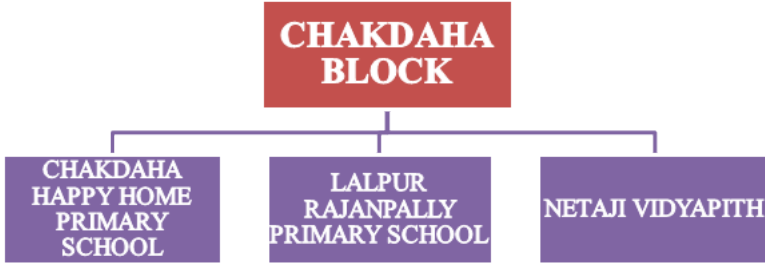
1. The study is delimited on Only singing capability of the students
2. The work is further delimited on primary level students only
3. This research has been done only for songs, not instruments.

## **7. Population and Sample of the Study:**

POPULATION - In this study Chakdaha block has been selected as a Population.

SAMPLE - 3 primary School from Chakdaha block has been selected as a sample of the study.

## 8. Sample Design



## 9. Analysis of the Study

### ► Analysis of Objective 1 :

Music aids in developing concentration among primary students by stimulating brain activity, enhancing memory retention, reducing anxiety, and creating an engaging learning atmosphere that promotes focus and attentiveness during lessons.

**I) Music before classes** - Music before classes like Assembly music helps develop concentration in primary students by creating a calm, focused environment. The rhythm and melody engage their minds, promoting mindfulness, enhancing attention spans, and improving cognitive focus.

### Example

“বিশ্বপিতা তুমি হে প্রভু  
 আমাদের প্রার্থনা এই শুধু  
 তোমারি করুণা হতে  
 বঞ্চিত না হই কতু।  
 এ আকাশ বাতাস এ নদ-নদী  
 এ সাগর পাহাড় এ বনানী  
 ফুলে ফলে রঙে রসে

ভরে ভরে দিয়েছ যে দানে।  
 কুহু কুহু কোকিলার কূজনে  
 গুনগুন ভ্রমরার গুঞ্জে  
 প্রভাতে নিশিখে সূর্যের  
 চাঁদের খেলা এই গগনে।  
 বিপদে আপদে সংশয়ে  
 কখনও যেন না ডরি  
 শত বাধা বিঘ্নেরই  
 মুখোমুখি যেন পড়ি।  
 সত্যের দীপ চোখে জ্বালিয়ে  
 আঁধারের রাত যাব পেরিয়ে  
 ভরিব ধরণী হাসিতে প্রেমে  
 আর গান দিয়ে।”

**II) Music after tiffin break** - After Tiffin break, music activities help develop concentration by promoting relaxation, calming minds, enhancing focus through rhythmic patterns, improving memory retention, encouraging active listening, and providing a structured yet enjoyable learning environment.

**Example of music -**

“If you missed the train I’m on  
 You will know that I am gone  
 You can hear the whistle blow a hundred miles  
 A hundred miles, a hundred miles  
 A hundred miles, a hundred miles  
 You can hear the whistle blow a hundred miles  
 Lord, I’m one, Lord, I’m two  
 Lord, I’m three, Lord, I’m four  
 Lord, I’m five hundred miles away from home  
 Away from home, away from home

Away from home, away from home  
 Lord, I'm five hundred miles away from home  
     Not a shirt on my back  
     Not a penny to my name  
 Lord, I can't go back home this ole way  
     This ole way, this ole way  
     This ole way, this ole way  
 Lord, I can't go back home this this ole way  
     If you missed the train I'm on  
     You will know that I am gone  
 You can hear the whistle blow a hundred miles  
     A hundred miles, a hundred miles  
     A hundred miles, a hundred miles  
 You can hear the whistle blow a hundred miles  
 You can hear the whistle blow a hundred miles  
 You can hear the whistle blow a hundred miles"

### ► Analysis of Objective 2 :

Music enhances recreation for primary students by stimulating creativity, reducing stress, encouraging self-expression, promoting social interaction, improving mood, and providing a fun, engaging way to relax while developing cognitive and emotional skills.

Here is example of two songs by which recreational ability of primary level students enhanced.

- i) হারে রে রে রে রে, আমায় ছেড়ে দে রে, দে রে—  
 যেমন ছাড়া বনের পাখি মনের আনন্দে রে॥ ঘনশ্রাবণধারা যেমন বাঁধনহারা,  
 বাদল-বাতাস যেমন ডাকাত আকাশ লুটে ফেরে॥  
 হারে রে রে রে রে, আমায় রাখবে ধ'রে কে রে—  
 দাবানলের নাচন যেমন সকল কানন ঘেরে,  
 বজ্র যেমন বেগে গর্জে ঝড়ের মেঘে,  
 অউহাস্যে সকল বিল্ল-বাধার বক্ষ চেরে॥

By this Rabindranath Tagore's song "Hare re re re re" boosts recreational ability in primary students by offering rhythmic energy,

joyful lyrics, and engaging melodies that stimulate creativity, enhance mood, and promote active participation.

- ii) “আজ ধানের ক্ষেতে রৌদ্রছায়ায় লুকোচুরি খেলা রে ভাই, লুকোচুরি খেলা।  
 নীল আকাশে কে ভাসালে সাদা মেঘের ভেলা রে ভাই— লুকোচুরি খেলা॥  
 আজ ব্রমর ভোলে মধু খেতে— উড়ে বেড়ায় আলায় মেতে;  
 আজ কিসের তরে নদীর চরে চখা-চখীর মেলা॥  
 ওরে যাব না আজ ঘরে রে ভাই, যাব না আজ ঘরে।  
 ওরে, আকাশ ভেঙে বাহিরকে আজ লেব রে লুট ক’রে॥  
 যেন জোয়ার-জলে ফেনার রাশি বাতাসে আজ ছুটছে হাসি,  
 আজ বিনা কাজে বাজিয়ে বাঁশি কাটবে সকল বেলা॥”

By this Rabindranath Tagore’s song “Aj Dhaner Khete Roddur Chhaya Lukochuri Khela” enhances primary students’ recreational abilities by blending nature, play, and imagination, encouraging joyful expression, physical movement, social interaction, and creativity.

## 10. Findings:

1. Music helps develop concentration in primary students by stimulating cognitive functions, enhancing memory retention, and promoting focus through structured rhythms and patterns. It encourages active listening, improves attention spans, and creates a calming yet engaging environment. This combination helps students stay attentive and improves their overall learning capacity.
2. Music enhances the recreational abilities of primary students by stimulating creativity, encouraging self-expression, and promoting social interaction. Rhythmic patterns and melodies engage children in fun, physical activities like dancing or clapping, improving motor skills and coordination. It also provides emotional relief, reduces stress, and fosters a joyful, playful environment.

## 11. Conclusion:

The impact of music plays a vital role in enhancing both concentration development and recreational abilities in primary students. Through rhythmic patterns and melodies, music improves focus, attention span, and memory retention, creating a structured yet enjoyable learning environment. Additionally, music encourages creativity, self-expression,

and social interaction, which are key to recreational growth. It stimulates cognitive functions while offering emotional relief and reducing stress, making it a powerful tool for both academic and recreational development. Overall, music fosters a balanced environment that supports students' cognitive, emotional, and physical well-being, contributing to their holistic growth and development.

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# Parental Participation in Education: Ensuring Safe and Balanced Learning Resources

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## **Abstract**

The importance of parental involvement in education is widely acknowledged by educators. Parents play a crucial role as the first teachers of the child. They lay the foundation for learning by providing love, guidance, and the first exposure to language and essential life skills. A supportive home environment contributes to a positive mindset, providing the necessary foundation for ongoing educational success. Parents' rights have become a staple of conservative politicians' education agendas in recent years, especially following schools' pandemic shutdowns. In Virginia, Gov. Glenn Youngkin capitalized on parent frustration with schools in 2021 to become the state's first Republican governor in more than a decade. A national parents' bill of rights is a priority for members of the new Republican majority in the U.S. House of Representatives. The movement has led to parents' rights policies passing at the district and state levels around the country, albeit some of them policies that largely restate rights parents already have to voice their opinions at school board meetings and transparency requirements for public school districts.

## **Key Words**

*Parental Participation, Learning Resources, Family Commitment*

## Introduction

The movement has also been a cause for concern for some educators and advocates for equity in schools, who worry the policies give conservative and often white parents an outsize voice and deepen divides between public schools and those they serve. School-based contribution, like cooperation in parent-educator gatherings, open houses, and other school occasions, emphatically affected scholastics in preschool, centre school, and secondary school, however the size of the effect was a lot of lower in secondary school than in preschool. That might be on the grounds that guardians have less chances to be engaged with the secondary school climate than in more youthful understudies' study halls where guardians could chip in. At-home conversations and consolation encompassing school likewise decidedly affect understudies' scholastic accomplishment at every single formative stage, with that kind of parent association being best for high schoolers, as indicated by the review. Perusing with youngsters and taking them to the library have a positive effect too. Be that as it may, one normal type of parental inclusion, assisting messes with their school work, was displayed to little affect understudies' scholarly accomplishment. As a matter of fact, schoolwork help adversely affected understudy accomplishment, yet certain effects on understudy inspiration and commitment to school, as indicated by the APA review. The exploration demonstrates the benefit of empowering guardians to be engaged with their understudy's advancing at home, and not simply going to class occasions.

## Background of Study

“Previously, schools either had an occasion that wasn't associated with learning or just estimated the commitment of a family in view of how frequently they came to the school,” he said. “How families are establishing a climate of learning and supporting advancing at home, is likely much more significant than how frequently they're coming to school.” Consequences of parent contribution don't segregate in view of race or economics. Exploration has shown an agreement that family and parent inclusion in schools prompts improved results no matter what a family's ethnic foundation or financial status. Parent inclusion has prompted higher scholarly results both for youngsters from low and higher financial status families. While looking at the effect of parent inclusion on understudies of various races and identities, the

APA found that school-based contribution emphatically affected scholastics among Dark, Asian, white, and Hispanic youngsters, with a more grounded influence on High contrast families than families from different socioeconomics. The finding likewise broadened globally, with comparable impacts on youngsters beyond the US.

### **Objectives**

1. To know the status of Parent Contribution With Perusing Exercises in society
2. To know the status significant of advantages of Family Commitment on education system

### **Research questions**

1. What is the status of Parent Contribution with Perusing Exercises in society?
2. What is the significant of advantages of Family Commitment on education system?

### **Analysis and Interpretation of Study**

Schools can empower parent association face to face and at home Parent contribution doesn't need to end with parent-educator gatherings. There are numerous ways for schools to urge guardians to be more elaborate both in school and at home, Borrello said. The most effective way to begin, he expressed, is by making a school culture that is inviting to families. "That beginnings with the head, and that beginnings with school administration that is inviting to families, from how they're drawing in guardians in the study hall to what strategies they have in schools to invite families," Borrello said. Parent gathering spaces or rooms in school structures, planned parent commitment gatherings and available time, and at-school occasions held beyond the school day are great spots to begin, Borrello said. From that point, schools can attempt to remember guardians for more independent direction, give guardians assets to help advancing at home, and furnish instructors with the apparatuses to draw in and associate with guardians.

#### **❖ Parent Contribution with Perusing Exercises:**

"In the event that the school isn't inviting and families don't feel wanted at the school, then, at that point, you won't inspire them to come to

school regardless of what you do,” Borrello said. “Then it’s truly contemplating who you’re making those associations with families so they can be heard.” When guardians are associated with their youngsters’ tutoring, understudies show higher scholarly accomplishment, school commitment, and inspiration, as indicated by a 2019 American Mental Affiliation survey of 448 free examinations on parent contribution. A recent report from scientists at the Johns Hopkins College Center on School, Family and Local area Associations, for instance, showed that school works on empowering families to help their youngster’s number related advancing at home prompted higher rates of understudies scoring at or above capability on normalized numerical tests.

What’s more, research shows that parent contribution with perusing exercises emphatically affects understanding accomplishment, language cognizance, and expressive language abilities, as well as understudies’ advantage in perusing, perspectives toward perusing, and level of consideration in the homeroom, as per an exploration rundown by the Public Education Trust. “At the point when guardians become involved at school by, for instance, going to occasions like open houses or chipping in the homeroom, they assemble informal communities that can give valuable data, associations with school faculty (e.g., educators), or methodologies for upgrading youngsters’ accomplishment,” the APA research audit said. “Thus, guardians with uplifted social capital are better prepared to help their youngsters in prevailing in school as they can approach assets (e.g., requesting that an educator invest additional energy helping their kids) and use data they have accumulated (e.g., knowing when and how their youngsters ought to finish their schoolwork).”

#### ❖ **Parental Inclusion & Assist:**

Guardians and gatekeepers assume a basic part in their kids’ schooling. Being effectively associated with their school life is fundamental for their scholar and social achievement. Review have shown that youngsters whose guardians are engaged with their schooling are bound to go to class routinely, have higher confidence, get better grades and exhibit better conduct all through the homeroom. Moreover, parental inclusion can assist with establishing a positive learning climate, cultivate better correspondence between guardians, instructors, and understudies, and assist guardians with remaining educated regarding their kid’s advancement and any issues they might confront. So, guardians who

are engaged with their youngster's school life can have a huge effect in their scholar and self-awareness. The recent parents' rights movement marks one moment in a long history of parent advocacy and organizing, FutureEd Director Thomas Toch said. Traditionally, parents would engage with schools through participating in parent-teacher associations and fundraising, chaperoning field trips, and planning school events. Then the civil rights movement came, and parents of color started pushing for systemic changes in schools through school boards and eventually through court cases like *Brown v. Board of Education*, leading to racial integration in schools.

### ❖ **Parents' Rights in Education:**

Black parents during the civil rights era were the first to make parent organizing political out of the need for better education for their children, Toch said. Decades later, parents of color in many communities have once again become well organized as they push for more experienced and effective teachers, more school funding, more public school options, and higher quality education materials. But the pandemic brought a new group of conservative, and often white, parents into the fray, Toch said. They feel schools overstepped their bounds with COVID-19 mitigation measures like masks and by addressing race and sexuality in instruction. "These sorts of flashpoints have emerged throughout history," Toch said. "But today we see, in part because of the power of social media and the reach of the internet, a much more fast-moving conservative parental backlash to what they see as inappropriate government and curriculum initiatives." That rapid growth is what has kept the parents' rights movement at the centre of media attention. Well known groups like Moms for Liberty and Parents Defending Education have created political action committees to help conservative school board members get elected. They've also lobbied for state laws banning books with content about race, gender, and sexuality, and pushed for more oversight of what is being taught in schools. "Feel trapped in the indoctrination of their children in public schools," said Suzanne Gallagher, executive director of the Oregon-based group Parents' Rights in Education. Gallagher doesn't see state-level parents' bill of rights laws as the end of the road. She'd like to see more parents run for and be elected to school boards to prevent or change policies that don't align with their values. "If we're putting pressure at that level we will begin to raise candidates who can then go to state legislatures

and start changing things,” Gallagher said. “We need to make this the national crisis that it is.”

Family commitment, otherwise called family inclusion, is a fundamental part of a youngster’s intellectual and social achievement. It alludes to the dynamic cooperation of families in their youngster’s schooling, both at home and at school. The Worldwide Family Exploration Venture, which is driven by scientists from Harvard College, distinguishes fundamental family commitment as a centre part of instructive objectives like understudy accomplishment, school circle back, and school status. Also, as per youth.gov, family contribution is basic in advancing actual wellbeing, mental and social-close to home turn of events, and scholastic accomplishment in youngsters and youth from pre-kindergarten to secondary school, and prosperity that endures into adulthood.

❖ **Recognizes significant advantages of Family Commitment:**

- Higher grades - Children whose guardians are engaged with their schooling get better grades and have higher grades. The more guardians are involved, the more their kids appear to benefit. An investigation of guardians exceptionally engaged with the instructive cycle showed that their kids were bound to work on in perusing and math.
- Better way of behaving - Children foster better interactive abilities and show further developed conduct when their folks are involved at school. Review have likewise shown that children are less inclined to play hooky, are less troublesome in class, and are bound to get their work done when their folks are involved. One review showed that when fathers are exceptionally engaged with school, youngsters appreciate school more and are less inclined to be suspended, removed, or expected to rehash a grade.
- Further developed training - Exploration demonstrates the way that parent contribution can assist with working on the nature of schools, raise educator confidence, and work on a school’s standing locally. Involved guardians gain the admiration of instructors; accordingly, educators have better standards of their youngsters. Contribution takes care of in the long haul, as well: Kids stay in school longer and are bound to proceed with their schooling after secondary school.

- Expanded certainty - When understudies feel upheld comfortable and school, they foster more uplifting perspectives about school, have more fearlessness, and put a higher need on scholarly accomplishment. Offspring of involved guardians are bound to feel that they're acknowledged, included, and regarded at school.
- Guardians benefit as well - When guardians become engaged with their kids' schooling, they become more agreeable in the school building, gain trust in their nurturing abilities, and feel more fit for assisting their youngsters with learning. They're additionally bound to proceed with their own schooling.

❖ **Increment Family Commitment:**

Subsequent to posting such countless great parts of being dynamic in a kid's school life, guardians and educators might be asking themselves: however what else is there to do? Close by commitment and some preparation, here are a few hints on what should be possible:

- Volunteer an open door: the school could require an additional hand in friendly, sports and scholastic occasions. This is an extraordinary way for guardians to get to know the school climate and associate with staff and different guardians.
- Family Evenings: schools ought to welcome understudies and their families to relaxed occasions - casual, nice social affairs for educators and guardians, without strain or customs. They are likewise an extraordinary reason to have kin and other relatives visit the kid's homeroom.
- Parent/instructor gatherings: computerized correspondence is required, yet up close and personal correspondence won't ever become old. Parent/instructor meetings are critical to give guardians and gatekeepers a superior comprehension of the kid's current circumstance.
- Foundation a Parent Commitment Program: Schools can sort out projects to unite watchmen to support understudies. This is one more method for connecting with gatekeepers to play a functioning job in schools.
- Give Instructors Input: Guardians can be a significant piece of teachers' instructing procedure. Kids are not generally open with

their battles, so guardians can tell instructors what children are going through, regardless.

- Fabricate trust: Exploration shows that an absence of trust is in many cases what holds families back from investing energy at school (Henderson and Mapp, 2002; Mapp, 2003). Attempt to allow gatekeepers to be essential for school exercises and school choices.

## Conclusion

School versatile application: one of the most incredible ways of keeping up with educator/gatekeeper correspondence is to utilize the School Application; similar to the it's learning Guardian Application. Along these lines, guardians get an unmistakable perspective on their children's errands, schedules and tasks. The guardians' freedoms bills all by themselves, I wouldn't propose are completely cantered around best practice family commitment," said Borrello, whose gathering attempts to progress compelling family, school, and local area commitment approaches and practices. "In any case, what the guardians' freedoms bills have done is raised the significant job that guardians have in their kid's schooling." For a really long time, research from around the world has shown that guardians' contribution in and commitment with their youngster's schooling — including through parent-educator meetings, parent-instructor associations, school occasions, and at-home conversations about school — can prompt higher understudy accomplishment and better friendly profound results.

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# Development Parent and Child Relationship across the Lifespan

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## Abstract

People are living a much busier life in recent times than in the past. Be it work or family. Its impact is being noticed in the development of parent-child relationship. Study I focused on barriers to parent and child development across the life span and their potential solutions. The aim of this study was to maintain the developmental continuity of the parent-child relationship and increase closeness in the child-parent relationship. The purpose of this study is to identify barriers to parent-child relationship development and possible solutions to parent-child developmental problems. This study is limited to the development of parent-child relationships across the lifespan. This study used case study based qualitative research method. The study data was collected from various research journals. The results of this study show that lack of open communication between parents and children, less time spent by parents with children, too high expectations of parents and children, strict discipline by parents disrupts the continuity of the development of parent-child relationships. Instead of all these negative behaviours, parents should give their children enough time, be friendly with their children, give positive comments and encouragement to their children and take professional advice if necessary. All these things are properly nurtured and the parent-child bond will be strengthened and the development of the relationship will continue.

## Key words

*Developmental, Remedies, Study, Parents, child, relationship, barriers.*

## Introduction

The first person a child sees after birth is its mother and father. So the relationship between child and parent should be loving and sweet.

This stage from childhood to adulthood is influenced by biological, psychological, social and cultural factors. It is important to note that the parent relationship plays a special role in shaping the individual's development, mental health and overall well-being. But nowadays some reasons are hindering the development of parent-child relationship. As children move from childhood to adolescence, parents ensnare their children in a web of various restrictions. Usually parents bring up their children with love, discipline, etc., but some social norms require parents to discipline their children. Then children don't like it. They want to move freely in the society. During this time parents discipline their children. This results in conflict between parents and children which subsequently creates a wall between their relationships. Children do not want to listen to their parents and at this stage children make wrong decisions and perform anti-social behaviour based on their emotions. All parents should treat their children in a friendly manner without being too strict so that the child can open up and solve his social, biological, cultural problems with his parents. Such behaviour will continue the development of the parent-child relationship and reduce the distance between parents and children. As a result, the child will be guided in the right direction and will develop into a good citizen of the society.

### **Review f Literature**

**Cynthia, Frosh Sarah, & Schoppe Sullivan (2021)**, This research paper focuses primarily on the quality of early parent-child relationships and outcomes. Which affects the growth and development of children. And to identify child outcomes and improve child and parent relationships. This paper also focuses on child and parent mental health.

**Anne Marie Ambert (2020)**, study of parent-child relationships has long been of interest to behavioural scientists, both topics of theoretical importance. However, there are some limitations of knowledge in this area. First, research on parents and children is spread across multiple disciplines, and as a result the research process is complex. There is little dialogue between researchers with parents of young children and those interested in middle-aged and older parents and their children.

**Christine Marceau, Neelam Ram, Elizabeth & J. Sussman (2015)**, Adolescent and parental responses to changes in family dynamics play a special role in adolescent development. In this study 488 boys, 475 girls

aged 7 years were taken as sample. This study examined the relationship between adolescent development and trajectories of parent-child conflict.

**W. Andrew Collins, Brett Laursen (2004)**, no aspect of adolescent development has received more attention from the public and researchers than the topic of this chapter. While most research indicates that parent-child relationships remain important social and emotional relationships beyond early childhood, this chapter supports this view that the content and quality of relationships, not just parent or child change, depends on actions alone. Development during adolescence and beyond depends on the nature and extent of parental influence.

**Tillman Von Soest, Mike Luhmann, Dennis Gerstorff (2020)**, in this study, adolescence and young adulthood are characterized by family, social, and personality changes that may influence loneliness. Although loneliness is a public health challenge, we know little about how loneliness develops during this adolescent period. Analysis shows that when asking directly for feelings of loneliness and emotional aspects, loneliness increases from adolescence to mid-20s.

**Gabriella Miska, Joe Smith (2013)**, this chapter reviews the main tenets of attachment theory. One of the most popular and traditional approaches to conceptualizing the relationship between caregivers and child development is in light of recent research evidence. An ecological perspective that child-entered development contributes to a holistic understanding of how families, in their various types, influence child development and the quality of child-entered family environments children's healthy adjustment, development, and well-being.

**Linda A. Camrus, (2022)**, this course combines theory, research and practical clinical implications for children's mental well-being. The researcher wanted to examine how emotions are felt, expressed, understood, and regulated from childhood through later adulthood. This study highlights the interrelated influences of temperament, neurobiology, and social environment on each stage.

**Gisela Trommsdorff (2006)**, in this study, previous research on parent-child relationships has focused on childhood and adolescence, and how parents and their adult children relate is central to this topic. Parent-child relationship is rare but the parent-child relationship with culture is influenced by various socio-politically interrelated changing

circumstances affecting the parent-child relationship. This review discusses child-parent relationships across childhood and adolescence.

**Keith A. Kronick, Catherine Gage, Casey Hoffman (2005)**, Parental stress is decisive on the nature of the child and family. This study sampled 125 typically developing children and their mothers and assessed cumulative parenting stress throughout the preschool period. The purpose of the experiment was to assess parenting stress indices annually from 3 to 5 years of age and to assess daily parenting problems every 6 months throughout the same period.

**Jeong Shin An, Tersa M. Cooney (2006)**, This study examined psychological development and well-being. Erikson's data-driven psychosocial development includes a structured examination of the direct and indirect effects of parent-adult relationships on psychological well-being. Mothers experience trusting relationships with their parents in childhood and improve their children's psychological well-being as adults.

## **Statement of the Problem**

Development Parent and Child Relationship across the Lifespan

### **Delimitation**

The study delimited in development of parent and child relationship across the lifespan.

### **Research Objective**

1. To find out the parent and child relationship development barriers.
2. To study about the remedy of lack of parent and child relationship development.

### **Research Methodology**

This study provides a general overview of parent-child development in rural India. It is a case study based qualitative research. For this reason the study highlights the barriers to the development of parent-child relationships and their possible solutions. All data in this study is taken from secondary sources. This study is a logical analysis.

### **Analysis**

## Analysis of Objective I

Nowadays reports of breakdown or separation of parent-child relationship are coming to most psychologists. This has become a challenge in developing a healthy parent-child relationship. All the things that are creating distance between parents and children.

- **Communication Gaps:** Most of the observed misunderstandings between parents and children often arise due to lack of communication and lack of open dialogue. This issue can be exacerbated by generational differences and the use of technology.
- **Parental Control vs. Independence:** Parents' desire to protect and guide their children can sometimes conflict with the child's need for independence. This upsets the child and hinders the development of effective relationships.
- **Social Misunderstanding:** When a child participates in social interactions gradually from infancy. In this type of situation, parents want to keep their child bound by social rules and regulations for the sake of the child's welfare. But children take wrong decisions based on emotions. As a result of this wrong decision making, the confusion between parent and child gradually disrupts the continuity in the development of the relationship.
- **Technology Gap:** In today's world technology has improved a lot. Parents in remote areas are unable to adapt to the rapid spread and change of this current technology. On the other hand, children are living a digital life. As a result, parents do not see their children moving towards technology as they do not have complete knowledge about technology.
- **Time Management:** Time has become a precious resource for all people since the 20<sup>th</sup> century. Which plays a very important role in the development of parent-child relationship. Due to the high number of preoccupations between parents and children, neither parents can talk openly with their children, nor children are able to have open-minded conversations with their parents. This gradually creates a gap in the parent-child relationship which eventually leads to separation of the parents and children. For this reason, both parents and children should be given adequate time to develop a healthy relationship.

- **High expectations of parents:-** Parents nowadays have high expectations from their children. And its effects can be seen from childhood to adulthood. Parents put pressure on the child and if the child does not meet the target then the child often suffers from inferiority complex at this stage which pushes the child towards degeneracy or anti-social activities. Which is not positive for either the child or the parents.

### **Analysis of objective II**

Recent observations show that most families are not very positive about children and parents. Parents bind the child to various disciplines and rules for the welfare and upbringing of the child. But on the other hand, the child wants to be free and open minded and in some cases the discipline of the parents stands in the way of this movement. All parents should give their child time to be child-friendly and provide appropriate strategic guidance and some management to maintain the continuity of parent-child relationship development.

- **Open communication:-** All parents should have open conversations with their children and listen seriously to their children's thoughts without judgement. Actively and empathetically addressing children's feelings and providing guidance to the child will result in the development of a parent-child relationship.
- **Increase in positive energy:** - Child often negative comments and lack of encouragement from parents push the child towards darkness. After this, there is a gap in the relationship between the child and the parents. So parents should mostly give positive comments and encourage good behaviour. Development of self-confidence of the child by giving rewards.
- **Sufficient Time: Nowadays** parents are so much attached to work that they are not able to spend time with their children. As a result, the development of the child-parent relationship is deteriorating. Just as all parents should spend adequate time with their children, all adult children should also spend time with their parents. This results in increased trust between parents and children which is an important part of relationship development.
- **Emotional support:-** In many cases children do different activities based on emotions, in all these cases parents should check the

child's feelings and guide the child in the right direction and give emotional support to the child. So that the child does not break down mentally in any way.

- **Modelling Behaviour:-** It is well known that children imitate what they see, so using this fact, presenting an audio visual presentation of relational values to children can help children develop positive habits and behaviour patterns. Which later plays an important role in establishing good relationship between parent and child.
- **Therapy and Counselling:-** In some cases in the parent-child relationship situations arise where the parents themselves cannot solve the problems of their children. Parents should seek professional help when a child becomes overly emotional or suffers from deep depression. And providing indirect counselling through family members so that the child is able to overcome depression and lead a normal life and develop the child's relationship with the parents.

### **Research Findings**

From this study, I find that in present times both parents and children are facing challenges in developing their relationship. Lack of sufficient time for both, mental depression of the child, lack of open communication between parents and children, limited knowledge of parents' digital life are hampering the development of parent-child relationship. So parents have to take some remedial measures to eliminate all these issues or problems. Which will benefit the development of child and parent relationship.

### **Conclusion**

With the development of technology in today's world, a large number of people in the world are living very busy lives. Our India is no exception. So the parents of the children are so attached with this busy life that they are not able to spend time with the children. As a result, cracks appear in the bridge of parent-child relationship. If we look at the present time, it can be seen that most of the children suffer from depression if they do not meet the expectations of their parents. Which affects the child's mental and physical aspects. Every parent should treat their children in a friendly and compassionate manner and solve their problems as possible, to remove the child from depression and bring them back

to a prosperous life. Parents should give proper guidance without keeping the children in chains, without imposing the burden of their expectations on the children. Development of a healthy relationship is possible only when a parent is able to nurture his children properly. This will result in the development of a healthy relationship between the parent and the child and the child will improve later in life and be encouraged to work as a team.

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# Transforming Education through Techno-Pedagogy: A Qualitative Study on Innovative Teaching Practices

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## **Abstract**

This study investigates the transformative impact of techno-pedagogy on education, emphasizing innovative teaching practices that enhance student engagement and learning outcomes. Techno-pedagogy merges technology with pedagogical methods, fostering personalized and interactive learning environments. Utilizing qualitative research methods, the study explores educators' experiences in implementing technology, identifying key challenges such as the digital divide and resistance to change. Findings reveal that effective integration of technological tools, such as Learning Management Systems and adaptive AI technologies, promotes active learning and critical thinking skills essential for the 21st century. The study highlights the necessity for comprehensive professional development and collaborative learning environments to overcome barriers and optimize the benefits of techno-pedagogy. Recommendations are provided for educators and policymakers to enhance innovative teaching practices that align with the demands of modern education.

## **Keywords**

*Techno-Pedagogy, Student Engagement, Innovative Teaching Practices, Digital Divide, Technology Integration, Education Reform*

## **Introduction**

The rapid advancement of technology has significantly transformed various sectors, and education is no exception. The integration of technological tools in the classroom, often referred to as techno-pedagogy, has brought about innovative teaching practices that reshape the traditional educational model. This study aims to explore the

impact of techno-pedagogy on education, with a particular focus on the innovative teaching practices it fosters. The goal is to understand how technology enhances learning experiences, promotes student engagement, and supports educators in developing more dynamic and interactive classrooms.

Technological tools such as Learning Management Systems (LMS), artificial intelligence (AI), and digital collaborative platforms have redefined the roles of both teachers and learners. According to Mishra & Koehler (2020), the fusion of pedagogy and technology demands a new framework for teaching that goes beyond simply using technology as a tool. This approach, termed as the Technological Pedagogical Content Knowledge (TPACK) model, emphasizes the need for teachers to possess a deeper understanding of how technology, pedagogy, and subject matter content interconnect to enhance the learning process. Furthermore, digital literacy among educators has become crucial for ensuring the effective adoption of these new teaching methodologies (Xu & Yang, 2019).

In addition to enhancing teachers' instructional capabilities, techno-pedagogy also encourages personalized learning and student-centered approaches. The adaptive nature of AI-powered systems enables educators to tailor educational content to the individual needs of students, providing real-time feedback and fostering autonomous learning (Johnson et al., 2021). This innovation not only improves students' academic performance but also motivates them by creating a more engaging and interactive learning environment. As education moves into the digital age, the capacity for technology to foster critical thinking and collaborative skills is highlighted in studies by Voogt et al. (2022), which emphasize the importance of developing 21st-century skills through the integration of technology in the classroom.

Techno-pedagogy also facilitates a shift from teacher-centered to learner-centered education. It empowers students to take charge of their own learning, offering opportunities for them to engage in collaborative projects, problem-solving tasks, and interactive simulations (Dabbagh & Fake, 2020). In this regard, educators are not merely transmitters of knowledge but become facilitators who guide students through their learning journeys. The flipped classroom model, a hallmark of techno-pedagogical approaches, further enhances this shift by allowing students to absorb instructional content at their own pace and engage in active learning during class time (O'Flaherty & Phillips, 2021).

The integration of technology in education is not without its challenges. Many educators face obstacles in terms of access to resources, digital literacy, and the ability to effectively incorporate new tools into their teaching practices. Moreover, the digital divide remains a critical issue in ensuring equal access to educational technologies for all students, particularly in under-resourced areas (West & Chew, 2023). Despite these challenges, the potential benefits of techno-pedagogy in transforming education are immense. By enabling more interactive, personalized, and student-centered learning environments, techno-pedagogy has the capacity to revolutionize traditional teaching methods and equip students with the skills needed for the future.

The fusion of technology with pedagogy is reshaping education in profound ways. This study seeks to explore the innovative practices arising from techno-pedagogy and examine their implications for both educators and students in the 21st century. Understanding these dynamics will provide valuable insights into how education systems can adapt to the ever-evolving technological landscape and better serve future generations of learners.

### **Concept of Techno-Pedagogy**

Techno-pedagogy, a fusion of technology and pedagogy, refers to the integration of digital tools and resources with educational practices to enhance teaching and learning. This approach not only incorporates technological innovations but also redefines the role of the teacher and the learning process in the digital era. The concept has gained significant momentum in recent years as educators worldwide have increasingly embraced digital transformation in the classroom.

### **Evolution of Techno-Pedagogy**

Techno-pedagogy emerged as a response to the growing need to incorporate technology in education. It focuses on the ways technology can be strategically used to improve instructional methods and engage learners effectively. In the 21st century, with the rapid advancement of digital tools, the traditional “chalk-and-talk” method is no longer sufficient to meet the diverse needs of learners (Sharma & Singh, 2020). Instead, techno-pedagogy advocates for a more learner-centered approach, wherein educators utilize technology to create interactive and personalized learning experiences (Mahajan & Kalpana, 2019). This

pedagogical approach is built upon two core components: technology integration and pedagogical transformation. Technology integration refers to the selection and effective use of digital tools, such as multimedia, online platforms, and interactive simulations. Pedagogical transformation, on the other hand, involves adapting teaching methods to leverage these tools, encouraging creativity, critical thinking, and collaboration among students (Bansal, 2021).

### **Technological Tools in Techno-Pedagogy**

Technological tools used in techno-pedagogy range from simple digital resources like PowerPoint presentations to more sophisticated platforms such as Learning Management Systems (LMS), virtual reality, and artificial intelligence-powered tools. For instance, Learning Management Systems allow for personalized learning pathways, assessments, and feedback mechanisms, enhancing the ability of teachers to cater to individual learning needs (Shukla & Kumar, 2022). Additionally, AI-based systems are increasingly being used to analyze student performance and provide real-time feedback, making the learning experience more adaptive and tailored to each student's abilities (Wang, 2023). Flipped classrooms and blended learning models are also prominent features of techno-pedagogy. In flipped classrooms, teachers provide content online for students to engage with before class, allowing for deeper in-class discussions and interactive activities. Blended learning, which combines online and traditional classroom elements, gives students flexibility in their learning while ensuring teacher support (Siddique, 2021). Such approaches are believed to improve student engagement and autonomy.

### **Benefits of Techno-Pedagogy**

The primary advantage of techno-pedagogy is its potential to create more engaging and inclusive learning environments. By incorporating multimedia and interactive tools, it accommodates different learning styles and enhances student engagement (Jha, 2022). Moreover, the use of technology enables anytime-anywhere learning, where students can access educational materials beyond the classroom, thus expanding the learning horizon. In a techno-pedagogical framework, students are no longer passive recipients of knowledge but active participants in the learning process. This shift fosters critical thinking, problem-solving skills, and collaboration, which are vital competencies in the 21st century

(Anderson & Williams, 2023). It also promotes digital literacy, a key skill in today's technology-driven world, preparing students for future careers. Moreover, technology allows for more efficient assessment and feedback mechanisms. Teachers can utilize digital platforms to provide timely and personalized feedback, helping students track their progress and address learning gaps effectively (Patel & Joshi, 2020).

### **Challenges in Implementing Techno-Pedagogy**

Despite its numerous advantages, the implementation of techno-pedagogy comes with challenges. One major hurdle is the digital divide, where unequal access to technology limits the participation of students from disadvantaged backgrounds (Bhat, 2020). Additionally, teachers need adequate training and support to effectively incorporate technology into their pedagogy. Without proper guidance, technology can become a distraction rather than a tool for enhancement (Raj & Chatterjee, 2021). There is also the risk of over-reliance on technology, which may hinder the development of basic skills and interpersonal interactions. Hence, it is crucial to strike a balance between technology use and traditional pedagogical practices.

Techno-pedagogy represents a paradigm shift in education, combining technology with pedagogy to create more engaging and effective learning environments. While it offers numerous benefits, such as fostering student engagement and promoting digital literacy, challenges like the digital divide and the need for teacher training must be addressed for successful implementation. As technology continues to evolve, the role of techno-pedagogy will likely expand, shaping the future of education.

### **Review of related Literatures**

Techno-pedagogy, the integration of technology with pedagogical practices, has become a central focus in modern educational reforms. With the growing need to engage 21st-century learners, educators are exploring innovative teaching practices that leverage technology to enhance student outcomes. This review examines the existing literature on techno-pedagogy, identifies its theoretical underpinnings, discusses its innovative applications in education, and highlights key research gaps.

### **Evolution of Techno-Pedagogy**

The evolution of educational technology has been instrumental in shaping contemporary pedagogical practices. Early research on

instructional technology emphasized technology as a tool to facilitate information delivery, primarily through devices like computers and projectors (Roblyer & Edwards, 2000). However, with the advent of Web 2.0 technologies, the focus shifted toward more interactive, student-centered learning environments. Johnson et al. (2011) discussed how digital tools allow for a more participatory form of learning, enabling students to create and share knowledge.

Today, techno-pedagogy emphasizes a seamless integration of technology into teaching methods. According to Mishra and Koehler (2006), the Technological Pedagogical Content Knowledge (TPACK) framework is a pivotal model in understanding this integration. TPACK suggests that effective teaching with technology requires an intersection of content knowledge, pedagogical knowledge, and technological knowledge. Teachers must not only be proficient in their subject matter and teaching methods but must also understand how technology can enhance these processes. Another important model is the SAMR framework, proposed by Puentedura (2006), which categorizes technology integration into four levels: Substitution, Augmentation, Modification, and Redefinition. At the highest levels, technology not only enhances but transforms learning tasks, creating entirely new learning opportunities. These frameworks offer a foundational understanding of how technology can be systematically and purposefully integrated into pedagogical practices.

### **Innovations in Techno-Pedagogical Practices**

Innovative teaching practices that incorporate technology focus on enhancing engagement, personalizing learning, and promoting collaboration. Recent research highlights the role of gamification, virtual reality (VR), and artificial intelligence (AI) in transforming traditional learning environments. Gamification, for instance, uses game elements to motivate students. Lee and Hammer (2011) found that incorporating elements like points, badges, and leaderboards into educational settings leads to increased student motivation and participation. Virtual reality, another powerful tool, enables students to experience immersive learning environments that would be otherwise impossible to access. Bower et al. (2017) noted that VR allows for experiential learning, where students can explore complex real-world scenarios in a controlled virtual environment. This form of learning can deepen students'

understanding of abstract concepts and make learning more engaging. Artificial intelligence also plays a significant role in personalizing education. AI-powered platforms such as intelligent tutoring systems can adapt content based on a student's learning pace and style, offering real-time feedback and personalized guidance (Luckin et al., 2016). This individualized approach ensures that each student receives the support they need, thereby improving learning outcomes.

### **Barriers to Implementing Techno-Pedagogy**

Despite the promising potential of techno-pedagogy, several barriers hinder its full adoption in education. One significant challenge is teacher preparedness. Many educators lack the necessary training or confidence to integrate technology into their teaching effectively (Ertmer et al., 2012). Teacher professional development programs must therefore focus not only on technological skills but also on how to use these tools pedagogically. Infrastructure is another major concern, especially in low-resource settings. Access to reliable internet and digital devices remains uneven, particularly in developing countries (Warschauer & Matuchniak, 2010). This digital divide exacerbates educational inequalities, as students from disadvantaged backgrounds may not have the same access to technological tools and learning resources. Furthermore, research indicates that technology is sometimes integrated superficially, without truly enhancing pedagogy. Kirkwood and Price (2014) argued that many educational institutions adopt new technologies without considering how they can genuinely improve teaching and learning. Instead, there should be a greater emphasis on using technology to foster critical thinking, creativity, and collaboration, rather than simply automating traditional tasks. Techno-pedagogy has the potential to transform education by facilitating innovative teaching practices that cater to the diverse needs of students. However, challenges such as teacher preparedness, infrastructural limitations, and the digital divide must be addressed to realize this potential fully. Future research should focus on understanding the pedagogical implications of technology use, the long-term impact of techno-pedagogy, and how it can be adapted to various educational contexts. Addressing these gaps will be crucial for developing more equitable and effective educational practices.

### **Research Gap:**

While the literature on techno-pedagogy is extensive, several research gaps remain. First, much of the research focuses on the technological

tools themselves rather than the pedagogical strategies that should accompany them. For instance, while there is ample research on the effectiveness of specific technologies, such as AI and VR, fewer studies explore how teachers can effectively blend these tools into holistic, pedagogically sound instructional practices. This aligns with Kirkwood and Price's (2014) critique that technology is often seen as an end in itself, rather than a means to enhance pedagogy.

Second, most existing studies are quantitative, focusing on measurable outcomes like test scores or engagement levels (Ertmer et al., 2012). There is a need for more qualitative research that explores the lived experiences of teachers and students in techno-pedagogical environments. Understanding these experiences could provide deeper insights into the contextual factors that influence the success of technology integration. Additionally, there is a dearth of longitudinal studies that examine the long-term effects of techno-pedagogical practices. While short-term improvements in engagement and learning are well-documented, more research is needed to determine whether these benefits are sustained over time.

Finally, there is a lack of research on how techno-pedagogy can be adapted to diverse educational contexts. Most studies focus on higher education or well-resourced K-12 schools, leaving a gap in understanding how these practices can be effectively implemented in low-resource or rural settings. This is particularly important given the global push toward more equitable and inclusive education (Warschauer & Matuchniak, 2010).

## **Rationale of the Study**

The integration of technology in education has become increasingly critical in shaping 21st-century learning environments. With the rapid advancements in digital tools and online resources, educators are required to adapt their teaching practices to meet the evolving demands of students and society. This study, titled "Transforming Education through Techno-Pedagogy: A Qualitative Study on Innovative Teaching Practices," aims to explore the impact of techno-pedagogy on teaching and learning experiences. By focusing on innovative teaching practices, the study addresses the urgent need for educators to rethink traditional methods and embrace more technology-enhanced pedagogical strategies.

Techno-pedagogy refers to the use of technology in teaching and learning processes to enhance educational outcomes (Singh, 2014). The

current educational landscape is characterized by diverse learners with varying needs, necessitating a shift from teacher-centered approaches to more learner-centered practices (Mishra & Koehler, 2006). This study recognizes that technology can play a transformative role in this shift by enabling personalized learning, fostering collaboration, and enhancing student engagement. As educational systems globally continue to adopt technological tools, understanding the challenges and opportunities presented by these changes is crucial for both educators and policymakers (Johnson et al., 2016).

Innovative teaching practices are at the core of educational transformation. These practices include the integration of digital resources, collaborative learning platforms, and adaptive technologies that cater to the individual learning styles of students (Voogt et al., 2013). Such methods not only enhance the learning experience but also prepare students for a world where technological competence is essential for success. In this context, techno-pedagogy serves as an essential framework for educators to develop new instructional strategies that are dynamic, flexible, and responsive to the needs of 21st-century learners.

The relevance of this study lies in its potential to provide insights into how technology-enhanced teaching methods can improve educational outcomes and bridge the gap between traditional and modern educational practices (Valtonen et al., 2017). Given the increasing emphasis on digital literacy and 21st-century skills, there is a growing need for empirical studies that examine the effectiveness of techno-pedagogical approaches in different educational settings (Koehler et al., 2014). This study contributes to this discourse by focusing on qualitative data from educators who are actively engaging with technology in their teaching. This study is designed to contribute to the growing body of research on innovative teaching practices by highlighting the role of techno-pedagogy in transforming education. By identifying effective strategies and challenges in implementing these practices, the findings will offer valuable insights for educators, policymakers, and stakeholders seeking to improve teaching and learning experiences in a rapidly changing educational landscape.

### **Objectives of the Study**

The objectives of this study are designed to explore and evaluate the role of technology in reshaping modern education. Specifically, the study aims

to examine how techno-pedagogical approaches are being implemented, identify challenges faced by educators, and assess the impact on student engagement and learning outcomes. It seeks to provide evidence-based recommendations for educators and policymakers on effective strategies for fostering innovative teaching practices that align with the demands of 21st-century education and technological advancements.

- To examine the role of technology in transforming traditional teaching methods into innovative, technology-enhanced pedagogical practices.
- To identify and analyze the key challenges and barriers faced by educators in implementing techno-pedagogical approaches.
- To explore the impact of techno-pedagogy on student engagement, motivation, and learning outcomes.
- To provide recommendations for educators and policymakers on effective strategies for promoting innovative teaching practices through techno-pedagogy.

### **Research Questions of the Study**

The research questions for the study are crafted to guide an in-depth exploration of the integration of technology in education. These questions aim to investigate how educators incorporate techno-pedagogical approaches to enhance learning experiences, identify the challenges they face in implementation, and assess the impact on student engagement and outcomes. Additionally, the study seeks to derive practical recommendations based on educators' insights, ultimately contributing to the discourse on effective teaching practices that leverage technology in the contemporary educational landscape.

- How do educators integrate technology into their teaching practices to create innovative learning experiences?
- What challenges and barriers do educators encounter when implementing techno-pedagogical practices in their classrooms?
- In what ways does the integration of techno-pedagogy impact student engagement, motivation, and learning outcomes?
- What recommendations can be derived from educators' experiences to promote effective techno-pedagogical practices in various educational settings?

## Methodology

This study employs a qualitative methodology to gain a deep understanding of the experiences and perspectives of educators implementing techno-pedagogical practices. A phenomenological approach will be utilized, allowing researchers to explore the lived experiences of teachers in integrating technology into their classrooms. This approach is particularly effective in capturing the complexities and nuances of educational practices in diverse contexts. Thematic analysis is employed to identify patterns and themes within the qualitative data. This iterative process will involve coding the data, categorizing responses, and interpreting findings in relation to the research questions. By prioritizing participants' voices, this methodology aims to provide a comprehensive understanding of the transformative potential of technology in education, highlighting both the benefits and challenges faced by educators in their efforts to innovate their teaching practices.

## Analysis and Discussions with respect to Research Objectives

**Objective 1: *To examine the role of technology in transforming traditional teaching methods into innovative, technology-enhanced pedagogical practices.***

Integrating technology into educational practices is essential for fostering innovative learning experiences. Educators utilize various tools and approaches to enhance engagement, collaboration, and personalized learning.

Firstly, educators employ interactive platforms, such as learning management systems (LMS) like Moodle or Google Classroom, to streamline communication and content delivery. These platforms allow for real-time feedback and foster a collaborative learning environment (Garrison & Vaughan, 2008). For instance, discussion forums and group projects facilitated through these systems encourage peer interaction and knowledge sharing (Salmon, 2011).

The use of multimedia resources—videos, podcasts, and simulations—engages diverse learning styles and enhances understanding of complex concepts. Mayer's (2009) principles of multimedia learning suggest that integrating words and pictures can improve retention and comprehension, making lessons more effective. For example, science educators might use virtual labs to allow students to conduct experiments that would be

impractical in a traditional classroom setting. Additionally, educators leverage mobile technologies and apps to facilitate learning beyond the classroom. Tools like Kahoot! or Quizlet promote gamified learning experiences, which can increase motivation and participation (Hamari et al., 2016). These platforms enable students to engage in interactive quizzes and games, making learning both enjoyable and competitive.

Another significant aspect of integrating technology is the emphasis on personalized learning. Adaptive learning technologies, such as DreamBox or IXL, adjust content and pacing based on individual student performance, allowing for a more tailored educational experience (Bloom, 1984). This approach helps address the diverse needs of learners, ensuring that all students can progress at their own pace.

Finally, professional development for educators is crucial for effective technology integration. Continuous training and support help teachers become proficient in using digital tools and pedagogical strategies that enhance student learning (Ertmer & Ottenbreit-Leftwich, 2010). Collaboration among educators also encourages the sharing of best practices and innovative approaches.

Technology integration in education enriches the learning experience by fostering engagement, collaboration, and personalization. By leveraging various digital tools and methodologies, educators can create dynamic and innovative learning environments that prepare students for the challenges of the 21st century.

***Objective 2: To identify and analyze the key challenges and barriers faced by educators in implementing techno-pedagogical approaches.***

Implementing techno-pedagogical practices in classrooms can significantly enhance learning, but educators often face several challenges and barriers that hinder effective integration.

One primary challenge is the lack of adequate technological infrastructure. Many schools still struggle with limited access to reliable internet and modern devices, which can restrict the effectiveness of technology-enhanced learning (Ertmer, 1999). Without the necessary resources, educators may find it difficult to implement innovative practices consistently, leading to inequities in learning opportunities (Hew & Brush, 2007).

Additionally, educators often encounter resistance to change from both students and fellow staff members. Some educators may be hesitant to adopt new technologies due to a lack of familiarity or confidence in their use (Ertmer & Ottenbreit-Leftwich, 2010). This resistance can stem from a fear of the unknown or concerns about the effectiveness of technology compared to traditional methods. Similarly, students may be accustomed to conventional learning styles and may resist engaging with new, technology-driven approaches (Ertmer, 1999).

Professional development also plays a critical role in the successful integration of technology in education. Many teachers report insufficient training and support in using new tools effectively (Mouza, 2009). Professional development programs that lack a focus on pedagogical strategies can leave educators feeling unprepared to apply technology in meaningful ways (Koehler & Mishra, 2009). Thus, ongoing training that combines technological skills with pedagogical knowledge is essential for empowering teachers.

Moreover, the digital divide presents a significant barrier. Not all students have equal access to technology at home, which can create disparities in learning (Warschauer, 2003). When assignments require technology use, students without reliable access may fall behind, exacerbating existing inequalities. This divide can discourage educators from fully embracing technology in their teaching, fearing that they might alienate some students.

Finally, curriculum constraints can limit the ability of educators to implement techno-pedagogical practices. Standardized testing and rigid curriculum requirements often prioritize traditional teaching methods, making it challenging for educators to innovate (Fullan, 2007). This focus on accountability can discourage risk-taking and experimentation with new pedagogies, leading to a reluctance to incorporate technology.

While techno-pedagogical practices hold great potential for enhancing education, challenges related to infrastructure, resistance to change, inadequate professional development, the digital divide, and curriculum constraints can impede successful implementation.

***Objective 3: To explore the impact of techno-pedagogy on student engagement, motivation, and learning outcomes.***

The integration of techno-pedagogy significantly enhances student engagement, motivation, and learning outcomes by fostering interactive and personalized learning experiences.

Firstly, techno-pedagogy promotes active learning through interactive tools and resources. Platforms such as interactive simulations, gamified learning environments, and collaborative online projects encourage students to participate actively in their education (Freeman et al., 2014). These methods not only make learning more enjoyable but also foster deeper understanding and retention of content (Mayer, 2009). For instance, game-based learning platforms like Kahoot! have been shown to increase student engagement by transforming traditional assessments into interactive experiences (Hamari et al., 2016).

Secondly, the use of technology enables personalized learning experiences, catering to diverse student needs and learning styles. Adaptive learning technologies, such as Dream Box and IXL, adjust content and pacing based on individual performance, allowing students to progress at their own pace (Pane et al., 2015). This personalized approach can enhance motivation, as students feel a sense of ownership over their learning journey. By providing tailored feedback and support, educators can help students build confidence and achieve their learning goals.

Moreover, techno-pedagogy facilitates collaboration among students, enhancing social interaction and engagement. Tools like Google Workspace and Microsoft Teams allow for real-time collaboration on projects, encouraging peer-to-peer learning (Johnson et al., 2014). Such collaborative environments not only help develop critical teamwork skills but also create a sense of community, which can be particularly motivating for students.

Additionally, technology integration can provide immediate feedback, which is crucial for maintaining student motivation. Unlike traditional methods, where feedback may take time, digital tools often allow for instantaneous responses to assessments and activities. This timely feedback can help students identify areas for improvement and foster a growth mindset (Hattie & Timperley, 2007).

Lastly, research indicates that integrating technology into the curriculum leads to improved learning outcomes. A meta-analysis by Cheung and Slavin (2013) revealed that technology use positively impacts student achievement across various subjects. By enhancing engagement and motivation, techno-pedagogy directly correlates with higher academic performance.

The integration of techno-pedagogy in educational practices enhances student engagement, motivation, and learning outcomes. By promoting active learning, personalized experiences, collaboration, and timely feedback, educators can create dynamic and effective learning environments that prepare students for the demands of the 21st century.

***Objective 4: To provide recommendations for educators and policymakers on effective strategies for promoting innovative teaching practices through techno-pedagogy.***

Educators' experiences with techno-pedagogical practices offer valuable insights and recommendations for promoting effective technology integration in various educational settings.

- **Comprehensive Professional Development:** A key recommendation is to provide ongoing, targeted professional development that focuses on both technological tools and pedagogical strategies. Research shows that effective training should go beyond basic technology skills to include how to integrate these tools into lesson plans and assessments (Ertmer & Ottenbreit-Leftwich, 2010). Workshops and collaborative learning communities can foster this growth, enabling educators to share best practices and resources (Mouza, 2009).
- **Encourage Collaborative Learning:** Implementing collaborative learning environments is crucial. Technology can facilitate teamwork and peer-to-peer interaction, enhancing student engagement and learning outcomes (Johnson et al., 2014). Tools like Google Workspace or Microsoft Teams can be used for group projects, promoting communication and cooperation among students, which are essential skills for the 21st century.
- **Focus on Student-Centered Learning:** Educators should prioritize student-centered approaches that empower learners to take ownership of their education. Incorporating adaptive learning technologies allows for personalized learning experiences, addressing diverse student needs and preferences (Pane et al., 2015). This not only increases motivation but also fosters a deeper understanding of the material.
- **Leverage Data for Feedback and Improvement:** Utilizing data analytics from educational technology can provide valuable insights into student performance and learning patterns. Immediate feedback mechanisms allow educators to adjust instruction based

on student needs (Hattie & Timperley, 2007). By analyzing this data, teachers can refine their teaching strategies and better support students' learning processes.

- **Promote a Growth Mindset:** Fostering a growth mindset among both educators and students can significantly enhance the effectiveness of techno-pedagogical practices. Encouraging experimentation with technology and viewing failures as learning opportunities can create a more supportive and innovative learning environment (Dweck, 2006). Educators should model this mindset, demonstrating resilience and adaptability when integrating new tools.
- **Engage Stakeholders:** Finally, involving all stakeholders—students, parents, and administrators—in discussions about technology integration can ensure a more comprehensive approach. Communication about the benefits and expectations of technology use fosters a shared vision, enhancing the effectiveness of implementation efforts (Fullan, 2007).
- By prioritizing professional development, collaborative learning, student-centered approaches, data utilization, a growth mindset, and stakeholder engagement, educators can effectively promote techno-pedagogical practices that enrich learning experiences across various educational settings.

## Discussion

**Objective 1:** The integration of technology into education fundamentally transforms traditional teaching methods into innovative, technology-enhanced pedagogical practices. Tools like learning management systems (LMS), such as Moodle and Google Classroom, facilitate streamlined communication and content delivery, fostering collaborative environments where real-time feedback enhances learning (Garrison & Vaughan, 2008). Educators can leverage multimedia resources—videos, podcasts, and simulations—to engage diverse learning styles and improve comprehension of complex concepts. Mayer (2009) supports this notion, indicating that integrating visual and verbal information can significantly enhance retention and understanding. Furthermore, gamified learning experiences, facilitated by apps like Kahoot! or Quizlet, motivate students and transform assessments into engaging

activities (Hamari et al., 2016). The emphasis on personalized learning through adaptive technologies such as DreamBox and IXL allows for tailored educational experiences that address individual student needs (Bloom, 1984). Thus, the effective integration of technology not only enriches the learning experience but also prepares students for the challenges of the 21st century.

**Objective 2:** Despite the benefits, several challenges hinder the effective implementation of techno-pedagogical practices. A significant barrier is the lack of adequate technological infrastructure, which limits access to reliable internet and modern devices (Ertmer, 1999). This inequity can lead to disparities in learning opportunities (Hew & Brush, 2007). Moreover, resistance to change from both educators and students poses additional challenges. Educators often hesitate to adopt new technologies due to unfamiliarity and concerns over their effectiveness (Ertmer & Ottenbreit-Leftwich, 2010). Similarly, students may resist engaging with technology-driven approaches if they are accustomed to traditional learning styles (Ertmer, 1999). The digital divide exacerbates these challenges, as students without access to technology at home may fall behind, creating further inequities in the classroom (Warschauer, 2003). Lastly, curriculum constraints, including standardized testing and rigid requirements, can stifle innovation and discourage educators from experimenting with new pedagogies (Fullan, 2007).

**Objective 3:** The positive impacts of techno-pedagogy on student engagement, motivation, and learning outcomes are well-documented. Active learning methods, facilitated by interactive tools, not only enhance student participation but also deepen understanding (Freeman et al., 2014). For example, platforms like Kahoot! convert traditional assessments into dynamic, interactive experiences, fostering higher levels of engagement (Hamari et al., 2016). Personalized learning experiences made possible by adaptive technologies cater to diverse student needs, thereby enhancing motivation and a sense of ownership in their learning (Pane et al., 2015). Furthermore, technology facilitates collaboration through platforms like Google Workspace, promoting peer-to-peer learning and social interaction (Johnson et al., 2014). Immediate feedback provided by digital tools is crucial for maintaining student motivation and helping them identify areas for improvement (Hattie & Timperley, 2007). Research indicates that integrating technology leads to improved academic performance, confirming the

correlation between enhanced engagement and higher achievement levels (Cheung & Slavin, 2013).

**Objective 4:** To promote effective techno-pedagogical practices, comprehensive professional development is essential. Targeted training should encompass both technological and pedagogical strategies to equip educators with the skills needed for successful integration (Ertmer & Ottenbreit-Leftwich, 2010). Collaborative learning environments should be emphasized, as technology can facilitate teamwork and peer interaction (Johnson et al., 2014). Additionally, adopting a student-centered approach empowers learners, allowing for personalized experiences that meet diverse needs (Pane et al., 2015). Utilizing data analytics for immediate feedback helps educators tailor instruction based on student performance, fostering an environment conducive to growth (Hattie & Timperley, 2007). Promoting a growth mindset can further enhance the effectiveness of techno-pedagogical practices by encouraging experimentation and resilience among educators and students (Dweck, 2006). Lastly, engaging stakeholders, including students, parents, and administrators, fosters a shared vision and enhances the implementation of technology integration (Fullan, 2007).

The study underscores the transformative potential of techno-pedagogy while acknowledging the challenges educators face. By implementing targeted strategies, educational stakeholders can maximize the benefits of technology integration, ultimately enriching student learning experiences across diverse educational settings.

## **Conclusion**

This study on transforming education through techno-pedagogy highlights the profound impact that technology can have on innovative teaching practices. By examining the integration of digital tools and methodologies, the research underscores the importance of creating dynamic learning environments that engage students and enhance their educational experiences. The findings indicate that technology not only fosters active learning and collaboration but also allows for personalized learning pathways that cater to diverse student needs. However, the study also identifies significant challenges that educators face when implementing techno-pedagogical practices, including inadequate infrastructure, resistance to change, and the digital divide. These barriers can hinder the effective integration of technology in the classroom and

exacerbate existing inequities in educational opportunities. Therefore, it is crucial for educational institutions to address these challenges by investing in infrastructure, providing comprehensive professional development, and fostering a culture of collaboration among educators. Ultimately, the successful integration of techno-pedagogy requires a commitment from all stakeholders, including educators, administrators, students, and policymakers. By prioritizing effective strategies and support systems, educational settings can harness the full potential of technology to transform teaching and learning. This study serves as a call to action for educators and institutions to embrace innovative practices that prepare students for the complexities of the 21st century, ensuring that all learners can thrive in an increasingly digital world.

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**Professor Mita Banerjee**, a luminous academic luminary, has graced the educational landscape with her profound wisdom and illustrious career. She proudly bears the distinction of being the former and inaugural Vice-Chancellor of Kanyashree University, Murshidabad University (Additional Charge) and The West Bengal University of Teachers' Training Education Planning and Administration [Now Baba Saheb Ambedkar Education University (BSAEU)], in addition to her prior role as a venerable Professor within the Department of Education at the esteemed University of Calcutta. With an extensive span of over 36 years devoted to the noble craft of teaching, her name resonates as a paragon of erudition. She currently holds the position of Member of the Executive Council of BSAEU. In addition to her remarkable roles, Professor Banerjee lent her expertise as a devoted member of diverse Research Boards and Committees at various esteemed universities. Her illustrious journey includes the distinguished positions of Pro-Vice Chancellor and Dean of the School of Education at Adamas University. She even held the prestigious position of "Professor Emeritus" at Adamas University & Swami Vivekananda University.

"Emerging Trends in Education" serves as a crucial anthology, capturing the rapid evolution of contemporary educational practices. This edited book delves into the multifaceted impact of technological integration, particularly the rise of AI-driven personalized learning and the widespread adoption of online and blended learning models. It meticulously examines the shift from traditional pedagogies to student-centric approaches, emphasizing the development of critical thinking, collaboration, and digital literacy. The book also gives weight to the growing importance of inclusivity, exploring how educators are leveraging technology and adapted teaching methods to ensure equitable access for diverse learners.

Furthermore, it addresses the imperative of aligning education with the demands of the modern workforce. By compiling diverse perspectives, "Emerging Trends in Education" provides a comprehensive overview of the forces shaping the future of learning, offering valuable insights for educators, policymakers, and researchers alike.

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